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CONTENTS

Research Papers

ANALYSIS OF DEVELOPMENT OF BANKS TAKING INTO ACCOUNT ACHIEVEMENTS COMPETITIVE ADVANTAGES 1 – 4

Azlarova Munira Muhammadamin Qizi

COMPARISON METHODS OF DISTRIBUTION REGULARITY IN ALLOTMENT OF INVESTMENTS INTO THE REGIONS' ECONOMY: IN CASE OF THE REPUBLIC OF UZBEKISTAN'S REGIONS 5 – 11

Alimov Raimjon Hakimovich and Otajanov Umid Abdullaevich

ASSESSMENT OF EFFICIENCY OF LABOR OF PERSONNEL IN INDUSTRIAL ENTERPRISES 12 – 16

Hamzaev Azizbek Nematovich

STUDY ON INVESTMENT OPPORTUNITIES IN INDIAN INITIAL PUBLIC OFFERING 17 – 33

Dr. Yathish Kumar and Radhakrishna Nayak

FACULTY MEMBER USAGE OF SOCIAL MEDIA AND MOBILE DEVICES IN HIGHER EDUCATION INSTITUTION 34 – 44

Jamal Abdul Nasir and Nawab Ali Khan

MECHANISMS FOR MAKING OPTIMAL SOLUTIONS IN THE COMPANY MANAGEMENT SYSTEM 45 – 49

Kadirhodjaeva Nilufar Rahmatullaevna

A STUDY ON FOOD AND BEVERAGE SERVICES OF LUXURY HOTELS AND SATISFACTION OF DOMESTIC TOURISTS IN MADURAI 50 – 55

Dr. T. Z. Ahamed

ANALYSIS OF INNOVATIVE DEVELOPMENT UZBEKISTAN`S INDUSTRY 56 – 61

Abduhalilova Laylo Tohtasinovna and Minarova Murshida Xojimuratovna

MAKE IN INDIA: ROAD FORWARD OR A MIRAGE 62 – 66

Asif Jeelani Khan

STUDY OF IMAGE WATERMARKING USING 2D DISCRETE WAVELET TRANSFORM, LIFTING WAVELET TRANSFORM AND DISCRETE COSINE TRANSFORM AND WATERMARKED IMAGE COMPRESSION USING SPHIT ALGORITHM 67 – 73

Vibha Aggarwal, Sandeep Gupta, and Virinder Singla

O. HENRY'S THE COP AND THE ANTHEM: A PREDICAMENT OF HUMAN EXISTENCE 74 – 76

Ramesh Patel

GULE NILOFER (*Nymphaea alba*) AN INFLUENTIAL DRUG IN UNANI MEDICINE: A REVIEW WITH IMMENCE THERAPEUTIC POTENTIAL AND PHYTO-PHARMACOLOGICAL PERSPECTIVE 77 – 83

Afshan Khan, Dr. Aisha Siddiqui and Anwar Jamal

DYNAMICS AND FEATURES OF DEVELOPMENT OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN UZBEKISTAN 84 – 88

Salimov Bakhtiyor Tadjiyevich and Salimov Bakhodir Bakhtiyorovich

MENTAL HEALTH AWARENESS AMONG YOUTH IN DELHI 89 – 93

Sakshi

INCENTIVES TO ATTRACT FOREIGN DIRECT INVESTMENT IN THE ECONOMY OF UZBEKISTAN 94 – 100

Sobirov Abdurasul Abdugafarovich

FUNCTIONALITY OF UNISEX CLOTHING AMONG FASHION DESIGNERS IN ACADEMIC ENVIRONMENT: AN EMPIRICAL STUDY 101 – 110

Sunitha Vasan, S. R. Pujar, S. Gopalakrishnan

ECONOMETRIC MODEL OF PRODUCTION CAPACITY USAGE OF TEXTILE ENTERPRISES IN NAMANGAN REGION 111 – 117

Tursunov Bobir Ortikmirzaevich

THE IMPACT OF E-COMMERCE ON RETAILING IN THE HANDSET INDUSTRY –AN EMPIRICAL STUDY 118 – 127

Dr. Sunil Vakayil and V. S. Aswathy

ANALYSING OF DEVELOPMENT VERTICAL INTEGRATED TEXTILE ENTERPRISES IN UZBEKISTAN 128 – 132

Yaxyaeva Inobat Karimovna

ORGANIZATIONAL ASPECTS OF INTERNAL PRODUCTION ACCOUNTING IN THE ENTERPRISE MANAGEMENT SYSTEM 133 – 137

Djuraeva Guzal Shavkatovna

BACKGROUND OF THE ORIGIN AND FORMATION OF THE SYSTEM QUALITY MANAGEMENT 138 – 142

Yusupova Dildora Turadjanovna

EFFECTIVE MANAGEMENT METHODOLOGY OF INTEGRATED TRANSPORT - LOGISTICS SYSTEM 143 – 147

Fayzullayev Javlonbek Sultonovich

FORMATION OF ASSORTMENT STRATEGIES FOR LIGHT INDUSTRY ENTERPRISES: IN CASE OF NAMANGAN REGION 148 – 153

Alimhodjaeva Nargiza Elshodovna and Abdurashidova Nigora Alisherovna

DEVELOPMENT OF THE COTTON INDUSTRY IN THE CONDITIONS OF INTRODUCTION OF INNOVATIONS IN UZBEKISTAN 154 – 156

Isakov Musokhon, Kasimov Saidakmal and Holikova Rukhsora

A REVIEW OF POTENTIAL USE OF NANO-TECHNOLOGY IN PAVEMENT ENGINEERING 157 – 161

Priya Das, Aapesh Chopdar and Lalita Paneru

INSTITUTIONAL BASIS OF SMALL BUSINESS DEVELOPMENT: PROBLEMS AND SOLUTIONS 162 – 164

Umarhodjaeva Muyassar Ganievna

BIOENERGY POTENTIAL OF *SIMAROUBA GLAUCA* WOOD MATERIAL FOR POWER GENERATION 165 – 171

N. Arumugasamy, A. N. Seethalashmi and D. Prem Anand

GROWTH AND OTHER CHARACTERIZATION OF BIS-GLYCINIUM OXALATE (BGLO) AND THIOUREA DOPED BGLO CRYSTALS 172 – 178

G. P. Sankar Ganesh, U. Sankar and U. Rajesh Kannan

GROWTH, SPECTRAL, MECHANICAL AND DIELECTRIC CHARACTERIZATION OF 2-AMINO-6-METHYLPYRIDINIUM PHOSPHATE CRYSTALS 179 – 186

G. Sharmila Devi, S. Sheik Saleem, S. Kalyanaraman

SOVEREIGN WEALTH FUNDS: GREEN INSTRUMENTS OF STABILITY AND SUSTAINABILITY 187 – 196

Mohd Ashraf Parry and Dr. Anisa Jan

A STUDY ON FACTORS DETERMINING PURCHASE OF GREEN PRODUCTS AMONG CONSUMERS IN CHENNAI CITY 197 – 202

K. T. Manivannan

FEAR OF VICTIMIZATION AND WOMEN FEARSCAPES: AN EXPLORATORY STUDY OF VARANASI CITY, INDIA 203 – 212

Rashmi and Ambarish Kumar Rai

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ANALYSIS OF DEVELOPMENT OF BANKS TAKING INTO ACCOUNT ACHIEVEMENTS COMPETITIVE ADVANTAGES

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ABSTRACT
The article analyzes the dynamics of changes in assets, capital, loan portfolio and deposits of the four major commercial banks of Uzbekistan. Based on the analysis, in the article are suggested directions of improving the competitive advantages of banks.

Keywords: Analysis, banking services, commercial banks, deposit.

INTRODUCTION
Over the years of independence, Uzbekistan has developed its own banking system, which includes 26 commercial banks. In order to provide high-quality banking services to the population, 846 branches and 4244 mini-banks and special classes operate within the banking system. Currently, the banking sector is sustainable, as evidenced by the ratings assigned to it by the world's leading rating agencies.

The above data on the number of banking institutions indicate the presence in this area of competition. In this connection, there is a problem of increasing the competitiveness and competitive advantages of each commercial bank. In our opinion, the competitiveness of a commercial bank is defined: as a system of bank relations for the formation, retention, escalation and realization of competitive advantages in the banking services market by identifying and using the internal and external potentials of the bank to achieve its goals. High competitiveness is determined by the presence of key competitive advantages that can influence a client's decision when choosing a bank and its services. Thus, a competitive advantage is characterized by a bank's high competence in any field of activity that gives the best opportunity to overcome the forces of competition, attract customers and maintain their commitment banking services. In our opinion, the competitiveness of a bank can be represented as a set or set of competitive advantages.

ANALYSIS OF RESULTS
Until recently, in Uzbekistan, the problem of competitiveness and competitive advantages of a commercial bank was not given sufficient attention. Although there were separate scientific works devoted to the problem of interbank competition [3] and the improvement of banking services in a competitive environment [4]. In a competitive environment, it is required to determine the place of a particular bank in the country's banking system and establish the quantitative value of its competitive advantage. Such an assessment interests, above all, the management of the bank, future investors and, of course, the clients of a commercial bank. When conducting such an assessment, it is important to rely on the data published in the open press, which most clearly characterize certain aspects of the bank's activities. As a criterion of the competitive advantage of the bank, the growth of the main indicators for the year is taken. To assess the current state of the country's banking system, we will analyze the dynamics of the main indicators of four large commercial banks, the share of whose assets in total assets of the banking sector is about 40%. The banks chosen by us include:Uzpromstroybank, Asakabank, Ipotekabank and Agrobank. One of the main indicators characterizing the state of any commercial bank is the dynamics of assets. The following table presents the dynamics of changes in the assets of these banks for the period 2006-2014.

Table-1: Dynamics of changes in assets of commercial banks

Years	Uzpromstroybank		Asakabank		Agrobank		Ipotekabank	
	Active, billion UZS	Rate of increase	Equity, billion UZS	Rate of increase		Equity, billion UZS	Rate of increase	Equity, billion UZS
2006	677,2		860,4		501,9		423,5	
2007	97,9	44,6	1299,1	51,0	733,5	46,1	476,5	12,5
2008	1376,8	40,6	15028,8	15,7	955	30,2	611	28,2
2009	1588,2	15,4	1789,6	19,1	1377,8	44,3	780,2	27,7
2010	1928,5	21,4	2697,4	50,7	1680,9	22,0	1061,5	10,6
2011	3460,5	17,9	3532,2	13,1	1665,7	-1,1	1518,5	14,3
2012	503,5	45,5	4266,2	20,8	11963,8	11,8	2351,5	54,9
2013	6829,9	35,6	4639,4	8,7	2577,7	31,3	2960,2	25,9
2014	7812,1	14,4	5382,2	16,0	2899	12,5	3292,1	11,2

Source: author's elaborations based on data for Central bank of Republic of Uzbekistan.

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An analysis of the data in the table shows that none of the commercial banks under review had asset growth rates that were not stable. In the analyzed period, one of the leading banks in the country, Uzpromstroybank, experienced high growth rates in 2011-2012, while Asakabank had a high growth rate of assets in 2010 (50.7%). The other two banks, Agrobank and Ipotekabank, showed high rates of asset growth in 2009 and 2012, respectively. However, it may be noted that the general trend is a decrease in asset growth rates for all considered banks at the end of the analyzed period. So, in 2014, the growth rates of assets at Uzpromstroybank amounted to 14.4%, Asakabank-16.0%, Agrobank-12.5% and Ipoteka-Bank-11.2%. Now consider the absolute increase in bank assets over two 5-year periods: 2006-2010 2010-2014 Thus, in the first period, the largest absolute increase in assets was observed in Asakabank, which amounted to 1836.3 billion soums, and in the second period, Uzpromstroybank was the leader, with an increase in assets of 5883.6 billion sums. At the same time in 2006-2010. The smallest increase in assets occurred at Ipotekabank -639.9 billion soums. In our opinion, such a variation in the absolute increase in assets of the leading commercial banks of Uzbekistan can be explained by the fact that, during the global financial crisis in Uzbekistan, support was provided, above all, to state commercial banks. Including Uzpromstroybank and Asakabank, whose assets in 2010-2014. have grown significantly. The second most important indicator of the development of both the banking system and a single commercial bank is its own capital. The dynamics of changes in banking capital are presented in table 2.

The analysis of the data in the table shows that in the period under review, the dynamics of changes in the equity capital of any bank has no pronounced tendency. Thus, the growth rate of this indicator in Uzpromstroybank was high at the beginning (2007–2008) and at the end of the period under review (2014). At the same time, the growth rate of the equity capital of this bank in 2009 was 3.2% and 6.2% in 2010.

Table -2: Dynamics of changes in equity of commercial banks

Years	Uzpromstroybank		Asakabank		Agrobank		Ipotekabank	
	Equity, billion UZS	Rate of increase	Equity, billion UZS	Rate of increase	Equity, billion UZS	Rate of increase	Equity, billion UZS	Rate of increase
2006	61,8		169,6		66,2		37,3	
2007	88,5	43,2	180,6	6,5	108,3	63,6	59,7	60,0
2008	167,1	88,7	210,7	16,7	131,2	21,1	95,5	59,9
2009	172,5	3,2	357,4	69,6	172,6	31,5	107,4	12,4
2010	183,3	6,2	407,0	13,8	220,9	28,0	121,3	12,9
2011	224,9	22,7	488,7	20,1	236,7	7,1	156,8	29,2
2012	335,0	48,9	586,4	20,0	297,8	25,8	193,7	23,5
2013	430,4	28,5	691,1	17,8	371,4	24,7	233,7	20,6
2014	727,6	69,0	801,7	16,0	411,1	10,7	287,3	22,9

Source: author’s elaborations based on data for Central bank of Republic of Uzbekistan.

The data on capital growth rates at one of the leading state-owned commercial banks in the country, Asakabank, show that the largest increase was observed in 2009, which was 69.6% and the lowest (6.5%) in 2007. A significant capital growth rate in AsakbankThe year 2009 can be explained by the fact that it was during these years in Uzbekistan, at the initiative of the head of state, a number of measures were taken to support the banking sector in the context of the global financial crisis. During the global financial crisis and after, Uzbekistan took large-scale measures to support the banking sector. Thus, in accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 83 dated March 26, 2012 “On additional measures to increase the level of capitalization of the open joint-stock commercial bank Uzpromstroybank, the authorized capital of Uzpromstroybankwas increased by 152 billion soums. Such support of the state capitalization of Uzpromstroybank from the state led to an increase in the rate of capital growth of this bank in 2014 by 69.0%.

In the period under review, the capital increase of other banks was not as large as that of Uzpromstroybank. Thus, Asakabank capital growth rates at the end of the period under review decreased compared with previous years. At the same time the pace Ipotekbank's capital growth was high at the beginning of the period, and 2010-2014. were on average about 20%. Understanding the importance of Agrobank for the development of agriculture in Uzbekistan, the state provides full support to this bank. Thus, in accordance with the Decree of the President of the Republic of Uzbekistan No. PP-1966 dated May 16, 2013 “On additional measures to increase the level of capitalization of the open joint-stock commercial bank“ Agrobank ”, the authorized capital of“ Agrobank ”was increased in 2013-2014. for 123.8 billion soums, of which in 2013, funds in the amount of 94.1 billion soums were used to increase the share capital of Agrobank. It should be noted that if the dynamics of assets and capital of the bank characterize it from the potential, then loan portfolio and deposits dynamics - reflects the bank’s place in the loan and deposit market, i.e. the dynamics of these indicators shows the place of the bank in the relevant markets.

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Lending is one of the important types of active operations of commercial banks, due to which their incomes increase. This suggests that the more developed the bank's lending activity, the higher its profit and financial stability. Based on this, it can be said that an increase in the loan portfolio of any bank will indicate the stability of the bank in the lending market.

Table-3: Dynamics of changes in the loan portfolio of commercial banks

Years	Uzpromstroybank		Asakabank		Agrobank		Ipotekabank	
	Credit portfolio, billion UZS	Rate of increase	Credit portfolio, billion UZS	Rate of increase	Credit portfolio, billion UZS	Rate of increase	Credit portfolio, billion UZS	Rate of increase
2006	401,8		438,3		338,4		164,3	
2007	580,7	44,5	493,5	12,6	520,6	53,8	257,6	56,8
2008	935,4	61,1	570,0	15,5	726,3	39,5	331,6	28,7
2009	1230,4	31,5	819,9	43,8	1004,8	38,4	427,1	28,8
2010	1389,6	12,9	1133,3	38,2	1031,4	2,6	560,6	31,2
2011	2255,5	62,3	1588,30	40,1	1006,7	-0,3	914,1	63,3
2012	3401,2	50,8	1819,0	14,5	1207,7	19,9	1303,2	42,5
2013	4791,0	40,8	2354,1	29,4	1693,1	40,2	1905,8	46,2
2014	5967,9	19,5	2710,6	15,1	1911,1	12,9	2503,3	31,3

Source: author's elaborations based on data for Central bank of Republic of Uzbekistan.

If we look at the data presented in Table 3 from this point of view, we can see that in the analyzed period Uzpromstroybank had the most significant growth in the loan portfolio in 2008 and 2011, and the smallest - in 2010. The most stable growth rates of the loan portfolio were observed at Asakabank and Ipotekabank. At the same time, Agrobank has the highest growth rate of the loan portfolio in 2007, and then in 2010. the values of this indicator even had a negative value. In our opinion, the growth rate of some indicator does not fully reflect the place of the bank in the relevant market, therefore it is advisable to establish the bank's share in the market of loans and deposits. Our surveys show that in the period under review, the market share of Uzpromstroybank in the country's lending market was 10.2% in 2006, 13.2% in 2010 and 19.4% in 2014, i.e. compared with the beginning of the period, the increase in the bank's share in the lending market was 9.2%. Analysis of the market share of other banks under consideration shows that Asakabank's market share in the lending market in 2006 was 11.2% and in 2014 - 8 ,eight %. This suggests that the attractiveness of Asakabank loans in the eyes of customers has fallen, i.e. Bank's competitive advantage has declined.

The market share of Agrobank and Ipotekabank in 2006 was 8.6% and 4.2% respectively, and in 2010 it was 9.8% and 5.3%. At the end of the analyzed period, the share of Agrobank in the lending market was 6.2%, and in Ipoteka Bank - 8.1%. This indicates that in 2014 the attractiveness of Agrobank in the eyes of customers decreased. Of course, this affects the competitiveness of a commercial bank. The next important indicator characterizing the competitive advantage of a commercial bank is the volume and dynamics of deposits. Attracting deposits are part of the passive operations of a commercial bank and is used to form its resource base. Table 4 presents data on the dynamics of changes in deposits of commercial banks for the period 2006-2014.

Table-4: Dynamics of changes in deposits of commercial banks

Years	Uzpromstroybank		Asakabank		Agrobank		Ipotekabank	
	Loan portfolio, billion UZS	Rate of increase	Loan portfolio, billion UZS	Rate of increase	Loan portfolio, billion UZS	Rate of increase	Loan portfolio, billion UZS	Rate of increase
2006	388,8		306,4		247,1		334,7	
2007	529,8	36,2	763,9	49,3	320,8	29,8	293,3	-12,4
2008	637,8	20,4	858,4	12,3	383,1	19,4	359,7	22,6
2009	634,0	-0,6	1044,8	21,7	612,0	59,7	462,9	28,7
2010	8212	25,5	1526,7	46,1	759,5	24,1	528,2	14,1
2011	1428,2	73,9	2126,7	39,3	930,1	22,4	838,7	58,8
2012	1668,1	16,8	2695,4	26,7	1073,2	15,4	1430,3	70,5
2013	1993,4	19,5	3093,1	14,7	1336,3	24,5	1797,7	25,6
2014	1815,5	-9,1	3437,7	11,1	1593,4	19,2	1802,1	0,2

Source: author's elaborations based on data for Central bank of Republic of Uzbekistan.

ISSN 2394 - 7780

Analysis of the data shows that in the period under review, the growth rates of deposits at all banks were not stable, i.e. there was a decrease in deposit inflows. Thus, Uzpromstroybank such events took place in 2009 and 2014, at Asakabank the highest growth rate of deposits took place in 2007 (49.3%), and the lowest - in 2014 (11.1%). Agrobank in 2006-2014 in absolute terms increased from 247.1 billion soums. up to 1593.4 billion soums, i.e. growth was more than 6 times. As can be seen from the table, in 2009 there was an increase in the growth rate of deposits in Agrobank to 59.7%. In the period 2010-2014 growth rates of deposits of this bank have stabilized in the range of 16-24%. Of all the banks in question, the growth rates of deposits at Ipotekabank were not unambiguous. So, in 2007 there was even an outflow of deposits from this bank (-12.4%), and then in 2011 and 2012. There was a high growth rate of deposits compared to other banks. Analysis of banks' shares in the deposit market shows that in 2006 the market share of Uzpromstroybank was 12.3%, Ipotekabank - 10.6%, Asakabank - 9.7% and Agrobank - 7.8%, and in 2010 respectively 8.6 %, 5.5%, 16.1% and 7.9%. The data show that in 2010, the market share of Uzpromstroybank decreased by 2.0% compared to 2006, and that of Asakabank increased by 6.4%. A decrease in the market share in the deposit market is also observed in Ipoteka Bank (from 10.6% to 5.5%). Agrobank's market share remained almost unchanged. At the end of the analyzed period, i.e. in 2014, the market share of Uzpromstroybank in the deposit market was 19.4%, Asakabank -8.8%, Ipotekabank - 8.1% and Agrobank - 6.2%. These data suggest that in recent years, Uzpromstroybank's competitive advantage has been growing, while Asakabank and Agrobank have been declining. Our analysis of the main indicators of large commercial banks in Uzbekistan shows that none of them has a pronounced competitive advantage. In this regard, in our opinion, it is advisable to pay special attention to the development of the potential of banks in certain areas of the country's financial market. Only by developing long-term lending instruments for the technical re-equipment of economic sectors can an investment breakthrough be made and the implementation of the Program of Measures to Ensure Structural Transformations, Modernization and Diversification of Production for 2015-2019 can be implemented. This program provides for the implementation of 870 major investment projects in the amount of $ 38 billion. The projects envisage the creation of 415 new enterprises, as well as the modernization, technical and technological renovation of 455 operating industrial enterprises [5].

CONCLUSIONS

The study leads to the following conclusions

1. In order for commercial banks to achieve competitive advantages, it is required to take measures to increase their resource base. By increasing the resource base of banks, it is possible to provide long-term loans to the real sector of the economy with less risk.
2. Another direction to increase the competitive advantages of commercial banks is to increase their level of capitalization, which will contribute to the investment attractiveness of banking capital. This can be achieved, first of all, by improving the profitability of banks, ensuring the mandatory payment of dividends. It is on this basis that capital from other sectors of the economy can be actively involved in banks.

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COMPARISON METHODS OF DISTRIBUTION REGULARITY IN ALLOTMENT OF INVESTMENTS INTO THE REGIONS' ECONOMY: IN CASE OF THE REPUBLIC OF UZBEKISTAN'S REGIONS

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ABSTRACT
The article analyzed the conformity of normal distribution methods for the Kolmogorov and Pustilnik criteria in the example of investments allocated to the economy and regions of the Republic of Uzbekistan. Conclusions on compliance with these methods are summarized.

Keywords: investment, normal distribution, Kolmogorov criterion, Pustylnik criterion, production function, extens and asymmetry coefficients.

INTRODUCTION
It is necessary to use mathematical methods in the distribution of investments for the socio-economic development of the region, as it is necessary to find reliable methods of estimation of the results of the current activity in forecasting the economic development prospects. In order to make the right decisions in complicated socio-economic processes, it is necessary to take into consideration the results and previous experiences from the proposed conceptual and econometric models that adequately reflect this economic situation.

METHODOLOGY
Econometric models do not take into account all the features of real economic processes, but they can make good conclusions about the socio-economic development over time. However, it should be noted that the choice of the value of managed parameters in the construction of econometric models covering all processes, finding of target functions and their economic interpretation are a great challenge. To do this, it is necessary to clearly state that the economic structure is an entire economic system, clearly defined by the implementation of such actions as allocation of resources, production of goods and services, distribution of consumer goods, and subsequent investment in the state economy as a model of mathematical modeling. [5-9]

As a subsystem of human society, it is a very complex system consisting of production (commodity producers) and non-production (distribution of goods, finance, etc.), which are in production-technological and organizational-economic relationships [5].

If the economy is viewed as a non-structured entity, it will be selected as a result of the inputs to GDP, and it will be appropriate to choose the production function for macroeconomic analysis:

$$Y = F (K, L; t)$$

In all cases, the outcome is determined as Y, but it can be gross product, gross domestic product and national income. The relationships between production factors are determined by K - equity and L - labor, T - time change.

The function of bringing the function of the functional apparatus to the developed market economy is practically used in practice. However, the transitional economy also creates a significant change in the problems associated with the construction of production functions. In the transitional economy, it is very difficult to identify market prices for production funds or to obtain reliable information on the costs and labor costs of production, and in many cases it is impossible to find a reliable source of it.

The problem of assessing the market value of production assets is complicated by the abolition of tax incentives for investment. In fact, this decision raises profitability by reducing the profitability of the undertakings through the structure of expenditure, reducing the basic production fund (through re-evaluation), expanding the depreciation fund and reducing the financial resources required for investment activity on the basis of taxable base.

Thus, the value of the funds is adjusted not only by the market value change, but also by the amortization mechanism on the basis of profit tax. Similarly, this problem can also be triggered by the use of the labor force: the higher the single social tax (WSI) leads to hiding real wages.

The concealment of real wages, in turn, leads to uncertainty in the investment fund. Therefore, in the transition economy, some economists propose to use the concept of production instead of the function of functional function, which should be understood as a general functional relationship, for example, not only the absolute

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values, but also the growth rates. Or, it is possible to use a number of factors that are unusual in production, that is, instead of money.

In the case of problems with the deterioration of the quality of economic statistics, one of the changes in the traditional set of factors allows partial solution of the problems of the use of investments, the dynamics of production factors in the conditions of the unsustainable development of the economy.

One of the main objectives of the mathematical statistics to be used is to study and analyze all of this information. As you know, as a complete description of any set of data, this is the inheritance of the collection to the distribution law. In this regard, it is possible to say that there are many ways to detect a large number of divisive laws based on the data set. At the same time, it should be noted that all these methods have only a close characteristic. Some divisive laws have very similar features, which in turn complicate their identification. One of these features is symmetry.

ANALYSIS AND RESULTS

The main purpose of the research is to compare the identification methods for symmetric distribution laws. Two popular Kolmogorov's eligibility criteria and extensional coefficient can be found in the identification of the law of probability distributions. The law of divine law was used as a logistic and regular division closer to symmetric law.

In order to obtain the desired results, the EXCEL program has been implemented with the goal of simplifying the process and achieving accuracy and access to all users. The volume of investments into the capital of the Republic of Uzbekistan for 1998-2017, and the statistical information distributed among the country's regions, for the purpose of inspection. The distribution parameters have been left unchanged for the reliability of the rating.

Kolmogorov's criterion was the most reliable method of research [1]. The comparison of the formula for the calculation of the extensional coefficient of EI Pustylnika modification [2] is based on the analysis of the normal distribution of investments into regions and their condition. In addition, a combination of suggested methods was also studied. In the study of the combination of these methods, it was found out, how effective Kolmogorov's conformity criterion and the extensional coefficient were used, and the percentage of these methods was determined by the error of the distribution.

It should be noted that the problem of detecting the dataset according to the distribution laws has been widely studied for a long time. Although there are a lot of research methods, researchers rarely succeed in evaluating the information in a consistent way from the point of view of any particular distribution law.

A set of methods and algorithms have been developed to restore the distributed density function within the noparametric statistics [3]. The literary analysis of this problem [4] shows that the procedures for differentiating symmetric and asymmetric laws in practice are well illustrated [1-4].

When using a variety of known knowledge based on data assimetry, it is improper to conclude that the information is correct if proven to be a part of a symmetric distribution law. The discrepancy of this approach was also noted by other authors [1-3].

This is because the existence of a number of symmetric division laws in nature that is being studied in nature, as mentioned above. Therefore, the problem of determining whether the data set is relevant or not applicable to any symmetric distribution law remains relevant today.

The normal and logistic distributions are the most symmetric distributions for each other [1]. It is very difficult to find the difference between them. In this case, there are a number of ways to help determine the distribution law. This, in turn, makes the problem of determining the mode that distinguishes the symmetric distribution laws nowadays. For this purpose, the distribution of regional investments, depending on the subject area:

- Definition of symmetric distribution laws, depending on the level of development of investments in the regions (economic sectors);
- The effective use of distributed investments based on logical distribution methods;
- Selecting the most suitable ones by performing different combinations of distributed separation methods.

It is assumed that the parameters of the Kolmogorov criteria are known in the distribution of investments. The probability of disobedience to some theoretical distribution law of the random variable is assumed to be the number of observations in accordance with ≥ 20. An inspection can be performed for any type of distribution.

ISSN 2394 - 7780

The norm is based on determining the maximum deviation of the theoretical division of the frequency of the function and the results are found in the variation sequences and the upper and lower boundaries of the corresponding deviations are as follows:

$$D_n^+ = max\left[\frac{i}{n} \quad F(x_i)\right] \qquad 1 \le i \le n \tag{1}$$

$$D_n^- = min\left[F(x_i) - \frac{i-1}{n}\right] \qquad 1 \le i \le n \tag{2}$$

Here $F(x_i)$- is the sum of the theoretical division functions and the maximum deviation limit is expressed as:

$$D_n = max[D_n^+; D_n^-] \tag{3}$$

Using (3), the following formula is used for the purpose of conformity of Kolmogorov's criterion of conformity to investments into the economy of the Republic of Uzbekistan for 1998-2017 and their distribution to regions: [1]:

$$\lambda = \frac{6nD_n+1}{6\sqrt{n}} = \frac{6\cdot 20\cdot 0{,}18+1}{6\cdot\sqrt{20}} = \frac{22{,}6}{16{,}8} = 1{,}345 \tag{4}$$

The value of the λ--indicator is compared to the table value and accordingly $\lambda_{cal} \le \lambda_{table}$ requires the completion of the first table. According to the results of calculations, when the $\alpha = 0{,}01$, there was determined the inequality of 1,024 ≤ 1,057, and the distribution of the investment for the main capital of the Republic of Uzbekistan in 1998-2017 was appropriate for Kolmogorov's criterion of conformity.

If we analyze the results of investment in the regions of the Republic of Uzbekistan, which are scientifically dependent on these results, on the basis of Kolmogorov's criteria under the normal distribution law, this process should be gradually implemented in the following order:

a) The significance of the initial verification process is determined as a = 0.01. At the same time, high alpha values reduce the possibility of a second type error (assuming an incorrect expression) and lower alpha values reduce the likelihood of the first type of error (the actual misinterpretation is deceptive). As mentioned above, the first type error is very important, so low alpha values are usually used (0.05, 0.01, 0.001 and below).

b) The average square fault of the dynamic range of investment distributed over the fixed period is determined:

$$S = \sqrt{\frac{(y_i - \hat{y}_i)}{n-k-1}}, \tag{6}$$

Here: *n* - number of observations; *k* - number of factors.

c) The average arithmetic of the dynamic array is calculated using the following formula:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i \tag{7}$$

d) At the remaining stages, the above-mentioned investments shall be made in accordance with paragraphs (1) to (2) - (3) - (4). As noted above, the calculation of the calculations in the EXCEL program will facilitate the process and the result will be as shown in Figure 1 below.

ISSN 2394 - 7780

27	α= 0,01		l_{table}= 1,057							
28	*i*	Bukhara region	$(x-x_{average})^2$			i/n	(i-1)/n	F	i/n-F	F-(i-1)/n
29	1	18,7	3249950,3	α =	0,005	0,05	0	0,1921076	-0,142108	0,19210761
30	2	25,3	3226060,7	σ =	2229,792376	0,10	0,05	0,194999	-0,094999	0,14499905
31	3	31,6	3203469,2	$X_{average}$=	1821,4	0,15	0,1	0,1988229	-0,048823	0,09882294
32	4	60,6	3100500,4	n=	20	0,20	0,15	0,2070183	-0,007018	0,05701826
33	5	95,5	2978812,9	D+=	0,220585	0,25	0,2	0,2106566	0,039343	0,01065661
34	6	90,7	2995404,8	D-=	0,192107612	0,30	0,25	0,2254916	0,074508	-0,0245084
35	7	174,7	2711699,2	D_n=	0,220585	0,35	0,3	0,2468535	0,103147	-0,0531465
36	8	260,4	2436795,3	$l_{account}$=	1,023754932	0,40	0,35	0,2480105	0,151990	-0,1019895
37	9	337,8	2201139,6	l_{table}=	1,057	0,45	0,4	0,257303	0,192697	-0,142697
38	10	727,1	1197544,6			0,50	0,45	0,2826827	0,217317	-0,1673173
39	11	1191,5	396804,0	normal distribution		0,55	0,5	0,3703811	0,179619	-0,1296189
40	12	2443,4	386854,4			0,60	0,55	0,3794148	0,220585	-0,1705852
41	13	2069,1	61343,5			0,65	0,6	0,5307594	0,119241	-0,0692406
42	14	1988,7	27981,3			0,70	0,65	0,5558241	0,144176	-0,0941759
43	15	2277,8	208279,2			0,75	0,7	0,7593772	-0,009377	0,05937717
44	16	2871,6	1102870,1			0,80	0,75	0,7155494	0,084451	-0,0344506
45	17	3408,3	2518176,1			0,85	0,8	0,8058399	0,044160	0,00583992
46	18	3866,1	4180700,8			0,90	0,85	0,8694904	0,030510	0,01949044
47	19	5756,7	15486398,8			0,95	0,9	0,9829088	-0,032909	0,08290885
48	20	8732,9	47768695,5			1,00	0,95	0,9951149	0,004885	0,0451149
49	total	36428,5	99439480,8	The main hypothesis H0 is a sample of the standard normal distribution N(0,1), the alternative H_1 is a						
50	Average	1821,4	4971974,0	sample of N (1,1).						
51	D_n=	0,22059		As statistics T we take the arithmetic average. Then $P(T\|H_0)=N(0,1/n)$, $P(T\|H1)=N(1,1/n)$.						
52	$l_{account}$=	1,023754932		We construct the criterion in accordance with the rule:						
53		normal distribution		if T<=c - H_0 is taken, if T>c, H1 is assumed, where c is the number defining the critical region.						

Fig-1: Investment in the territory of the Republic of Uzbekistan

Based on the calculations presented in the picture, investment division analysis was conducted in 14 regions of the Republic of Uzbekistan, and according to the Kolmogorov criteria of conformity assessment, there was a normal distribution of investment in four regions (Table 1).

ISSN 2394 - 7780

Table-1: Investments are normally distributed

Rates	Bukhara Region	Surkhandarya region	Tashkent region	City of Tashkent
D_n	0,21	0,21	0,23	0,22
$L_{account}$	0,974	0,963	1,05	1,024
Deployment status	distribution is normal	distribution is normal	distribution is normal	distribution is normal

Source: the author's calculations based on the data from the State Statistics Committee of Uzbekistan.

The results of the table were determined based on Ltable=1,057, when the α=0,01, respectively, and that the investment in the fixed capital of Bukhara, Surkhandarya and Tashkent provinces and the capital city of Tashkent was normal. However, the distribution of distributed investment in the remaining 10 regions was not normalized.

Investigating the distribution of investments according to the criteria of this Kolmogorov, first of all, depends on the maximum degree of deviation limits and the ratio of normalness, which means that if the values are smaller, the distribution always shows the norm. In order to check the conformity of the chosen method, we will now examine the distribution of investments into the Republic of Uzbekistan and its regions by the method of extraction coefficient of the second EP in the field of PPP.

2. Using the formula for calculating the extensional coefficient of EI Pustylnika modification [2], we carry out an analysis of investment distributed across the territory of the Republic of Uzbekistan for 1998-2017. Taking into account that Kolmogorov's conformity criterion is distributed in 2017, EI Pustylnik modification can be confirmed by the calculation of the normal distribution and the critical empirical values for the extenshes and asymmetry coefficients:

$$\overline{x} = \frac{\sum x_i}{n} = \frac{318064,4}{20} = 15903,22$$

$$\sigma = \sqrt{\frac{\sum(x_i - \overline{x})^2}{n-1}} = \sqrt{\frac{11640134454}{20-1}} = \sqrt{612638655,5} = 24751,5$$

Empirical value of the extensional coefficient using these values:

$$Ex_{эм} = \frac{\sum_{i=1}^{n}(x_i - \overline{x})^4}{n\sigma^4} - 3 = 0,84 - 3 = -2,16; \quad (5)$$

where the critical values of the extensional coefficient correspond to the following formula:

$$Ex_{кр} = 5 \cdot \sqrt{\frac{24n(n-2)(n-3)}{(n+1)^2(n+3)(n+5)}} = 5 \cdot \sqrt{\frac{146880}{252575}} = 5 \cdot 0,579 = 2,9 \quad (6)$$

Based on the above values, the critical and empirical values of the asymmetry coefficients are determined:

$$A_{эмп} = \frac{\sum(x_i - \overline{x})^3}{n \cdot \sigma^3} = \frac{1,287855 + 14}{20 \cdot 24751,5^3} = 0,42 \quad (7)$$

$$A_{кр} = 3 \cdot \sqrt{\frac{6 \cdot (n-1)}{(n+1) \cdot (n+3)}} = 3 \cdot \sqrt{\frac{6 \cdot 19}{21 \cdot 23}} = 3 \cdot \sqrt{0,236} = 3 \cdot 0,49 = 1,5 \quad (5)$$

According to the results, the normal hypothesis is appropriate. Because, according to the comparison criteria, critical values are greater than the asymmetry values of $Ex_{кр} > Ex_{эмп}$, $A_{кр} > A_{эмп}$.

To check the distribution of investment to the regions, we will check the distribution in EXCEL using the above formulas and statistical information (Figure 2).

ISSN 2394 - 7780

	i	Bukhara region	$(x-x_{average})^2$	$(x-x_{average})^4$				$(x-x_{average})^3$
29	1	18,7	3249950,3	10562177191749,00				-5858886525,77
30	2	25,3	3226060,7	10407467472311,80	σ =	2229,792376		-5794404329,03
31	3	31,6	3203469,2	10262214942422,90				-5733645396,71
32	4	60,6	3100500,4	9613102881240,41	Ex_{EMP}=	2,31		-5459434912,37
33	5	95,5	2978812,9	8873326493895,72				-5141204112,35
34	6	90,7	2995404,8	8972450167977,07	Ex_{CR}=	3,80538077		-5184218425,04
35	7	174,7	2711699,2	7353312796038,29				-4465419662,05
36	8	260,4	2436795,3	5937971223401,85	A_{EMP}=	1,618580409		-3803895402,59
37	9	337,8	2201139,6	4845015337849,65				-3265663011,05
38	10	727,1	1197544,6	1434112974149,00	A_{CR}=	1,457471647		-1310501503,70
39	11	1191,5	396804,0	157453400892,27				-249956269,38
40	12	2443,4	386854,4	149656329953,65	distribution→	no normal		240614235,53
41	13	2069,1	61343,5	3763025521,20				15193326,57
42	14	1988,7	27981,3	782954826,72	n=	20		4680610,79
43	15	2277,8	208279,2	43380243391,74				95053691,61
44	16	2871,6	1102870,1	1216322389383,74				1158207907,79
45	17	3408,3	2518176,1	6341210877925,84				3996033744,48
46	18	3866,1	4180700,8	17478259162863,20				8548179457,10
47	19	5756,7	15486398,8	239828548971209,00				60943256904,43
48	20	8732,9	47768695,5	2281848271817510,00				330152866597,45
49	total	36428,48	99439480,85	2625328800654510,00	$Ex_{кр} > Ex_{эмп}$	$A_{кр} > A_{эмп}$		
50	average	1821,42	4971974,04	131266440032726,00				
51		no normal						

Fig-2: Calculate the normal distribution of the extensibility and asymmetry coefficients in the modification of E.I. Pustylnik`s model.

According to the results of calculation of the norms of the extinction and asymmetry coefficients in the modification EI Pustylnik, the normal distribution of investments into the territory of the Republic of Uzbekistan in 14 regions has been found to be normal distribution in all regions except for Bukhara and Jizzakh regions.

In terms of realities, the distribution of investments into three regions, namely Bukhara, Tashkent Regions and Tashkent, was normal, based on the capabilities and peculiarities of the regions. It was discovered that Kolmogorov was among the most popular styles.

Generated datasets have been scanned for compliance with the normal distribution laws. As a comparison parameter, the first (normally duplicated dataset was rejected by the hypothesis) was used as a result of comparison of the hypothesis and the second type (the hypothesis of normality in a logistic distributed data set) was used.

CONCLUSIONS

As a result of comparing different identification methods, the following conclusions can be made

- Among the above mentioned methods is the criterion of compliance Kolmogorov;
- The worst among the methods given is the extensional coefficient of the modification EI Pustylnik, which makes more errors in the regular distribution of the distribution.

Thus Kolmogorov's criterion of conformity is the most important. It should be noted that there are two methods comparing to this study. However, none of these comparisons significantly reduced the number of errors. It is not advisable to use more methods to achieve the best results.

As a result of both methods, a certain set of distribution laws revealed certain errors in the hypothesis acceptance and found that the average number of errors in the control of Kolmogorov's conformity was 13-17%.

ISSN 2394 - 7780

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ASSESSMENT OF EFFICIENCY OF LABOR OF PERSONNEL IN INDUSTRIAL ENTERPRISES

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ABSTRACT
In this article are considered criteria and technique of an estimation of work of the personnel by criteria to indicators. And also, it is investigated efficiency of work of the personnel of Ltd "Karshi ta'mirlash zavodi" on criteria to parameters.

Keywords: labor productivity, labor quality, commitment rate, social effect, costs, cost effectiveness.

INTRODUCTION
As a result of measures taken by the government to stimulate domestic demand and expand production of competitive industrial products, diversification of the economic sectors and increasing financial sustainability, the volume of industrial production increased by 8.0% in 2015, the share of industry in the structure of gross domestic product (GDP) 33.5 percent took the lead. More than 70 percent of the products produced are ready-made products with a surplus value. These figures show that the role of industrial enterprises in the rapid growth of the economy of our country is increasing. The rapid development of the industrial production industry depends on the efficient operation of enterprises operating in the industry with efficient use of labor resources and technological resources.

ANALYSIS OF RESULTS
The success of enterprises depends on the level of available employment potential and a more efficient use of personnel. Effective employees' work and the results of their work (effectiveness) have a positive impact on the company's strategic goals. Therefore, when assessing the effectiveness of labor, it should be based on a specific benchmark, which allows measuring the effectiveness of the personnel in interaction. To do this we need to solve the following issues:

- Evaluation of personal work;
- Developing key performance criteria for categorization to assess the effectiveness of individual labor;
- Classification of the personal commitment to the position (position).

Personnel assessment - the process of determining the quality of work required for specific targeted (defined) work activities (position, workplace). The main purpose of personal labor evaluation is to rationalize staffing and to find out that their labor is being used efficiently [1]. An important part of the quality assurance system is crucial to achieving the ultimate goal of personal performance evaluation. For the first time, the quality of work has been described in US businesses as "a job-based assessment". Later, however, the use of this technique became a tradition in other countries. The former administrative command system also had a unique experience in using this effective method, initially in the industrial sector (60s) in areas that are far from production, such as in the field of trade. Thus, the quality of work has been called by different names: "system without shortcomings", "quality management system" and the labor efficiency coefficient is used to measure it and is now referred to as labor efficiency coefficient [3]. Each enterprise and its divisions develop labor performance indicators based on specific business activities, each of which has a specific assessment system that can be expressed by points or coefficients. The system for assessing the quality of work at industrial enterprises is used for the following reasons:

- Study the employee's personal capacity;
- Increasing their professional skills by supporting workers through training and retraining;
- Promotion and career change;
- Organization of additional remuneration and bonus payments;
- Determine the staff members who can not meet the business objectives.

As a rule, a number of indicators (requirements) are used in the quality assurance system. Using a large number of features makes it difficult to keep track of your business account and its practical application. It is desirable for these indicators to be readily accepted by the workers and be as universal as possible, taking into account all the workers involved. However, it should also be noted that they are specialized for specific activities. It should

ISSN 2394 - 7780

be noted that some of the constant requirements have been met by many enterprises: skill and initiative, continuity in work (uninterrupted work activity), solid steadfastness in the workplace, having multiple skills, rationalization, inventing skills, etc. At the same time, requirements such as "personnel management, staff search, selection, recruitment, adaptation, development, vocational training and retraining, and planning for career advancement" are also critical. Establishing such indicators and requirements during the enterprise's production process is carried out taking into account the psychological and physiological capacity of the workers, mathematical statistics and a number of other factors. The results of personal work assessment are objective and accurate (reliable) the valuation criteria should be selected and applied correctly [5].

We examine the distribution of labor distribution according to the criteria based on the criteria of how the job is to be used or used. Criteria are designed for each position of the managing staff, who are carrying out labor activity at the enterprise. Workforce distribution summarizes the main goals and objectives, which should be used in specific business processes where the assessment criteria determine the performance of each task and purpose within the enterprise's requirements [6].

The overall result of interconnected activities involving the collection (collection) and analysis of data for individual labor efficiency assessments. It is helpful for the enterprise to determine the impact of the individual's work on the three main principles of achieving its goals and objectives, and to collect the information required to evaluate and evaluate employees.

Three main conditions of personal labor productivity

1) Compliance with the requirements of the personnel involved in the labor administration, as well as the goals and objectives specified;
2) high-quality performance of the work using rational ways;
3) Ensuring better and more beneficial effects of human resources on the basis of more expedient use of capabilities (skills, knowledge and skills). The individual performance efficiency assessment describes how people are working, second, how they have achieved results and thirdly , all of which is defined by the way the enterprise is represented (its effectiveness, impact). Figure 1 shows the general form of assessment.

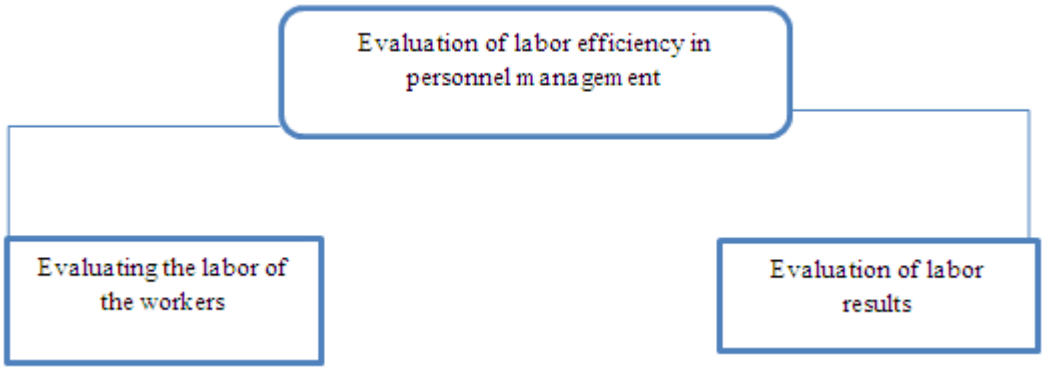

Fig-1: Form of assessment of efficiency of personnel management in industrial enterprises.

Workforce assessment - reflects the impact of indirect effects on improving the quality of labor due to the proper organization and timeliness of the work, that is, the impact of indirect effects on the achievement of the planned result. The result of a worker's assessment is that the employee's work and the work result are consistent with the long-term goals and objectives, reflects the impact of the company on its final results.

The objective of determining the effectiveness of individual employment is to: improve the effectiveness of the workforce (use and full utilization of existing labor force); Providing the necessary information to managers and employees in making business-related decisions. It allows us to develop the company's development forecast and strategy using information obtained from the evaluation of the effectiveness of the workforce. In our opinion, the assessment of the effectiveness of the workforce in the enterprise, the following two economic and social effects will be achieved:

1. Economic effect

- Efficiency of the enterprise and personnel;
- level of achievement;
- Quality and quantity of work;
- Quantity of orders in the production of goods.

ISSN 2394 - 7780

2. Social effect

- Harmony;
- Feeling satisfaction from work;
- Social programs;
- Personal characteristics;
- Behavioral attitudes;
- Unused option or potential.

Our theoretical and experimental research on the evaluation of labor efficiency criteria was awarded with the international quality management certificate ISO 9001: 2008 for 2012-2015, with a positive result on improving the performance results, the main activities include repairing and repairing agricultural machinery (chip, plug , goblet, limex), bolt-thread production, metalworking of various sizes and shapes, and high added value in other industries In the case of a limited liability company, Karshi Repair Plant, which specializes in the production of products, we analyze the performance of its managers and employees and set key performance criteria. For this purpose it is necessary to consider the following positions: general manager, chief engineer, mechanic, welding and casting department manager, managing manager, work with clients manager, head of planning department.

In the "Karshi Repairs Plant" the efficiency of personnel efficiency is determined by the criteria of a separate enterprise, managers and employees. The universal criterion for evaluating the following is:

Work time utilization rate means the level of exploitation (use) of a defined daily work time. Time spent for performing workplace production (It) the time between the normal working hours (hours) (Id) of the workday and it is determined by the following formula:

$$K_t = I_t / I_c \qquad (1)$$

The main task of working on a scientific basis is to comprehensively analyze the use of time and its unsustainable spending, to reduce its cost-effective use and disrupt the work time. One of the main conditions for achieving high labor productivity is by exploiting the business hours to save it. Labor productivity ratio - time of production of conditional unit of production (M_t) to the gross product output (I_{po}) in the reporting period:

$$L_r = I_{po} / M_t$$

The criteria for assessing the effectiveness of the workforce can still be counted on. In the field of activity, they can be the perfect criteria, in our analysis, these criteria are essential. For example: Reduction of patient recurrence rates or healing of the patients serves as a criterion for assessing personal health in the medical field. In realistic estimation of the effectiveness of the individual labor product, the main objectives of the enterprise should be compatible with the work performed by the current staff [7]. High productivity in enterprise-targeted production depends on the ability of the personnel to carry out their service responsibly. [8] The above-mentioned criteria are effective for identifying employees, employees and specialists in the enterprise. Other criteria for assessing labor efficiency are used by managers and staff in the enterprise (managing employees, professionals, employees). In determining the effectiveness of the managers and staff, it is important to identify and analyze the criteria for the effectiveness of labor management. Management effectively creates an effective workforce. Managerial and productive workmanship is the driving force behind the success of the enterprise. Finally, it organizes effective activities of the enterprise.

Management efficiency is the ratio of resources used or consumed efficiently [9]. In our view, the effectiveness of management efficiency is more complex than any productivity in production, and it should be noted that the effectiveness of management is of two economic and social goals.The effectiveness of personal labor is also the result of the effectiveness of management, the only difference between labor efficiency and labor management is the measurement, computation and significance. Based on the study of the effectiveness of management of the Karshi Repair Plant, the effectiveness is as follows:

- Implementation of new ideas;
- Development of the concept of personnel management;
- Personnel control and employee motivation;
- Implementing business goals based on clear plans.

ISSN 2394 - 7780

The effect of social effect on economic efficiency is not to be quantified. However, they are interconnected. The economic criterion of labor management at the Karshi Repair Plant is as follows:

Economic Performance Coefficient - describes the results of high product output achieved as a result of targeted costs (production cost) of the enterprise. This allows you to determine whether the funds spent on the business activities are profitable or not.

The production capacity or the cost of a single unit (Is) is determined by the ratio of the cost of management (Sm):

Kc = Sm / Is

Economic management describes and evaluates the labor productivity and the amount and dynamics of expenditure in management activity. Increasing the quality of administration and achieving the goals without changing the amount of expenditure for managerial activities, demonstrates effective labor management.

As mentioned above, social effectiveness is not quantifiable. However, in our opinion, there is a quantitative determination of the social effect based on a chain-based "cost-effect-oriented" relationship. To achieve this, it is necessary to compare the amount of expenditure directed to achieving the objective, or, in other words, the outcome of the outcome of the management's outcome. Efficiency achievement and cost savings levels. Thus, the economic effectiveness of labor management becomes a social effect. It is crucial to know the level of employee engagement in assessing the effectiveness of reliable and qualitative labor using personal evaluation criteria and methods of computation as a result of research.

Determining the level of individual commitment allows the correct use of the results based on performance evaluation criteria, and can therefore be interpreted as the result of the degree of commitment of individual positions and the outcome of the assessment of labor efficiency.

This table shows that the CEO of the enterprise does not consistently monitor the work of the motivation function in the workplace, the planning, control, motivation and coordination of the chief engineer, the labor and managing staff, and the control of the head of the planning department. As a result of the low skilled work experience, the manager of the Customer Service Department's motivation and planning department did not perform the functions of motivation and coordination. It is possible to conclude from the findings that the staff of the enterprise being analyzed fully and partially fulfills the required level of work ability and commitment by 90%, without qualification and non-fulfillment of duties - 10%. Personnel managers carry out productive work with their sense of duty and responsibility when performing the job functions at the enterprise being analyzed. The employee who is responsible for the performance of the job function must perform the function of his or her job. This situation ensures that employees do not do jobs that are not part of their job duties, and ultimately ensures the full implementation of their duties in the workplace. The classification of the classification resulted from our study indicates the employee's obligation to do so. Thus, employees should meet the job requirements, as well as their current position and staff. This will save the time and cost of the training spent on training, seminars and trainings for the employee to be assigned to the company and qualitative labor. As a result of the assessment of the effectiveness of the individual labor, the management of the enterprise can not only define the quality of the workforce but also the employee's compliance with this position. If the employee shows high performance results at his / her level of commitment, then he / she deserves a job position.

Using the above-mentioned coefficients, the criteria can be calculated and can be determined by comparing their duties on the job position. If the result of the work corresponds to the level of personal responsibility for the position, it means that employees are working productively. If the outcome of the study does not meet the mandatory level, then the review of the function performed by the management may increase labor efficiency by increasing or decreasing the functional function.

CONCLUSION

In summary, it is possible to estimate the effectiveness of work based on criteria: first, the level of employee compliance; Secondly, it helps to determine the level of labor productivity, professional proficiency and commitment levels of a worker in fulfilling the defined job function.

In determining the effectiveness of individual labor efficiency, the definition is effective if the criteria used are objective, coefficient-expressed and substantial. It is practical to use criteria-based measurements in the measurement, as the indicators do not define the standard of work for each employee, but rather the rate of work. This in any case (time) also means that correction of the worker's work or the ability to work is a possibility that further enhances the effectiveness of personal productivity at the enterprise.

ISSN 2394 - 7780

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STUDY ON INVESTMENT OPPORTUNITIES IN INDIAN INITIAL PUBLIC OFFERING

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ABSTRACT
"A well chosen IPO can be a life changing experience if an investor made right choice and stick with the stock for years". Hundreds of companies enter into stock market for the first time. Investors in the developing countries like India have difference of opinion for allocating their hard earned wealth for such kinds of newly entered companies. There are different factors which influence on the investment decision of individuals on Initial Public Offerings. Which includes thinking IPO's are more expensive, chances of vividness, past IPO underperformance, less knowledge of IPO etc? Some IPO's are great investment opportunities for the investors but one must be aware of background. In this research an effort made to evaluate the performance of IPO's issued in Indian stock market during July 1st 2017 to June 20th 2018. Ultimate intension of this research is to spread awareness among the investors to find further available investment opportunities in initially issued securities in the secondary market. Also, an effort made to guide investors for formulation of successful strategy for upcoming IPO's on the basis of reaction of randomly selected 100 investors were enquired through the structured questionnaire. For this purpose stock market price of all IPO's collected on the basis of opening and closing price on issue date, first 6 months end price, first 12 months end price, first 18 months end price and 24 months end price after its issue. Statistical tools like chats, t-test, ANOVA one way and two way applied for better evaluation.

Keywords: IPO, Investment, Return, Primary Market, Secondary Market, Investors Reaction.

1. INTRODUCTION

India has become one of the favorite investment destinations for the foreign investors across the globe. The investment scenario in India is getting better and better with each passing day due to high confidence level of the investors. Today India is considered the 4th biggest economy in the world. According to forecasts, Indian economy will grow to become 60% in size of the economy of US. Strong and stable Indian economy led corporate world with successful listing. Initial Public Offering is the process by which a private company can go public by sale of its stocks to general public. All most all companies that went for public since 2016 are trading significantly above their IPO listing price. The number of initial public offerings (IPOs) hitting the market has increased recently as the secondary market is at an all time high. Some of the IPOs provided life time opportunities for the investors and created group of millionaires. From Rs.10,000 to Rs. 2.53 crore in 16 years, there is great power for IPO's where one can convert himself crorepati provided that chosen scrip is unique and outperforming.

EXAMPLE OF SUCCESSFUL IPO'S EVER

a. Symphony went public in 1994, by getting listed on stock exchanges in Bombay, Ahmadabad and Delhi. One among very best IPO have yielded 2,53,000 percent return in 16 years.

b. Eicher Motors, which has grown 1,46,171 percent from just Rs. 19.40 a share to trade around Rs.28,400-odd.

c. Balakrishna Industries was available at Rs. 1.3 during 2001 rose for Rs. 1,660.

d. Avenue Supermarket, the company that runs D-Mart stores around the country shown 102% jump on the day of IPO is presently trading at over Rs. 600 compare to its issue price of Rs.299.

e. A single share of coke was purchased for $ 40 in the IPO in 1919 would have grown to more than $ 1,50,00,000 with dividend reinvested by the end of year 2014. Coke IPO has created history in the town Quincy of Florida by creating thousands of millionaires and changing their lives forever. Wal-Mart Stores, Inc issued its first IPO at $16.50 for each in the year 1970 has grown for $ 83.50 after having number of ups and downs in the economy.

f. Allotment of 10 Infosys shares during the its first IPO in the year 1993 at Rs.950 of total investment would gone up to Rs.52,65,920 by the end March 2017. Rs.1000 investment in Reliance Industries Ltd. In the year of its IPO 1977 now would be worth of Rs.7.78 Lakh.

g. This IPO was sold between January 15 and January 18 of 2008 and was subscribed about 70 times. This was subscribed within the first few minutes of its book-building process. Reliance power placed second

ISSN 2394 - 7780

biggest IPO in India after Coal India. The stock ended up as the 15th most valued stock on Dalal Street for the day.

There are 211 BSE500 stocks, whose prices have jumped over 10 times in last 16 years, while 61 have risen over 10,000 percent and five over 50,000 percent.

How Does an IPO Works?

The Securities Exchange Board of India regulates the entire initial public offering process. A company intended to issue shares through IPOs first register with SEBI. After detail scrutiny SEBI approve the application mean time the company awaiting the approval will proceeds with preparation of prospectus.

Once after getting approval company needs to decide two things; fixing the price of the shares and number of shares it plans to issue. There are two types of IPO issues: fixed price and book building. In the former, the company decides the price of the share in advance. In the latter the company gives you a range of prices where investors need to bid for shares within provided range.

In the next stage company invites application from eligible publics for subscription where they required showcase their interest in buying the shares. Once the company gets subscriptions from the public, it proceeds to allot the shares.

The last step in this process involves listing it on the stock market. After the shares are issued to investors in the primary market, they get listed in the secondary market. This leads for daily trade.

How IPO Investment Works?

Invitation for the Initial Offering could be seen in the news papers regularly from different companies and huge discussion in business news channels on the same topics till the issue date. The prospectus issued by the company is an invitation to the public which states financial details. Prospectus outlines how the company plans to use the IPO money and expand its business. This helps investor to make informed decision.

Process to buy shares

- Get a physical application form from a broker, distributor, or bank branch. Even online applications are also available.
- Fill up the form with various details like personal, bank and demat account details.
- It also asks for total investment amount.
- Share allotment happens within 10 days from the closing date of the offer.

When one subscribe to IPO, he become one of the first shareholders of the company. If the company flourishes, its share price rises and it may be life changing deal for an investor. But one should not forget about evils of share market investment without proper knowledge and guidance. IPO investment has its own risks and rewards. Blind investment without proper study of company profile, past performance and prospectus may result in black side of IPO investment.

3. REVIEW OF LITERATURE

Leila Bateni & Forshid Asghari (2014)

Research survey in Tehran Stock Exchange on the topic "Study of factors affecting the initial public offering price of the shares on Tehran Stock Exchange". Research question in this study was whether pricing the initial public offering is less than actual, what is the time period of reaching stabilized price in the secondary market? Also to decide what factor affects pricing of IPO on the Tehran Stock Exchange. In this research work authors studied IPO's of 115 companies between the years 2006 to 2012. Final results indicated that only P/E ratio variable has a significant relation with price changes on the IPO's. Other factors like inflation rate, industry type, current rate, debt rate, fixed assets turnover ratio, pure growth rate, volume average of equation in first stage, ownership structure and EPS doesn't significant relation with price changes on IPO's.

Rajesh Kumar Agarwal & Vaishali bakliwal (2015)

Undertaken research on the topic "A study on initial public offer(IPO) in India", with the intension of understanding the procedure for listing of IPO in India and hurdles that Indian corporate face as they gear up to pull up a successful IPO. This paper highlighted problems faced by an Indian corporate in the process of brining successful IPO and its listing. Structured questionnaires circulated among 28 respondents including investors, directors of the company, company secretary etc. results yielded that major factors which have affect on issue is Merchant banker, SEBI regulations, amendments in statutes etc, goodwill of the company, volatility of share market, global meltdown.

ISSN 2394 - 7780

Fernando, A Rosary Ramona; Deo, Malabika; Zhagaiah,R in their research titled "Stock Price Performance of InitialPublic Offerings: Evidence from India" (2013)
IPO price performance in India for 27 book building IPOs of five years period from 1990 to 2004 was examined. It is noticed that all IPOs were priced at premium, categorized as high and low premium IPOs. Low premium IPOs were taken as those whose issue price is five times the face value of its shares and high premium IPOs were those whose issue price is ten times the face value of their shares. Sample contained 5 low premium and 22 high premium IPOs. Shairo Wilks test and Mann Whitney test applied for evaluation. The study shows that there is no much difference between low and high premium issues. Finally it is concluded that low premium issue are under-priced and are more consistent as regard to returns.

K. Hema Divya on research titled "A Study on Performance of Indian IPO's during the Financial Year 2010-2011" (2013)
Market performance analysed for IPOs during the financial year 2010-11on the basis of factor which contributed either under pricing or over pricing price of IPO in India. This study attempts to identify causal variables behind high initial gains for Indian IPOs using earlier researches and testing them over a sample of Indian IPOs to examine the influence of non-fundamental factors and signaling effects on under-pricing. This study includes the data set of 52 IPOs successful IPOs. It's found that book build offer also suffer from under-pricing. Extent of over subscription of an IPO will determine the first day gains.

Research Gap
There are no major studies done combining following three issues together
a. Verifying investors view on IPO investment through empirical study.
b. Evaluation of past IPO's as a whole on the basis of each 6 month performance.
c. Evaluation of past IPO's individually on the basis of 6 month performance.

3. OBJECTIVES OF THE STUDY
This research has taken with the broad objective of studying present profile of IPO investment scenario in India, possible investment opportunities and investors psychology. Following objectives are framed to reach the broad objectives.

1. To understand the basics of Initial Public Offering in Indian contest.
2. To evaluate investors perception towards IPO investment.
3. To analyze the performance of recent IPO's in India.
4. To identify the possible investment opportunity in Indian secondary market.
5. To suggest for framing successful investment strategies both in primary and secondary markets.

4. RESEARCH METHODOLOGY
4.1 Hypothesis of the study
Hypothesis 1
- H_0 = There is no significance difference in different alternatives opted by share market investors.
- H_1 = There is significance difference in different alternatives opted by share market investors.

Hypothesis 2
- H_1 = There is no influence of age groups on share market investment.
- H_2 = There is no influence of education level on share market investment.

Hypothesis 3
H_0 = There is no significance difference between performance of IPO's on the day of their IPO and at the end of two years

4.2 Scope of the Study
This research attempt is prepared with intension of knowing behavioral observations among Indian investors related for IPO investment. Last two years performance of IPO's in India done to guide for framing best possible investment strategy.

4.3 Methodology
Our study enquires and brings forward the results of specified objectives which relates to performance of IPO's in the secondary market and investors opinion to have investment on IPO's. This is a descriptive research study

ISSN 2394 - 7780

that includes the surveys, reports and opinions expressed by authors of various research papers relevant to our subject.

4.4 Data Collection

This research includes both primary and secondary data for a comprehensive investigation.

4.4.1 Primary Data: To know the demat account holders reaction and opinion for investment in IPO's, structured unbiased questionnaire asked to randomly selected 100 Demat account holders.

4.4.2 Secondary Data: For the evaluation of performance of companies in secondary market after its successful listing through IPO, share market price is collected on the basis of issue day price, price at the end of first six months, twelve months, eighteen months and twenty four months. Further, secondary data was collected from books, existing researches and reports, newspaper, articles, internet and magazines available online

4.4.3 Tools f Analysis: Hypothesis verified through t test, One way ANOVA and two way ANOVA. For the better understanding and comparison individual companies return chart is prepared starting from IPO day.

4.5 Sampling

The sampling is based on Convenient Sampling Method. The tool used was a questionnaire which consisting of questions which tries to exhibit the opinion and experience of investors in IPO Investment. Evaluation of IPO performance done by considering all the IPO's in NSE/BSE done after July 1st 2016 to June 20th2018.

4.6 Limitation of the Study

The research has been conducted on the basis of primary as well as secondary data. However, the primary data has been collated through a basic and generalized questionnaire. Thus, the findings do not show outcomes in specific and absolute terms. The respondents to the questionnaire include Demat holder many of them does not have practical experience of investment in IPO's, hence their responses are perception based. Performance evaluation done for all individual stocks keeping six months interval but share market exhibits daily fluctuations which may bias in final interpretation.

5. DATA ANALYSIS

5.1 Empirical Survey Result

Respondents' opinion on investment on Indian IPOs depicted following particulars.

5.1.1-Table showing respondents' classification on the basis of age and education qualification

	Female				Male			
	Below 25	**25-40**	**40 or above**	**Total**	**Below 25**	**25-40**	**40 or above**	**Total**
SSLC or below	0	2	3	5	1	3	6	10
Degree	6	8	2	16	7	10	9	26
Post graduation or above	3	4	3	10	7	13	13	33
Total	9	12	10	31	20	26	23	69

Source: Primary Data

Table 5.1 shows the classification of respondents on the basis of their gender, age and educational qualification. Research depicted that more number of male investors to the extent of 69%. Maximum investors both in men and woman found to be the age of 25 to 40. Highest number of demat account holders in men category were postgraduates, where as in female category are degree holders.

5.1.2-Table showing respondents' preference for different investment avenues in their investment portfolio

	Types of Investor		
	Short (42 respondents)	**Medium (28 respondents)**	**Long (30 respondents)**
Equities Shares	45%	37%	33%
Mutual Funds	04%	20%	27%
Currency	03%	03%	1%
Derivative Market	30%	22%	20%
ETF	03%	10%	15%
IPO	15%	08%	04%
Total	100%	100%	100%

Source: Primary Data

ISSN 2394 - 7780

In above table 5.2 it can be noted that out of 100 respondents 42 were short term, 28 medium term and remaining i.e., 30 long term investors. The study revealed investment preference given by the investors for different investment avenues after categorizing them as short term, medium and long term investors. Short term investors found to be more risk taker compare to medium and long term investors. In all categories of investors IPO investment is not that matured.

5.1.3-Table showing respondents' knowledge and opinion about IPO investment on the basis of term of investment

Type of Investors				
	Short	**Medium**	**Long**	**Total**
Doesn't know about IPO and not interested to invest	16	21	36	73
Know about IPO but not interested to invest	05	03	10	18
Know about IPO and Interested to invest	02	03	04	09
Total	23	27	50	100

Source: Primary Data

It is clear from the survey that 73% of the participants doesn't know about the IPO and even not interested to invest in it. Lack of awareness is found among all kind of investors (short, medium or long term) in the share market.

In the above table enquiry on the respondents knowledge and opinion about IPO investment shown 73% respondents doesn't know about IPO and even not interested to invest in. 27% know about IPO investment but only 9% were ready to invest.

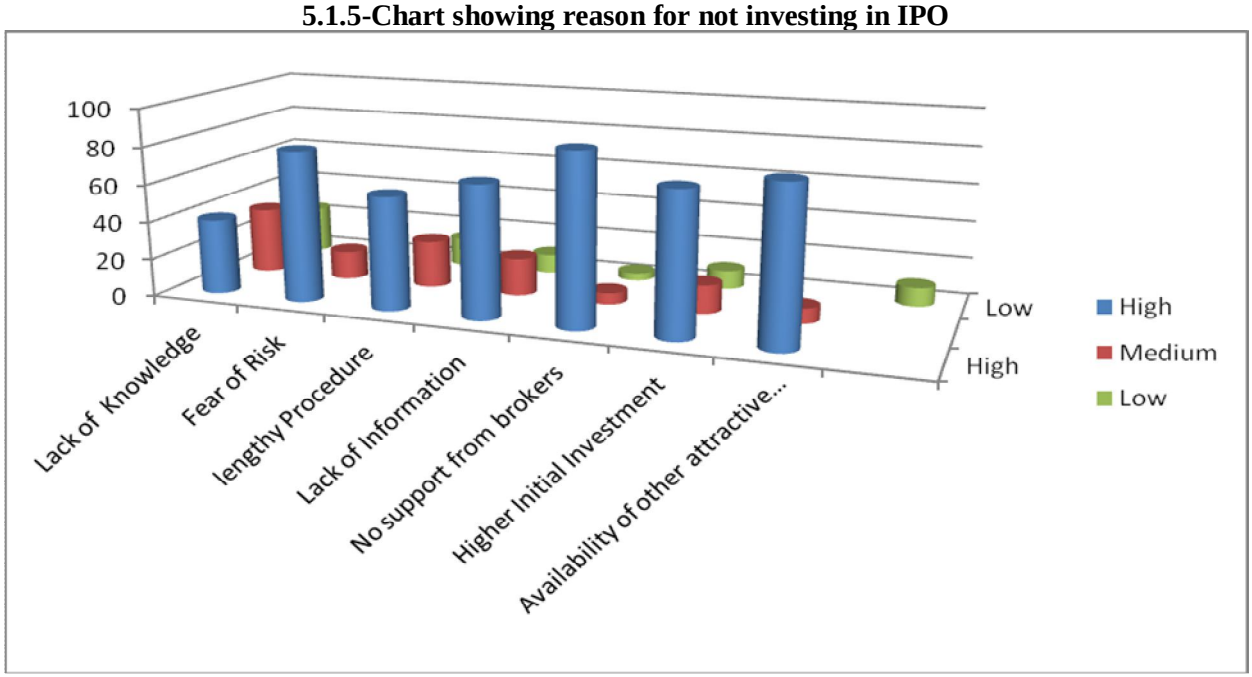
5.1.4-Table showing reason for not investing in IPO

Reason	**High**	**Medium**	**Low**	**Total**
Lack of Knowledge	40	35	25	100
Fear of Risk	80	15	05	100
lengthy Procedure	60	25	15	100
Lack of Information	70	20	10	100
No support from brokers	90	06	04	100
Higher Initial Investment	75	15	10	100
Availability of other attractive Alternatives	82	08	10	100

Source: Primary Data

In above table 5.4 reason for not investing in IPO's depicted following pitfalls including lack of knowledge, fear of risk, lengthy procedure, lack of information, no support from brokers, higher initial investment and availability of other attractive alternatives with maximum support.

5.1.5-Chart showing reason for not investing in IPO



Source: Primary Data

ISSN 2394 - 7780

5.2 RESULT OF HISTORICAL IPO PERFORMANCE

Overall Performance Evaluation for IPO's done in last 2 years

5.2.1 Table showing Performance of companies on the day of IPO

Time Duration	Total No. IPO's	Total No of IPO's Ended day with a gain	% of IPO's Ended Day with a gain
Jan 1st to 30th June, 2018	15	09	60%
July 1st to 31st Dec., 2017	25	18	72%
Jan 1st to 30th June, 2017	11	06	54.4%
July 1st to 31st Dec., 2016	16	12	75%

Source: Authors Calculation for the NSE price.

In the study it's also found that more than 60% of total IPO's yielded positive return on the day of its IPO. Issue day success ratio is higher for the IPO which is done during the second half (Avg. 74%) of the year compare to first half (Avg.57%).

Above table identifies the performance of the companies on the day of its IPO. More than half of the total IPO's yielded positive return. Highest to the extent of 75% of the IPO's between July 1st to 31st Dec. 2016, resulted positive return. It's also noted that IPO's of 2nd half of the year is better than first half.

5.2.2-Table showing Performance of companies approximately at the end of first six month after its IPO

Time Duration	Total No. IPO's	Total No of companies stood with gain after six months	% of companies stood with gain after six months
Jan 1st to 30th June, 2018	15	07	53.33
July 1st to 31st Dec., 2017	25	16	64.00
Jan 1st to 30th June, 2017	11	04	63.63
July 1st to 31st Dec., 2016	16	05	68.75

Source: Authors Calculation for the NSE price.

On the basis of first six month end performance of total IPO's shown average 62.42% the companies found to be standing at favorable return.

Above table shows IPO performance of the companies on the basis each six months end. Form the table it can be concluded that more than 50% of the companies subscribed by publics at different time interval have got positive return. IPO's between July 1st to Dec 31st, 2016 have resulted in maximum positive return at the end first six month to the extent of 68.75%. Where, least was resent issue which was done during Jan 1st to June 31st, 2018.

5.2.3-Table showing Performance of companies approximately at the end of first one year after its IPO

Time Duration	Total No. IPO's	Total No of companies stood with gain after one year	% of companies stood with gain after one year
July 1st to 31st Dec., 2017	25	09	64
Jan 1st to 30th June, 2017	11	03	72.72
July 1st to 31st Dec., 2016	16	03	81.25

Source: Authors Calculation for the NSE price.

Comparison of one year results for IPO shown more than 60% of the IPO's with positive return again highest was found with IPO's issued during July 1st to Dec 31st 2016, to the extent of 81.25%.

5.2.4-Table showing Performance of companies approximately at the end of first one and half year after its IPO

Time Duration	Total No. IPO's	Total No of companies stood with gain after six months	% of companies stood with gain after six months
Jan 1st to 30th June, 2017	11	07	36.37
July 1st to 31st Dec., 2016	16	02	87.50

Source: Authors Calculation for the NSE price.

One and half year comparison resulted with mixed outcome of lowest to highest of 36.37% to 87.50% of the companies with positive return respectively.

ISSN 2394 - 7780

5.2.5-Table showing Performance of companies approximately at the end of first one year and half year after its IPO

Time Duration	Total No. IPO's	Total No of companies stood with gain after 2 years	% of companies stood with gain after two years
July 1st to 31st Dec., 2016	16	01	93.75

Source: Authors Calculation for the NSE price.

Long run performance of the IPO with time duration of 2 years resulted maximum positive yield for more than 93% of the IPO's.

Individual Companies IPO Performance Evaluation on the Basis of price IPO Day and Current Day

5.2.6-Table showing issue day and current day performance of IPO between Jan 1st to Jun 30th 2018

Sl. No.	Company Name	Listing Date	Issue Price	Listing Day Close	Listing Day Gain	Current Price (20/06/2018)	Profit/ Loss
1.	Indo Star Capital Finance Ltd.	21/05/2018	572	585.5	2.36%	564.3	-1.35%
2.	Lemon Tree Hotels Ltd.	09/04/2018	56	71.6	27.86%	76.45	36.52%
3.	ICICI Securities Lt.	04/04/2018	520	445.05	-14.41%	362.9	-30.21%
4.	Mishra Dhatu Nigam Ltd.	04/04/2018	90	90	0%	137.5	52.78%
5.	Sandhar Technologies Ltd.	02/04/2018	332	322.55	-2.85%	394.8	18.92%
6.	Karda Constraction Ltd.	02/04/2018	180	142.8	-20.67%	174	-3.33%
7.	Ltd.Hindustan Aeronautic	28/03/2018	1215	1128.5	-7.13%	931.5	-23.33%
8.	Bhandan Bank Ltd.	27/03/2018	375	477.2	27.25%	533.65	42.31%
9.	Bharath Dynamics Ltd.	23/03/2018	428	390.7	-8.71%	390	-8.88%
10.	H.G Infra Engineering Ltd.	09/03/2018	270	270.5	0.02%	288.75	6.94%
11.	Aster DM Healthcare Ltd.	26/02/2018	190	179.85	-5.34%	176.45	-7.13%
12.	Galaxy Surfactants Ltd.	08/02/2018	1480	1698.1	14.74%	1250	-15.54%
13.	Amber Enterprises Ltd.	30/01/2018	859	1237.3	44.03%	976.55	13.68%
14.	Newgen Software Ltd.	29/01/2018	245	253	3.27%	248.65	1.49%
15.	Appolo Micro Systems Ltd.	22/01/2018	275	454.1	65.13%	177.9	35.31%

Source: Authors Calculation for the NSE price.

5.2.7-Table showing issue day and current day performance of IPO between July 1st to Dec 31th 2017.

Sl. No.	Company Name	Listing Date	Issue Price	Listing Day Close	Listing Day Gain	Current Price (20/06/2018)	Profit/ Loss
1.	Astron Paper & Board Mill Ltd	29/12/2017	50	119.7	139.4%	105.8	111.6%
2.	Future Supply Chain Solution Ltd	18/12/2017	664	685.8	3.28%	662.55	-0.22%
3.	Shalby Limited	15/12/2017	248	239.25	-3.53%	166.15	33%
4.	HDFC Standard Life Insurance Company Ltd.	17/11/2017	290	344.25	18.71%	474.75	63.71%
5.	Kadhim India Ltd	14/11/2017	750	688.5	-8.2%	799.4	6.59%
6.	The New India Assurance Company Ltd.	13/11/2017	800	725.05	-9.37%	635.5	-20.56%
7.	Mahindra Logistics Ltd.	10/11/2017	429	429.15	0.03%	626.2	45.97%
8.	Reliance Nippon A. Mgt. Ltd.	06/11/2017	252	284	12.7%	217.9	-13.53%
9.	General Insurance Corporation of India	25/10/2017	912	870.4	-4.56%	720.5	-21%
10.	Indian Energy Exchange Ltd.	23/10/2017	1650	1626.5	-1.43%	1610.1	-2.42%
11.	Mass Financial Services Ltd.	18/10/2017	459	654.75	42.65%	582.22	26.84%
12.	Godrej Agrovet Ltd.	16/10/2017	460	595.55	29.47%	646.45	40.53%
13.	Prathap Snacks Ltd	05/10/2017	938	1178.3	25.62%	1214.2	29.45%
14.	SBI Life Insurance Ltd.	03/10/2017	700	708	1.14%	675.95	-3.44%
15.	ICICI Lombard General Insurance Company	27/09/2017	661	681.55	3.11%	731.65	10.69%
16.	Capacit'e Infraprojects Ltd.	25/09/2017	250	342.4	36.96%	278.85	11.54%
17.	Matrimony.com Ltd.	21/09/2017	985	901.2	-8.51%	726.55	-26.24%
18.	Bharath Road Network Ltd.	18/09/2017	205	208.15	1.54%	165.35	-19.34%
19.	Dixon Technologies (India) Ltd.	18/09/2017	1766	2892.8	63.81%	2931.95	66.02%
20.	Apex Frozen Foods Ltd.	04/09/2017	175	209.85	19.91%	456.15	160.66%
21.	Cochin Shipyard Ltd.	11/08/2017	432	522	20.83%	458.25	6.08%
22.	Security and Intelligence Service (India) Ltd.	10/08/2017	815	756.7	-7.15%	1160.9	42.44%
23.	Salasar Techno E. Ltd.	25/07/2017	108	259.15	139.95%	319.3	195.65%
24.	Au Financier (India) Ltd.	10/07/2017	358	541.2	51.17%	708.9	98.02%
25.	GTPL Hathway Ltd.	04/07/2017	170	171.65	.97%	121.5	-28.53%

Source: Authors Calculation for the NSE price.

ISSN 2394 - 7780

5.2.8-Table showing issue day and current day performance of IPO between Jan 1st to Jun 30th 2017

Sl. No.	Company Name	Listing Date	Issue Price	Listing Day Close	Listing Day Gain	Current Price (20/06/2018)	Profit/Loss
1.	Eris Lifescience Ltd.	29/06/2017	603	601.05	-0.32%	723.6	-1.35%
2.	Thejas Network Ltd.	27/06/2017	257	263.3	2.45%	313.55	22%
3.	IndiGrid Invl Fund	06/06/2017	100	98.45	-0.5%	97	-3%
4.	PSP Projects	29/05/2017	210	208.95	-0.5%	479.5	128.33%
5.	Housing and Urban	19/05/2017	60	72.5	20.83%	59.5	-0.83%
6.	IRB Invl Fund	18/05/2017	102	101.79	-0.21%	80	-21.57%
7.	S Chand and Company	09/05/2017	670	675.85	0.87%	361.4	-46.06%
8.	Shankara Building	05/04/2017	460	632.8	37.57%	1643.95	257.38%
9.	CL Educate Ltd.	31/03/2017	502	417.9	-16.75%	167	-66.73%
10.	Avenue Supermart	21/03/2017	299	640.75	114.3%	1485.9	396.96%
11.	Music Broad Ltd.	17/03/2017	333	373.15	12.06%	320.65	-3.71%

Source: Authors Calculation for the NSE price.

5.2.9-Table showing issue day and current day performance of IPO between July 1st to Dec 31th 2016

Sl. No.	Company Name	Listing Date	Issue Price	Listing Day Close	Listing Day Gain	Current Price (20/06/2018)	Profit/Loss
1.	Laurus Labs Ltd.	19/12/2016	428	480.5	12.27%	488.95	14.24%
2.	Sheela Foam Ltd.	09/12/2016	730	1032	41.37%	1488.9	103.96%
3.	Varun Beverages Ltd.	08/11/2016	445	461.9	-3.8%	755.05	69.67%
4.	PNB House Financing	7/11/2016	775	890.6	14.92%	1098.9	41.79%
5.	Endurance Technologies Ltd.	19/10/2016	472	647.7	33.22%	1264.05	167.81%
6.	HPL Electric & Power Ltd.	04/10/2016	202	189.05	-6.41%	93.75	-53.59%
7.	ICICI Prudential Life Insurance Ltd.	29/09/2016	334	297.65	-10.88%	388.3	16.26%
8.	G N A Axles Ltd.	26/09/2016	207	245.15	18.43%	491.3	137.34%
9.	L&T Technology Security	23/09/2016	860	865.1	0.59	1314.05	52.8%
10.	RBL Bank Ltd.	31/08/2016	225	299.3	33.02%	544.35	141.93%
11.	S P Apparels Ltd.	12/08/2016	268	295	10.07%	315.2	17.61%
12.	Dilip Buildcon Ltd.	11/08/2016	219	251.95	15.05%	837.45	282.4%
13.	Advanced Enyme Tech. Ltd.	01/08/2016	896	1178.3	31.51%	1105	23.33%
14.	L & T Infotech Ltd.	21/07/2016	710	697.65	-1.74%	1668.7	135.03%
15.	Quess Corp Ltd.	12/07/2016	317	503	58.68%	1096.7	245.96%
16.	Mahanagar Gas Ltd.	01/07/2017	421	519.9	23.49%	828.3	96.75%

Source: Authors Calculation for the NSE price.

Individual Companies IPO Performance Evaluation on the Basis of 6 Months End Market Price

5.2.9-Table showing comparative study of returns of different companies on the basis of 6 month end

Investment for Maximum 6 Months Time Duration							
Sl. No.	Name of the Company	Issue Date Return (%)	Return on 31st Dce.2016	Return on 30th June 2017	Return on 29th Dce.2017	Return on 20th June 2018	Remark
1.	Indo Star Capital Finance Ltd.	2.36	-	-	-	-1.35	
2.	Lemon Tree Hotels Ltd.	27.86	-	-	-	36.52	
3.	ICICI Securities Lt.	-14.41	-	-	-	-30.21	
4.	Mishra Dhatu Nigam Ltd.	0	-	-	-	52.78	
5.	Sandhar Technologies Ltd.	-2.85	-	-	-	18.92	
6.	Karda Constraction Ltd.	-20.67	-	-	-	-3.33	
7.	Ltd.Hindustan Aeronautic	-7.13	-	-	-	-23.33	
8.	Bhandan Bank Ltd.	27.25	-	-	-	42.31	
9.	Bharath Dynamics Ltd.	-8.71	-	-	-	-8.88	
10.	H.G Infra Engineering Ltd.	0.02	-	-	-	6.94	
11.	Aster DM Healthcare Ltd.	-5.34	-	-	-	-7.13	
12.	Galaxy Surfactants Ltd.	14.74	-	-	-	-15.54	
13.	Amber Enterprises Ltd.	44.03	-	-	-	13.68	
14.	Newgen Software Ltd.	3.27	-	-	-	1.49	
15.	Appolo Micro Systems Ltd.	65.13	-	-	-	35.31	
Investment for Maximum 12 Months Time Duration							
Sl.No.	Name of the Company	Issue Date Return (%)	Return on 31st Dce.2016	Return on 30th June 2017	Return on 29th Dce.2017	Return on 20th June 2018	Remark

ISSN 2394 - 7780

16.	Astron Paper & Board Mill Ltd	139.4	-	-	141.50	111.6	
17.	Future Supply Chain Solution Ltd	3.28	-	-	2.15	-0.22	
18.	Shalby Limited	-3.53	-	-	-13.21	33	
19.	HDFC Standard Life Insurance Company Ltd.	18.71	-	-	33.10	63.71	
20.	Kadhim India Ltd	-8.2	-	-	-100.00	6.59	
21.	The New India Assurance Company Ltd.	-9.37	-	-	-24.86	-20.56	
22.	Mahindra Logistics Ltd.	0.03	-	-	2.14	45.97	
23.	Reliance Nippon A. Mgt. Ltd.	12.7	-	-	19.13	-13.53	
24.	General Insurance Corporation of India	-4.56	-	-	-17.36	-21	
25.	Indian Energy Exchange Ltd.	-1.43	-	-	-2.42	-2.42	
26.	Mass Financial Services Ltd.	42.65	-	-	35.09	26.84	
27.	Godrej Agrovet Ltd.	29.47	-	-	25.92	40.53	
28.	Prathap Snacks Ltd	25.62	-	-	33.24	29.45	
29.	SBI Life Insurance Ltd.	1.14	-	-	-0.66	-3.44	
30.	ICICI Lombard General Insurance Company	3.11	-	-	17.32	10.69	
31.	Capacit'e Infraprojects Ltd.	36.96	-	-	58.34	11.54	
32.	Matrimony.com Ltd.	-8.51	-	-	-4.77	-26.24	
33.	Bharath Road Network Ltd.	1.54	-	-	-8.83	-19.34	
34.	Dixon Technologies (India) Ltd.	63.81	-	-	137.31	66.02	
35.	Apex Frozen Foods Ltd.	19.91	-	-	380.94	160.66	
36.	Cochin Shipyard Ltd.	20.83	-	-	27.80	6.08	
37.	Security and Intelligence Service (India) Ltd.	-7.15	-	-	47.43	42.44	
38.	Salasar Techno E. Ltd.	139.95	-	-	179.77	195.65	
39.	Au Financier (India) Ltd.	51.17	-	-	-100.00	98.02	
40.	GTPL Hathway Ltd.	.97	-	-	-2.94	-28.53	
Investment for Maximum 18 Months Time Duration							
Sl.No.	**Name of the Company**	**Issue Date Return (%)**	**Return on 31st Dce.2016**	**Return on 30th June 2017**	**Return on 29th Dce.2017**	**Return on 20th June 2018**	**Remark**
41.	Eris Lifescience Ltd.	-0.32	-	-0.28	31.73	-1.35	
42.	Thejas Network Ltd.	2.45	-			22	
43.	IndiGrid Invl Fund	-0.5	-	-2.99	-6.05	-3	
44.	PSP Projects	-0.5	-	28.40	147.62	128.33	
45.	Housing and Urban	20.83	-	11.83	37.50	-0.83	
46.	IRB Invl Fund	-0.21	-	105.00	133.33	-21.57	
47.	S Chand and Company	0.87	-	-29.92	-22.43	-46.06	
48.	Shankara Building	37.57	-	76.08	287.33	257.38	
49.	CL Educate Ltd.	-16.75	-	-15.34	-42.23	-66.73	
50.	Avenue Supermart	114.3	-	172.61	295.10	396.96	
51.	Music Broad Ltd.	12.06	-	5.54	14.98	-3.71	
Investment for Maximum 18 Months Time Duration							
Sl.No.	**Name of the Company**	**Issue Date Return (%)**	**Return on 31st Dce.2016**	**Return on 30th June 2017**	**Return on 29th Dce.2017**	**Return on 20th June 2018**	**Remark**
52.	Laurus Labs Ltd.	12.27	12.35	43.73	26.85	14.24	
53.	Sheela Foam Ltd.	41.37	28.14	78.08	136.66	103.96	
54.	Varun Beverages Ltd.	-3.8	-14.48	20.19	46.80	69.67	
55.	PNB House Financing	14.92	8.40	105.96	72.95	41.79	
56.	Endurance Technologies Ltd.	33.22	22.19	85.48	188.14	167.81	
57.	HPL Electric & Power Ltd.	-6.41	-51.41	-36.26	-29.13	-53.59	
58.	ICICI Prudential Life Insurance Ltd.	-10.88				16.26	
59.	G N A Axles Ltd.	18.43	-11.38	11.98	109.30	137.34	
60.	L&T Technology Security	0.59	-8.38	-16.62	19.54	52.8	
61.	RBL Bank Ltd.	33.02	48.93	125.67	126.71	141.93	
62.	S P Apparels Ltd.	10.07	30.90	65.49	57.63	17.61	
63.	Dilip Buildcon Ltd.	15.05	4.70	104.34	355.42	282.4	

ISSN 2394 - 7780

64.	Advanced Enyme Tech. Ltd.	31.51	121.32	-63.75	-69.03	23.33	
65.	L & T Infotech Ltd.	-1.74	-4.15	11.09	57.58	135.03	
66.	Quess Corp Ltd.	58.68	107.26	192.62	264.09	245.96	
67.	Mahanagar Gas Ltd.	23.4	86.22	134.82	159.98	96.75	

HYPOTHESIS VERIFICATION

Hypothesis 1

	Types of Investor			Total
	Short (42 respondents)	Medium (28 respondents)	Long (30 respondents)	
Equities Shares	45	37	33	115
Mutual Funds	04	20	27	51
Currency	03	03	1	7
Derivative Market	30	22	20	72
ETF	03	10	15	28
IPO	15	08	04	27
Total	100	100	100	300

One way ANOVA table

H_0 = There is no significance difference in different investment alternatives opted by share market investors.

H_1 = There is significance difference in different alternatives opted by share market investors.

ANALYSIS OF VARIANCE

Source of Variance	Source of Sum	Df.	Mean Square	F value
Between the Column	2525.39	5 (C-1)	505.078	(505.07/45.98) **F= 10.98**
With in	551.74	12 (N-C)	45.98	
Total		17		

Interpretation: One way Variance Analysis provided calculated value of 'F' is 10.98. The table value of F at **5% significance level is 3.4903 (V_1 = 5 and V_2 = 12).** The calculate value is higher than the table value and hence the experiment provides evidence against the Null Hypothesis **(Null hypothesis is rejected)**. We therefore conclude that there is significance difference in the investment alternatives chosen by the investors.

Hypothesis 2

H_1 = There is no influence of age groups on share market investment.

H_2 = There is no influence of education level on share market investment.

	Below 25	25-40	40 or above	Total
SSLC or below	1	5	9	15
Degree	13	18	11	42
Post graduation or above	10	17	16	43
Total	24	40	36	100

Two way ANOVA table

Source of Variance	Square of Sum	Df.	Mean of Square	F value
Variance between the column	46.22	2	23.11	F_1=(23.11/10.11) F_1= 2.29
Variance between the row	520.22	2	260.11	
Residual Value	40.45	4	10.11	F_2=(260.11/10.11) F_2= 25.73
Total	606.89			

Interpretation

H_1 = There is no influence of age groups on share market investment

Two Way Variance Analysis obtained calculated value of 'F_1' is 2.29. The table value of F at **5% significance level is 19.247 (V_1 = 2 and V_2 = 2).** The calculate value is lesser than the table value and hence the experiment provides no evidence against the Null Hypothesis **(Null hypothesis is accepted)**. We therefore conclude that there is no influence of different age group share market investment preference.

H_2 = There is no influence of education level on share market investment

Two Way Variance Analysis obtained calculated value of 'F_1' is 25.73. The table value of F at **5% significance level is 19.247 (V_1 = 2 and V_2 = 2).** The calculate value is higher than the table value and hence the experiment

ISSN 2394 - 7780

provides evidence against the Null Hypothesis **(Null hypothesis is rejected)**. We therefore conclude that there is greater influence of education level on share market investment preference.

Hypothesis 3

H_0 = There is no significance difference between performance of IPO's on the day of their IPO and at the end of two years

T-test application

$$T = [(93.75 - 65.35)/9.76]*[\sqrt{\frac{4*1}{5}}]$$

T = 3.60

Interpretation: T test provided calculated value of 'T' is 3.60. The table value of T at **5% significance level is 2.60 (V = 3).** The calculate value is higher than the table value and hence the experiment provides evidence against the Null Hypothesis **(Null hypothesis is rejected)**. We therefore conclude that there is significance difference in the performance of IPO's in long run.

6. FINDINGS

1. Numbers of male demate account holders (69%) are more than double of female demate account holders (31%), shows male domination in share market investment. In India comparatively female investors believe and trust only traditional investment avenues.
2. It's empirically proved that in most of the cases selection of investment alternatives by an investor will be decided by his level educational qualification.
3. Even empirical evidence obtained for independence (non-dependence) of share market investment on age-group of investors.
4. All categories of investors (short, medium and long term) have good knowledge of investing only in equity shares of companies. Other investment alternatives such as mutual funds, currency trading, derivative investment, ETF and IPO used very rarely.
5. Percentage of short term investors (42%) dominates both medium (28%) and Long (30%) investors. It can be concluded that investors in the Indian share market have lesser knowledge of advantages of medium or long term investment. Patience level maters for success in share market investment.
6. It is clear from the survey that 73% of the participants doesn't know about the IPO and even not interested to invest in it. Lack of awareness is found among all kind of investors (short, medium or long term) in the share market.
7. Most of the investors strongly believe that non-support from their brokers (90%), availability of other best investment alternatives (82%), Fear of risk (80%) and requirement of higher initial investment are the reason for not participating actively in IPO investment.
8. In the study evaluation on the basis of IPO day performance resulted with average 65% of the companies with positive return. Issue day success ratio is higher for the IPO which is done during the second half (Avg. 74%) of the year compare to first half (Avg.57%).
9. On the basis of first six month end performance of total IPO's shown average 62.42% the companies found to be standing at favorable return. First one year evaluation resulted average 72.66%, first one and half year with 61.93% and first two years with 93.25 % of the companies stood with positive returns.
10. A comparative study of IPO day return and returns for the same at the expiry of 2 years provided empirical evidence that there is always no risk waiting for long on same scripts.

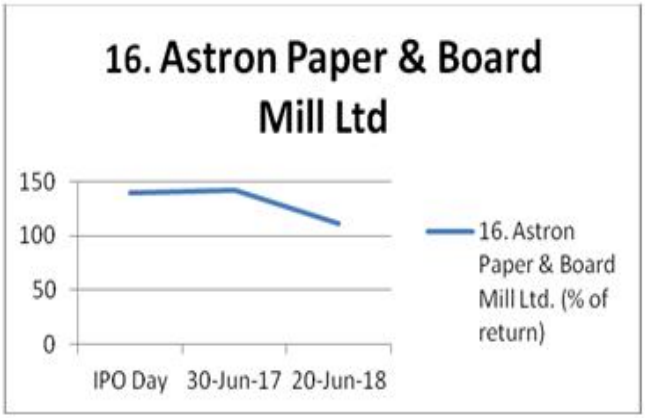
SUGGESTION

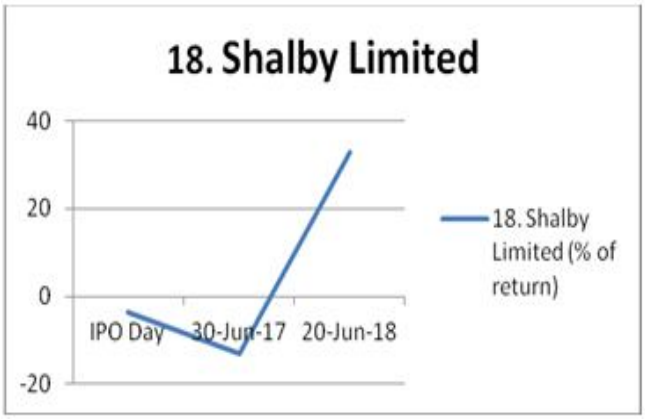
1. IPO investment is really risky but there will be one or other positive exit point occurs, if investment continued for a long.
2. Educational qualification indicates knowledge. One can utilize real advantage of having investment in share market and IPO through expanding his experience and knowledge.
3. There is a real necessity of encouraging womans' for formulating safe share market investment strategy where it increases their total enrollment.
4. One must be very careful while selecting his share market agency.

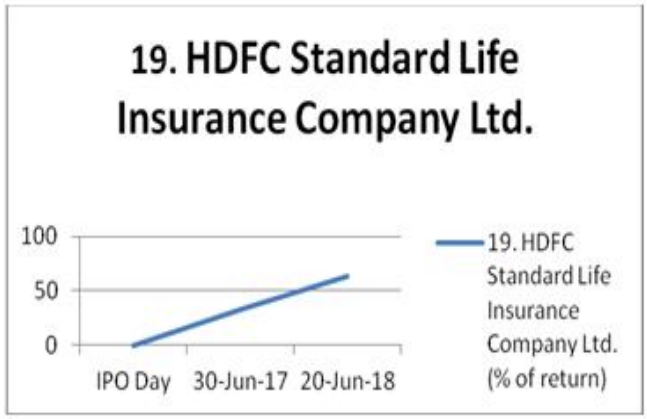
ISSN 2394 - 7780

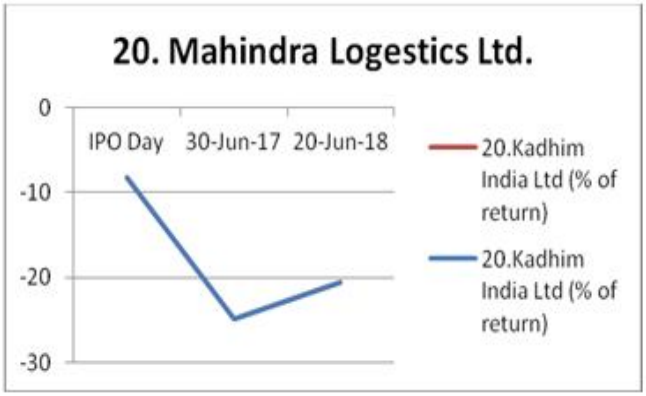
5. Indian share market seen heavy demand for only equity shares of the company. Agency can use their expertise to take the advantage of familiarizing other investment alternatives associated with share market.
6. As of empirical evidence IPO investment is most favorable in India during second half of the year.
7. Secondary market investor can take investment decision on the basis of chart reference which is given bellow.

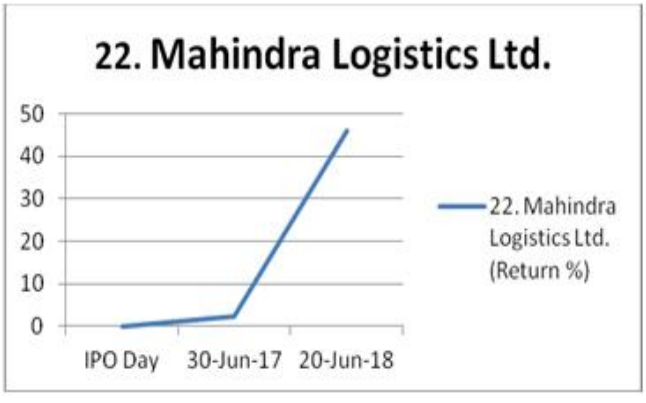
2.2.10 Chart showing individual companies performance on basis of each six month end.

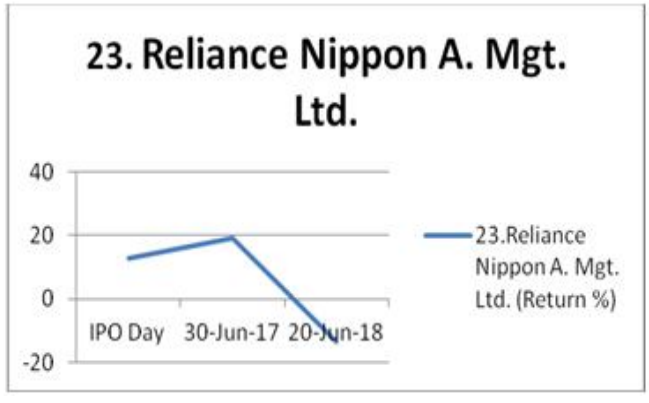




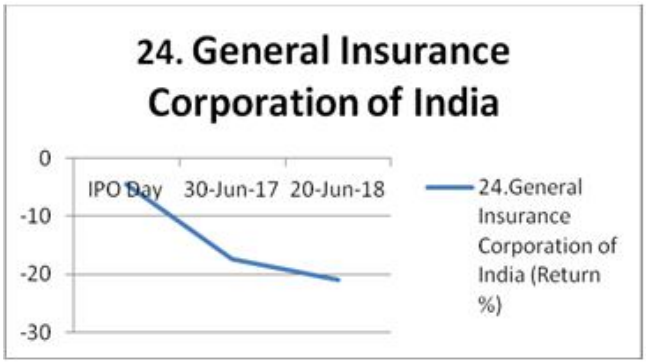


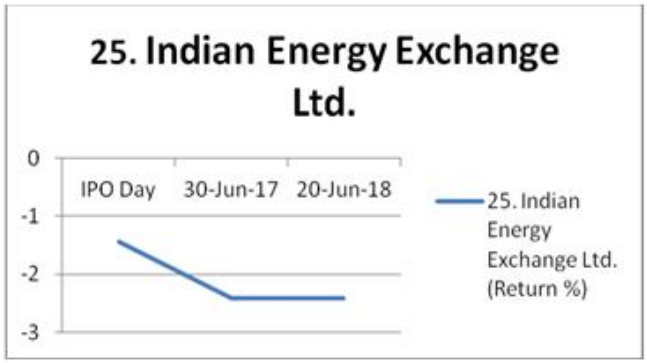


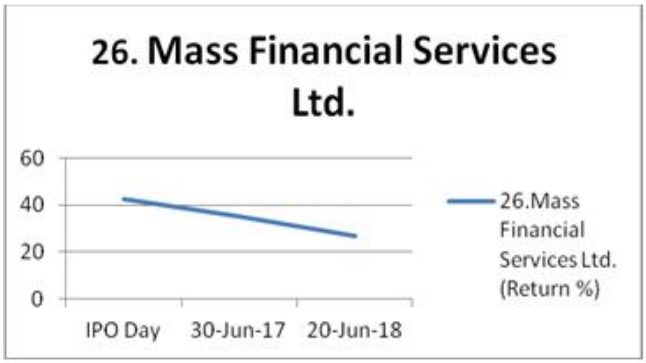


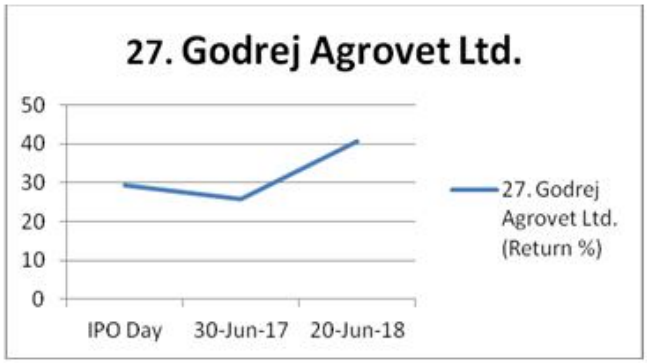


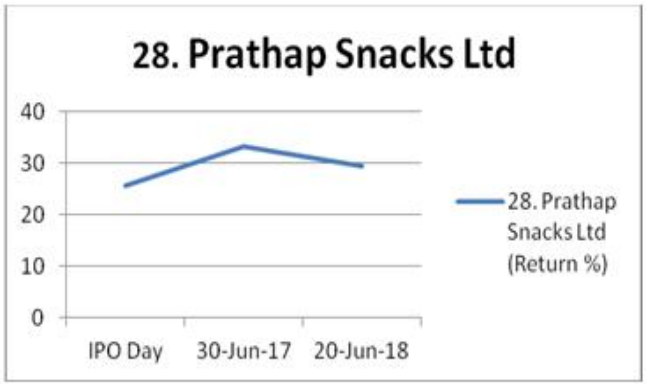
ISSN 2394 - 7780

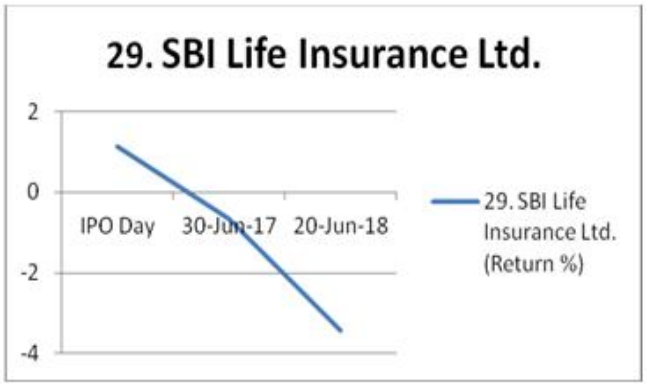


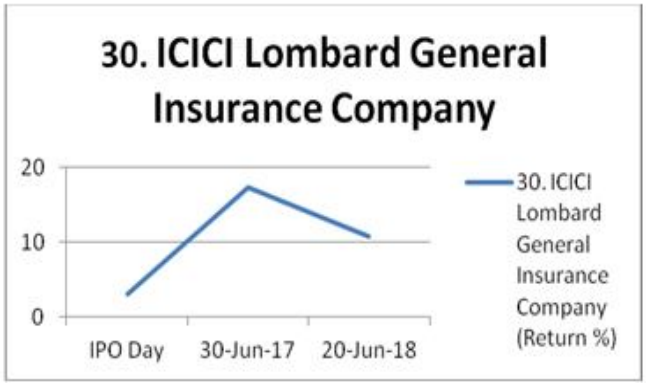


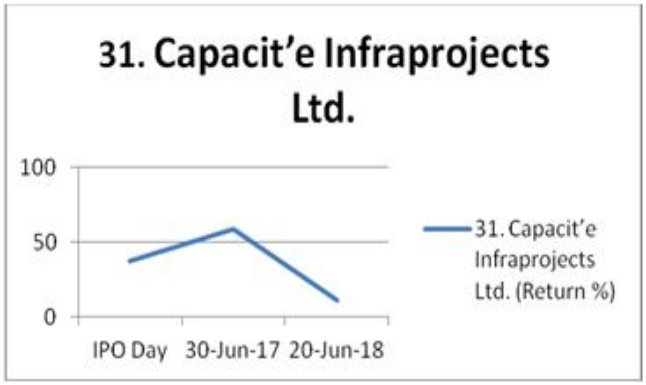


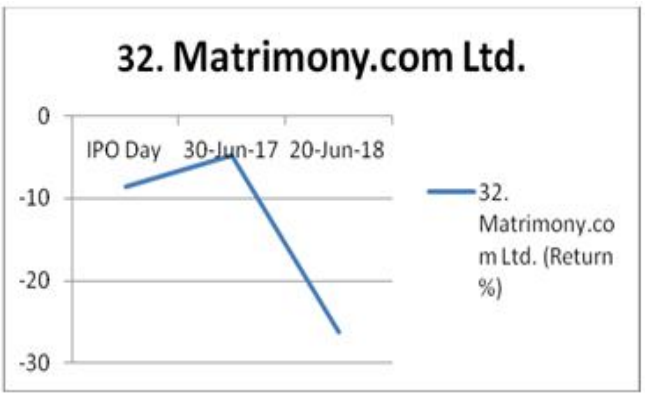


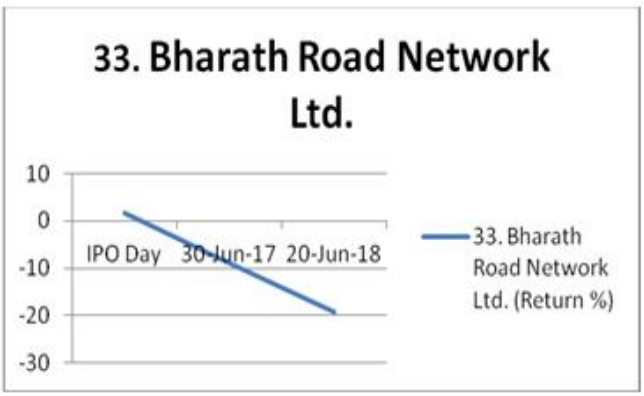




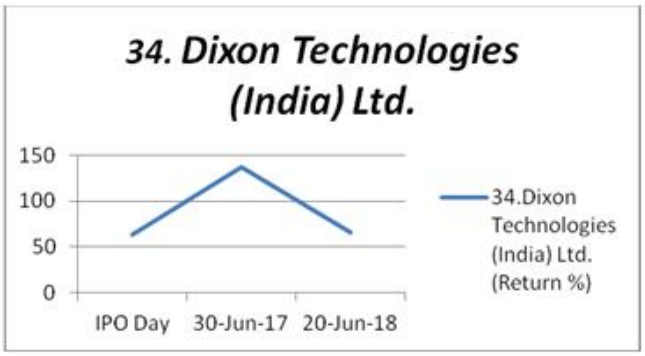


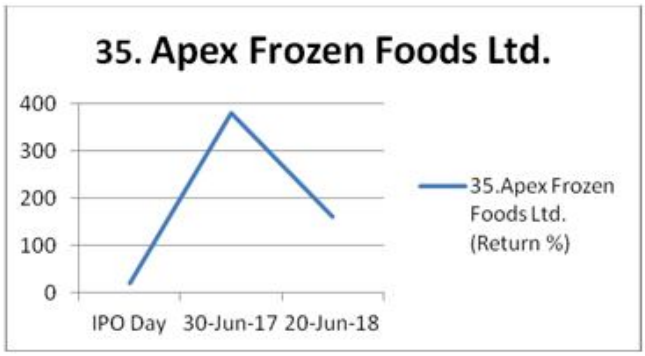


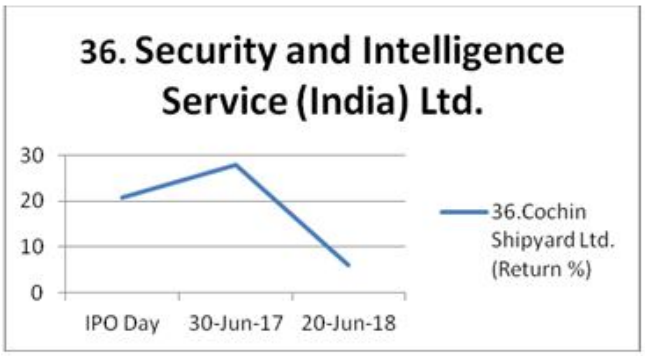


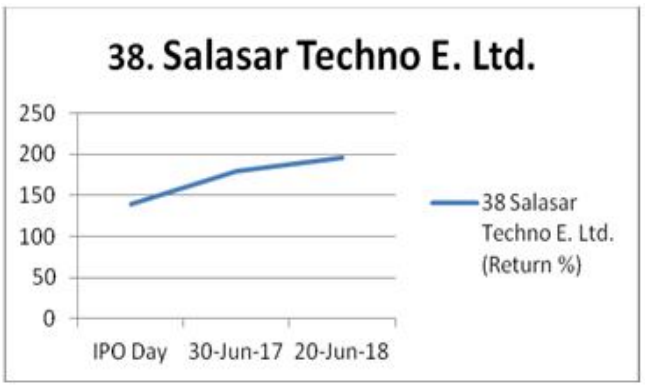


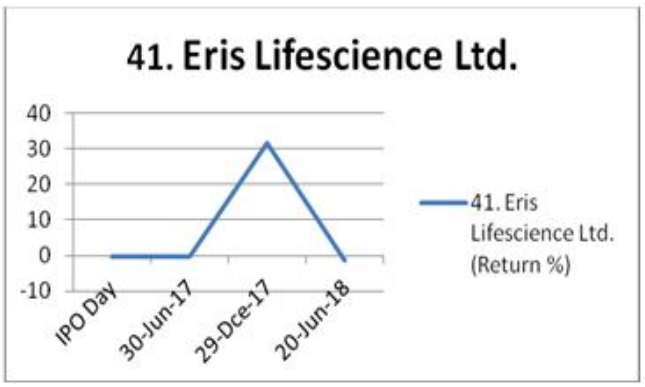
ISSN 2394 - 7780

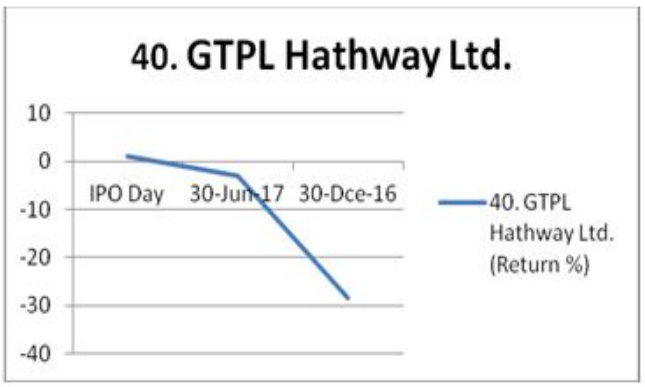


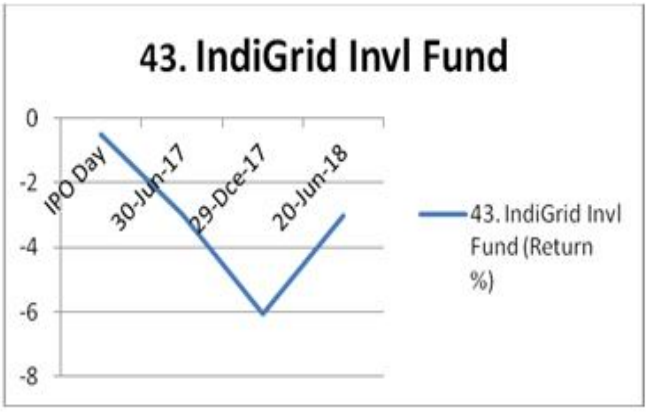




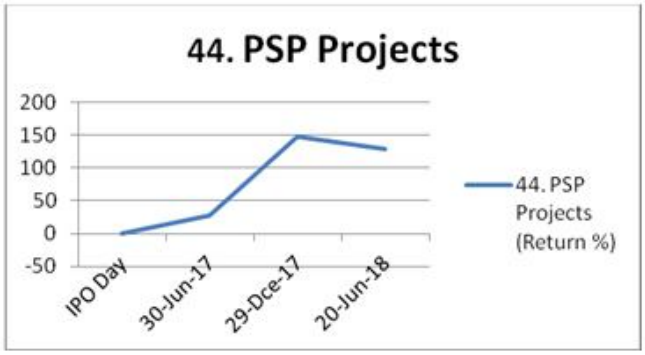


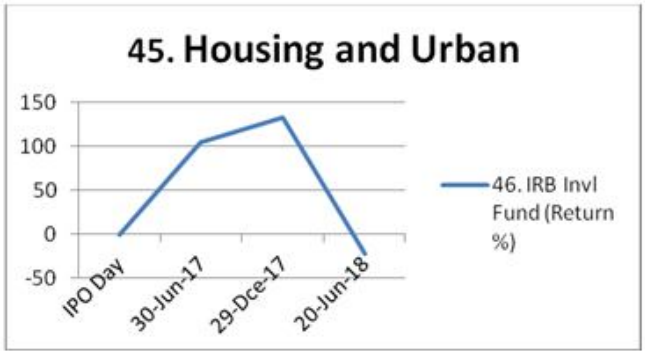


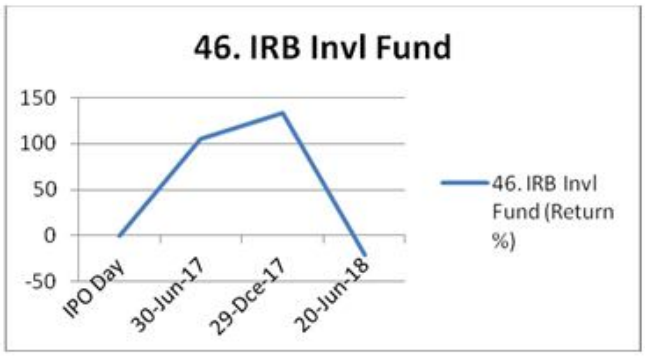


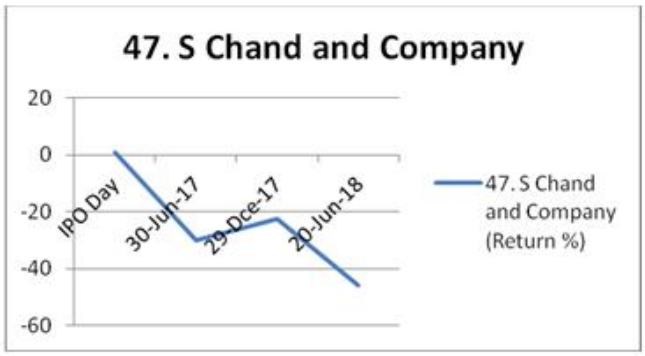


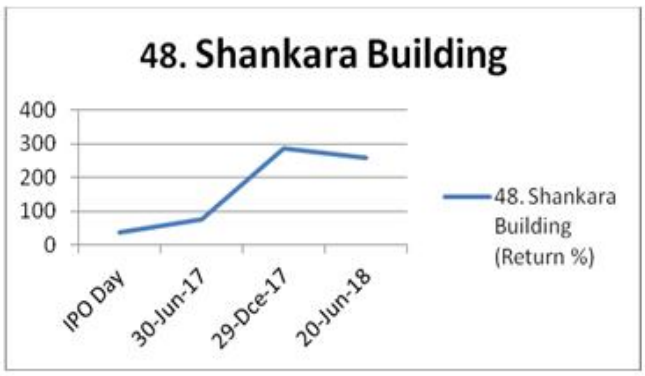
ISSN 2394 - 7780

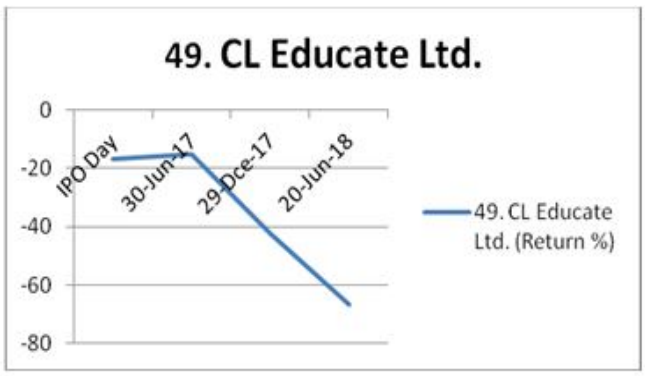


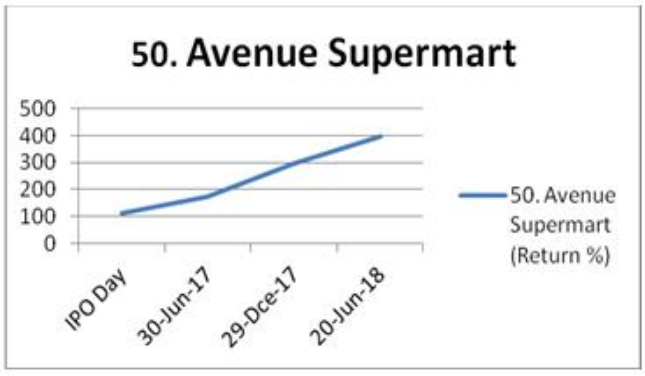


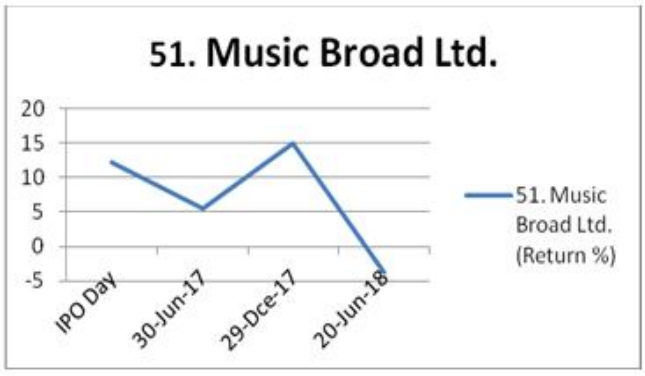


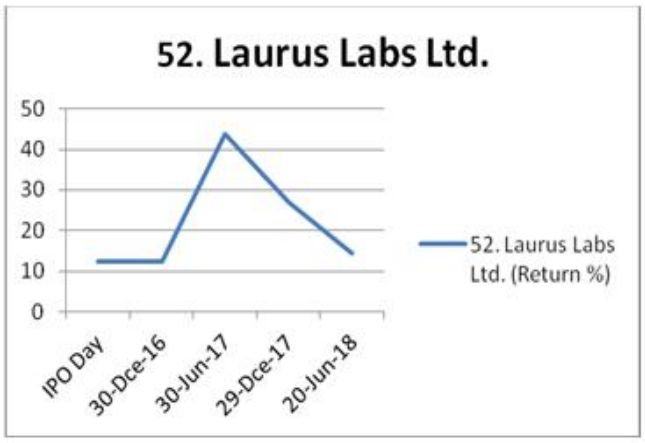


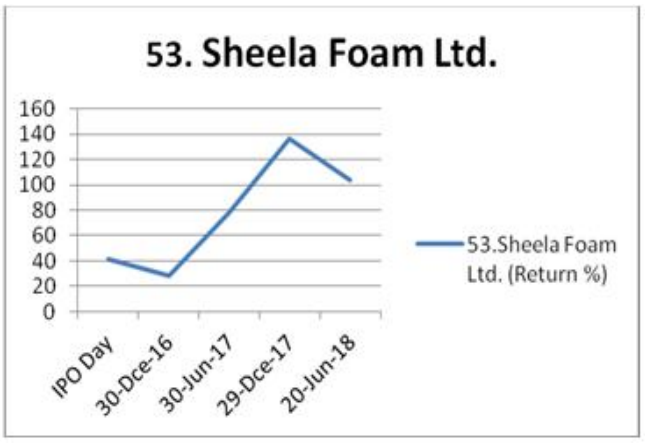












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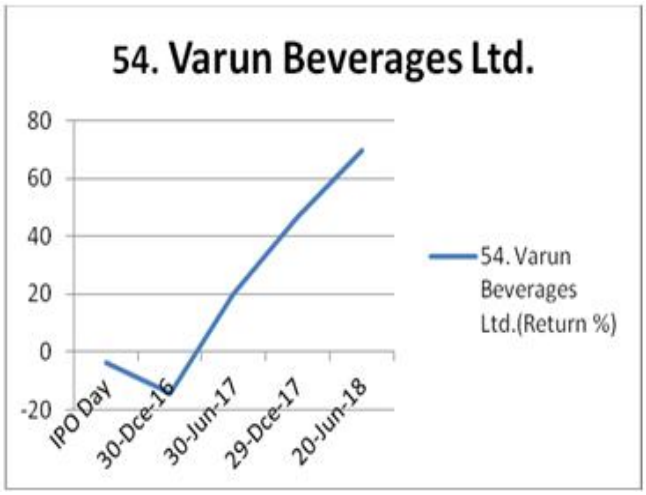
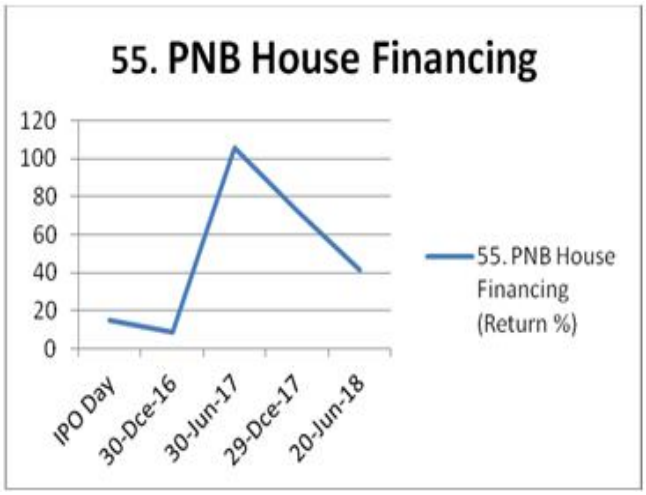
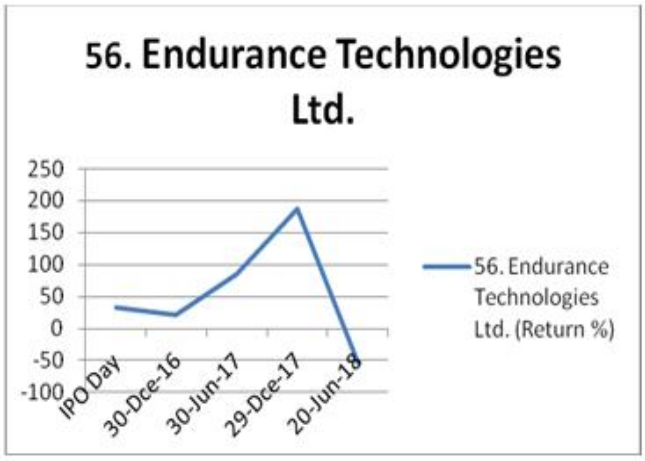
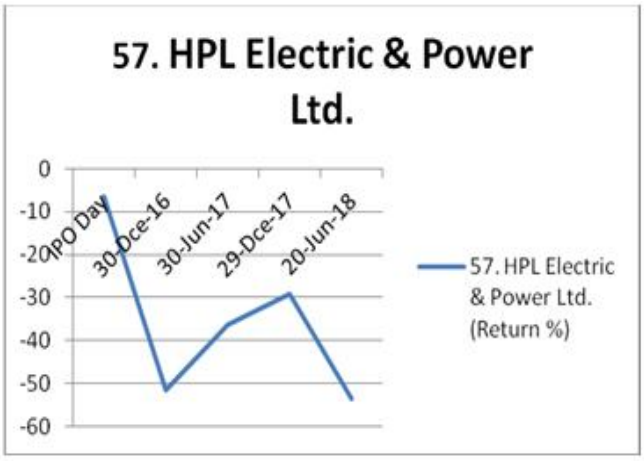
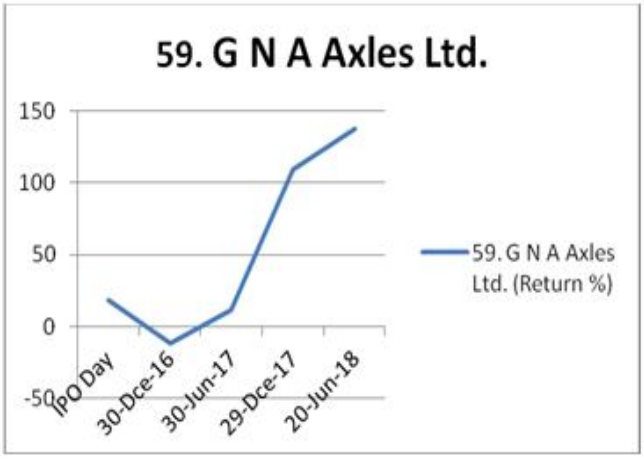
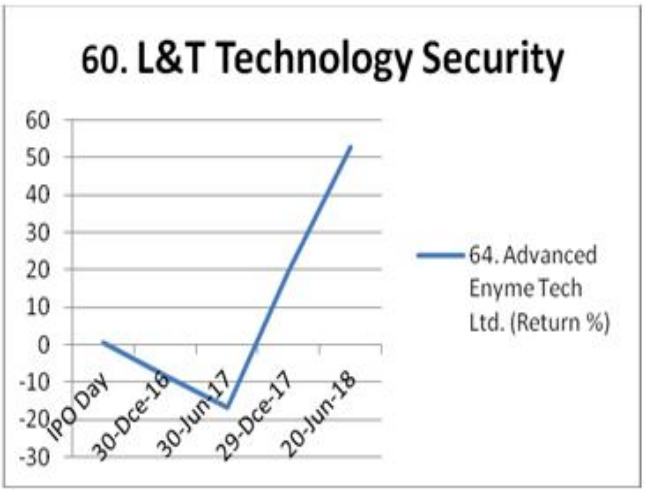


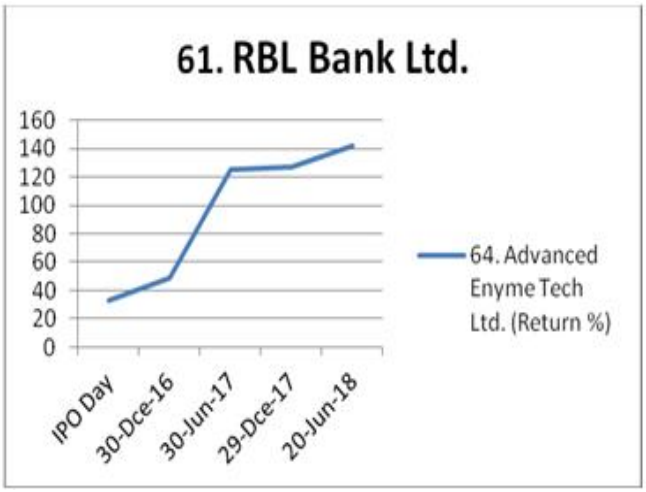




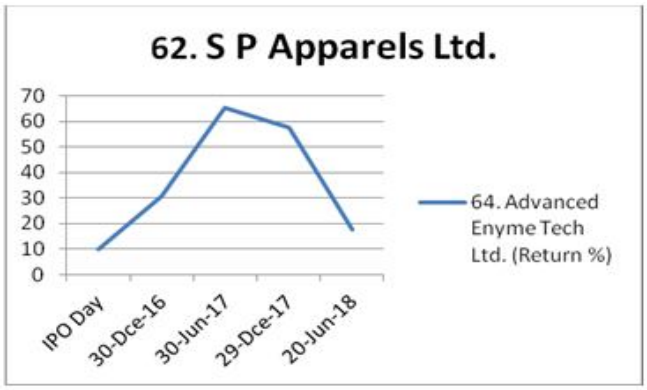


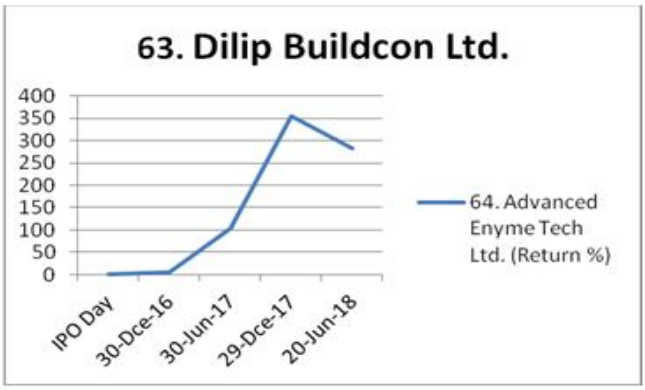


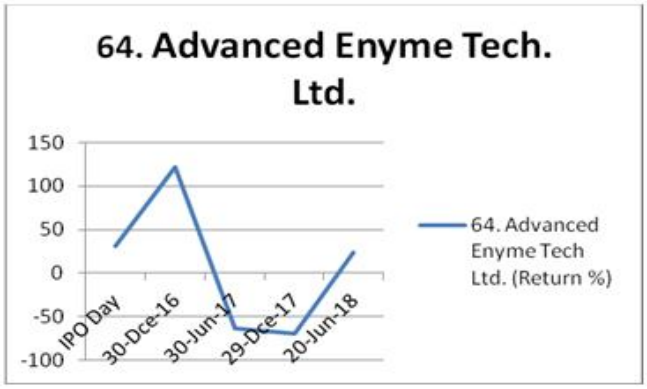


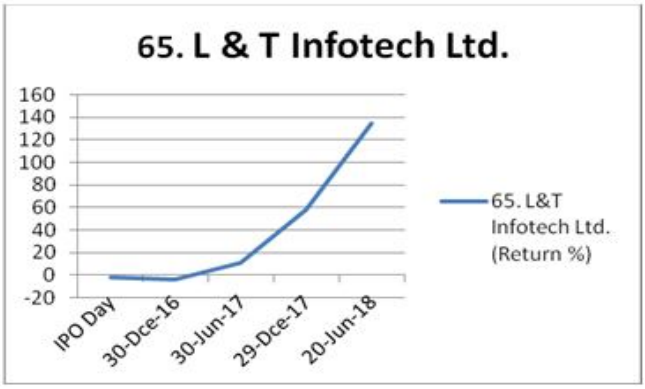


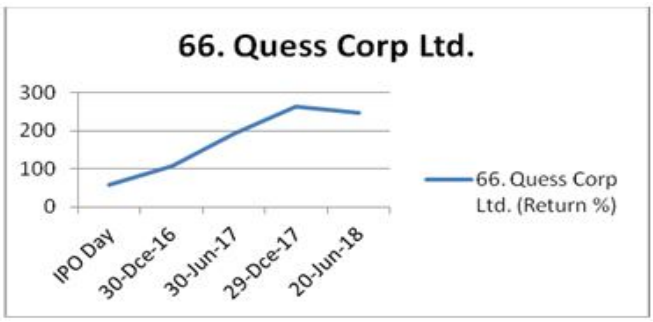
ISSN 2394 - 7780

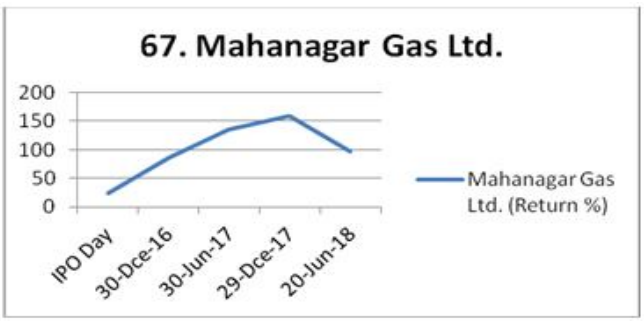












Source: Author's Compliance

CONCLUSION

In this digital age, there are numerous companies which jump into sea of stock market with an intension of making a big name and end up with fate which leaves no trace of their existence. People may experience hug first day gains, or huge long term gains. Some may get disheartened with their first IPO price going red the very first day or when it takes a downhill path in the long term. There is no shot way to gain money in the stock market. Finding a good IPO is difficult, but certainly not impossible. A good IPO investment has certain traits.

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FACULTY MEMBER USAGE OF SOCIAL MEDIA AND MOBILE DEVICES IN HIGHER EDUCATION INSTITUTION

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ABSTRACT
Social media has rarely studied in the academic literature and little known about its antecedents and consequences. The keen purpose of this study is to explore how social media are being used by faculty members in a higher education institution, utilizing its advantages and its usefulness for teaching style. A survey was conducted on the faculty members in two different Indian central universities (Aligarh Muslim University, Aligarh and Jamia Millia Islamia, New Delhi). For the sake of this study, a random survey method was designed to collect the data of the faculty members. 400 questionnaires sent through the mail and a link on social media but only 305 responses correctly recorded. Descprintive statistics were applied to ascertained the results. The study revealed that faculty members are not statistically significantly correlated with social media advantages and social media teaching style. In addition, this research also has shown a lot of useful finding which has been discussed in finding section.

Keywords: Social media, Internet, Mobile Devices, Faculty Members, Teaching, Web 2.0

INTRODUCTION
The social media platform, the practical means of internet-based sophisticated communication technology that provides useful information (Manca & Ranieri, 2013). At the launching era, social media viewed only as a medium of socializing tools (Madge, Meek, Wellens &Hooley, 2009) but later on its adoption and usage reached to worldwide in different fields, i.e., Law (Lakhani, 2013) Business (Li et al., 2014). The epoch of advanced technology, the adoption of social media and mobile devices might also be seen in the educational industry (Sanchez et al., 2014; Westerberg &Butler, 2010). Social media has become the subject matter of higher educational research (Manca & Ranieri, 2016b) and its adoption for teaching has gradually triggered (Seaman & Tinti-Kane, 2013).

Several studies recently have highlighted positive feedback on social media for teaching-learning motives in higher education research (Munoz & Towner,2009) boasting learner motivation (Chen et al.,2011) and enhancing pupils positive outlook towards their courses (Mazer et al.,2007). This Generation Z is more technologically oriented and depleted their whole time on the computer, video game, chatting, cell phone and other electronic gadgets of this digital era (Prensky, 2001).

RESEARCH BACKGROUND AND HYPOTHESES
SOCIAL MEDIA/SOCIAL NETWORKING SITES (SNS)
The platform that provides the facilities of entertainment to individual network online said to be Social media; Facebook, YouTube, Microblogging sites, it seemed to be the highest mounting digital resources (kanagavel & Velayutham, 2010). The era of digital world birthed to applications and services (Shu & Chuand, 2010). The small segment of students and faculty members practiced it for academic purposes along with personal use (Lenhart et., 2010; Tiryankioglu & Erzurum, 2011, Bryer & Chen, 2010). The adoption of social media and electronic mobile devices in smart classes was measured significant in respect of improving confidence and execution (Aviles & Eastman, 2012; Bansavish, 2011; Chao, Parker, & Fontana, 2011; Crew Wilkinson, 2010; Enriquuez, 2011). Social media are emerging as a prominent communications platform that facilitates teaching and learning especially in higher education (Jena, 2015).

SNS can be defined as "Web-based services that allow individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection and those made by others within the system (Boyd & Ellison, 2008 p.211 as cited in Kirschner & Karpinski 2010)

This paper an attempted to 'how' and 'what' are the adoption pattern of Social media in higher education as teaching practices (Forkosh-Baruch and Hershkovitz, 2012; Madhusudhan, 2012; Van Noorden, 2014; Veletsianos and Kimmons, 2012).

SOCIAL MEDIA BY FACULTY MEMBERS
This generation Z More technically oriented, energized to use sophisticated technology in higher education (McKinney, Dyck, & Luber, 2009; Waghid, 2016). Certain factors that stimulate faculty members to utilized Social media; sharing research materials with students, experience new adopted technological tools that assist in

ISSN 2394 - 7780

developing pupils caliber (Manca & Ranieri, 2016a). In addition to this, Esteve Del Valle, Gruzd, Haythornthwaite, Paulin, & Gilbert (2017) highlighted that there are large numbers of faculty members who have positive intentions to use social media for the academic purpose to enhance their students learning. Free flow of communication (Sobaih, Moustafa, Ghandforoush, & Khan, 2016). Similarly, another study by Cao, Ajjan, & Hong, (2013) suggested sometimes even faculty members are externally forced and due to technological competitiveness, leap to adopt Social media in higher education. On the other hand, some focused on the gain by adopting Social media tools for learning (Greenhow & Askari, 2015; Manca & Ranieri, 2013. A study by Ajjan and Hartshome (2008) reported that some sort of Web 2.0 could improve students' wisdom, collaborative learning with another peer, and their communication skills.

Teaching and learning apparatus assist both faculty member and learners (Flemmer 2007). Generally, it has been seen that youngest scholarly tend to use then senior faculties; designation (Greenhow & Gleason, 2014; Manca & Ranieri, 2016b), age is a crucial factor (Moran, Seaman, & Tinti-Kane, 2012; Turvey, 2012). As per Moran et al. (2012) study report that faculty members who are from Humanities, Arts, professional, Applied Sciences, and Social Sciences background are more adoptive Social media as teaching tools than those who are from Mathematics, Natural Sciences, and Computer Sciences. Some researchers highlighted students' usage, perception, and opinion (Cain, Scott, & Akers, 2009; Herguner, 2011; Karvounidis, Chimos, Bersimis, & Douligeris, 2014). The Northern University recently designed commuter school: a place of virtual learning for their pupils and avail them a dais of safe and secure interactive garden. This university builds on such Campus Link program with the assistance of a wireless company which provides a circuit where students can plug-into their learning system (Chapel, 2008). However, Ellison et al. (2007) study revealed that use of Facebook by the American undergraduate student cherished association with maintaining the strength and cardinal relationship then the offline. So we hypothesized as:

H1: There is the correlation between faculty members and social media merits.

Recently a survey by the Pew Internet & American Life Project (Hampton, Goulet, Rainie, & Purcell, 2011) in the United State mentioned that 39% of the adult with age bracket 30 years, Internet users currently use Social media and. In higher education faculty members have also adopted SNS for various aspects, it was found that amongst 1921 higher education faculty surveyed; nearly 90% were at least known about social media; Facebook, Twitter (Moran, Seaman, and Tinti-Kane 2011). Only a few countries like the USA (Seaman & Tinti-Kane, 2013) and Italy (Manca & Ranieri, 2016a, b) that paid attention towards faculty members involved in social media with the aim of educational research. These all studies mostly carried in developed countries such as USA (Moran et al. 2012). In addition to this, 45% of faculty members used Facebook for professional, non-classroom; purposes while 11% using as a daily routine basis to chase the professional goals. Another study conducted by Karnika Nigam & M.P Singh (2016) in Indian state university, the findings revealed that 93 % of faculty members were using social networking sites, with intention to share information, 44% were using quite a few in a day, 48% of them thought that the information shared via social networking sites tools are reliable. A surveyed conducted by Babson Survey Research Group (2011) on 1000 colleges and universities revealed that more than 80 % faculty members were adopting social media tools as teaching aids, 30% using these techniques for interaction purposes with the students, in addition to this 52% taking for Wiki, Blogs at class time. Similarly, another finding by Veletsianos and Kimmons (2012) revealed that the faculty member used Social media for professional purposes. Therefore hypotheses as:

H2: There is the correlation between faculty members and social media teaching.

Proposed Research questions

RQ1 What are the profiles of the faculty members who use social media and do not use?

RQ2 Which mobile devices do the faculty members constantly use?

RQ3 What drives to use social media as teaching practices?

RQ4 Which of the forms of social media is used?

METHODOLOGY

For this study, a random sample has designed that cover faculty member (including doctoral scholar). This study is based on survey method, in three steps (i) Survey design, (ii) Data collection, and (iii) Data analysis. The present paper is an attempt at descriptive statistics. Some historical evidence showed that students were asked a few questions to answer about their experiences on social media and its effect on friend’s interaction (Hung & Yueen, 2001).

ISSN 2394 - 7780

SURVEY DESIGN

A well-designed questionnaire has been adapted with slight modification from (Roebuck, D., Siha, S., & Bell, R. L., 2013). This questionnaire is composed of two types of question; closed-ended and some Likert types with anchored 1 strongly disagree to 5 strongly agree. (See Appendix 1 for detail information)

DATA COLLECTION

Based on the literate review, random survey method was employed to collect the data of faculty members in two central universities (JMI & AMU) regarding demographic background and other constructs. The target sampling population (n) 350 was suitable for this empirical investigation. 400 questionnaires were sent through email, but only 356 were returned. After the screening, it was found that only 305 usable for further study.

RESEARCH FINDINGS

DEMOGRAPHIC ANALYSIS

Under this study, most of the faculty members are male (61.9 percent), aged 31-40. Specifically, most of the faculty members using social media in higher education are falling with age bracket of the 31-40 years. Most faculty members are an assistant professor (53.7 percent) with commerce background (20.6 percent). The most important motivational forces seen in this study is technology (40.8 percent) which means that technological innovation played a significant role in bringing in faculty members. Additionally, the most important part of this study is that what is that devices that are used by the faculty members to enhance student's creativity are Smartphone (44.0 percent). However, 66.5 percent of faculty members are viewed that some sort of social media tools they used for teaching practices (66.5 percent).

Conversely, most of the user not using social media is male (55.2 percent) aged 31-40 years, academic qualification Ph.D. holder, and Ranked Associate professor, mostly are from Theology stream, with the teaching experiences 5-10 years. It is obvious also that social media did not seem fit in this context. (See table 1 for details information)

Independent sample test was conducted to check the difference between twp group genders. There are 183 male faculty members repressing (60.0 percent) of the whole participant and 122 female faculty members representing (40.0 percent) of the whole female participant. As the result clearly revealed that in table II that there is statically difference between the gender and usage of social media (p=.036, p<0.05). It is clear from the study that the use of social media varies between male faculty members and female faculty member. As per this empirical research male faculty member tends to more use of such a sophisticated technology compare to female faculty members. (See table II for additional information)

Table – I: Sample Demographic N=305

Variables	User		Non-user	
Demographic Statistics	**Frequency**	**Percent**	**Frequency**	**Percent**
Gender				
Male	135	61.9%	48	55.2%
Female	83	38.1%	39	44.8%
Age				
21-30	62	28.4%	24	27.6%
31-40	103	47.2%	40	46.0%
41-50	44	20.2%	19	21.8%
51-60	9	4.1%	4	4.6%
Designation				
Assistant Professor	117	53.7%	35	40.2%
Associate Professor	73	33.5%	38	43.7%
Research Scholar	25	11.5%	8	9.2%
Guest faculty	3	1.4%	6	6.9%
Marital status				
Married	157	72.0%	50	57.5%
Unmarried	61	28.0%	37	42.5%

ISSN 2394 - 7780

Qualification				
M.phil	19	8.7%	16	18.4%
PhD	112	51.4%	49	56.3%
M.phi/PhD	68	31.2%	16	18.4%
D.lit	19	8.7%	6	6.9%
Faculties				
Agriculture Science	12	5.5%	2	2.3%
Arts	25	11.5%	11	12.6%
Engineering & Technology	34	15.6%	16	18.4%
Theology	30	13.8%	17	19.5%
Social Science	24	11.0%	16	18.4%
Life Science	19	8.7%	7	8.0%
Science	13	6.0%	8	9.2%
Law	7	3.2%	2	2.3%
Business Administration	6	2.8%	1	1.1%
Commerce	45	20.6%	7	8.0%
Others	3	1.4%	0	0.0%
Motivational forces				
Personal Initiative	62	28.4%	31	35.6%
Technology	89	40.8%	45	51.7%
Peer outside my institution	42	19.3%	7	8.0%
The colleague at my institution	10	4.6%	3	3.4%
Students	15	6.9%	1	1.1%
Social Media Categories				
Social Networking	76	34.9%	28	32.2%
Microblogging	50	22.9%	26	29.9%
Wikis	60	27.5%	19	21.8%
Conferencing	23	10.6%	12	13.8%
Image or video sharing	9	4.1%	2	2.3%
Mobile Devices Used				
Smartphone	96	44.0%	39	44.8%
Tablet	68	31.2%	13	14.9%
Laptop	48	22.0%	22	25.3%
PC	6	2.8%	13	14.9%
Experience				
1-5 years	85	39.0%	32	36.8%
5-10 years	88	40.4%	37	42.5%
10-15 years	42	19.3%	15	17.2%
More than 15 years	3	1.4%	3	3.4%
Social media tools in teaching				
Yes	145	66.5%	39	44.8%
No	73	33.5%	48	55.2%

Source: Computed and Compile on the basis of the questionnaire

As in shown in table III that academic rank and user and non-user of social media in higher education institution is found to be statically significance (p=.013, p<0.05). One -way ANOVA techniques applied to check whether academic rank wise any difference is there between social media user and non-user. As per this study, an Assistant professor was found to be more use of social media because of several factors may be well aware of this social media applicability and usefulness in the higher education institution.

ISSN 2394 - 7780

Table – II: Gender wise user and non-user of Social Media

Gender	N	Mean	Std. Deviation	Std. Error Mean	F	Sig.	t
Male	183	1.2623	.44109	.03261	4.456	.036	-1.086
Female	122	1.3197	.46827	.04240			-1.073

Source: Computed and Compile on the basis of the questionnaire

As per table III, shown below, Assistant professor 152 (representing 49.8 per cent of whole population, out of this 53.7 per cent are using social media), Associate professor 111(representing 36.39 of the whole participant, out of this 33.7 per cent are using social media). One- way Anova procedure were applied to test whether there is any statistical significance difference between academic rank and user and non user of social media. As per table III in this empirical data, analysis revealed that there is significant statistical difference between social media user and non user and academic rank of faculty members (p=0.013, p<0.05). (See table III for addition information)

Table -III : Academic Rank of faculty member and user and non user of social media

Rank	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum		
					Lower Bound	Upper Bound			F	Sig.
Assistant Professor	152	1.2303	.42239	.03426	1.1626	1.2980	1.00	2.00	3.665	.013
Associate Professor	111	1.3423	.47665	.04524	1.2527	1.4320	1.00	2.00		
Research Scholar	33	1.2424	.43519	.07576	1.0881	1.3967	1.00	2.00		
Guest Faculty	9	1.6667	.50000	.16667	1.2823	2.0510	1.00	2.00		

Source: Computed and Compile on the basis of questionnaire

Table IV show the details background of the faculty members from distinguish academic stream. One-away Anova test followed to check, there is any statistical difference between faculty members with difference faculties and social media user and no users. As per this table most of the faculty members are commerce discipline. The analysis clearly revealed that there is no statistical difference between faculty members with different discipline and user and non user of social media (p=.150, p>0.05). (See table IV)

Table – IV: Faculty wise user and non user of social media

Discipline	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum		
					Lower Bound	Upper Bound			F	Sig.
Agriculture Science	14	1.1429	.36314	.09705	.9332	1.3525	1.00	2.00	1.470	.150
Arts	36	1.3056	.46718	.07786	1.1475	1.4636	1.00	2.00		
Engineering & Technology	50	1.3200	.47121	.06664	1.1861	1.4539	1.00	2.00		
Theology	47	1.3617	.48569	.07084	1.2191	1.5043	1.00	2.00		
Social Science	40	1.4000	.49614	.07845	1.2413	1.5587	1.00	2.00		
Life Science	26	1.2692	.45234	.08871	1.0865	1.4519	1.00	2.00		
Science	21	1.3810	.49761	.10859	1.1544	1.6075	1.00	2.00		
Law	9	1.2222	.44096	.14699	.8833	1.5612	1.00	2.00		
Business and Management	7	1.1429	.37796	.14286	.7933	1.4924	1.00	2.00		
Commerce	52	1.1346	.34464	.04779	1.0387	1.2306	1.00	2.00		
International studies	3	1.0000	0.00000	0.00000	1.0000	1.0000	1.00	1.00		

Source: Computed and Compile on the basis of the questionnaire

Regardless of the teaching experiences of faculty members, another diagnosis was initiated critical examine the statistical difference between to teaching experiences of faculty members and user and non-user of social media in this higher education. The result of one –way ANOVA analysis shows that there is no statistically significant difference was established between this two items; teaching experiences of faculty members and social media user and non-users (p=.653, p>0.05). (See Table V for details information)

ISSN 2394 - 7780

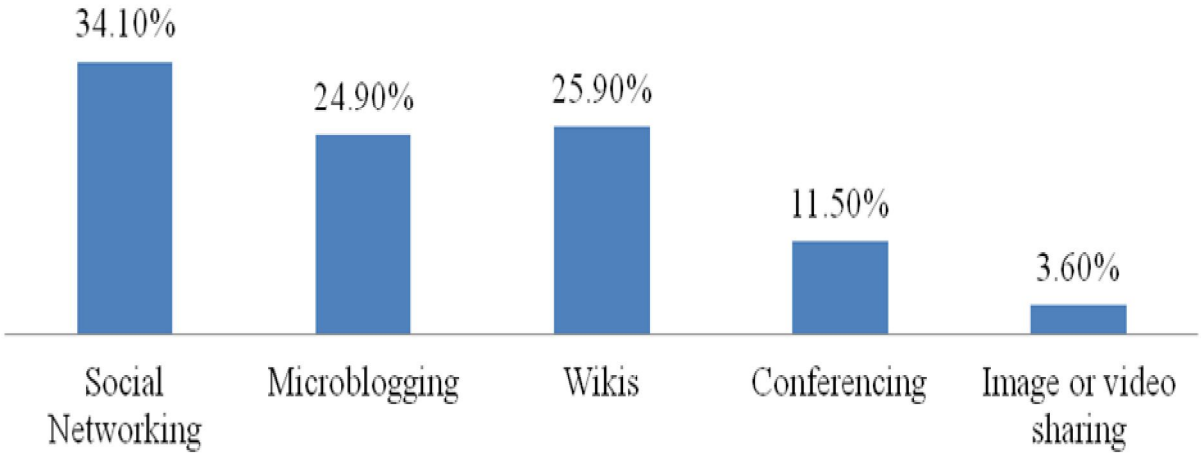
Table – V: Teaching Experiences of faculty members and user and non-user of social media

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	F	Sig.
					Lower Bound	Upper Bound				
1-5 years	117	1.2735	.44767	.04139	1.1915	1.3555	1.00	2.00	.544	.653
5-10years	125	1.2960	.45833	.04099	1.2149	1.3771	1.00	2.00		
10-15 years	57	1.2632	.44426	.05884	1.1453	1.3810	1.00	2.00		
More than 15 years	6	1.5000	.54772	.22361	.9252	2.0748	1.00	2.00		

Source: Computed and Compile on the basis of the questionnaire

When respondents were asked, out of the mentioned group which of the social media categories adopted in e-learning activities, social networking sites, stood at highest rank over others 34.10 percent followed by Wiki 25.90 percent (See figure1for additional details).

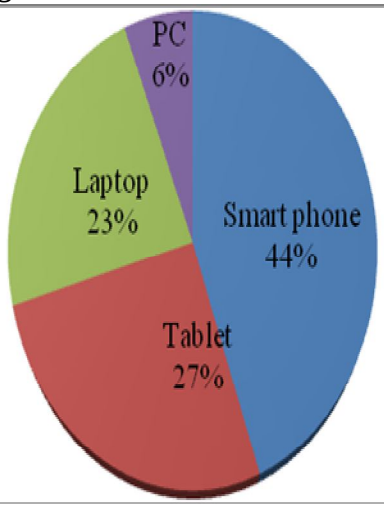
Figure – 1: Social Media Categories



It seemed that it is the flattest tools of communication and interaction. This finding the supported the find of the McGee and Diaz (2007), Tuten and Marks (2012) and Reginald L bill (2013) mentioned that social media platform best way to shares communicates joint work.

Questions about which of the mentioned mobile devices do the faculty members use, *Smartphone* got the highest 44% followed by *Tablet* 27% which are convenience mode of quick communication. Since mobile devices are the best and cheapest means of communications, working as multitasking activities, connected inside the classroom, assist in learning milieu, greater feedback for lectures and boast pupil impetus (Chao et al. 2011; Chapel, 2008). (See figure 2 for further information).

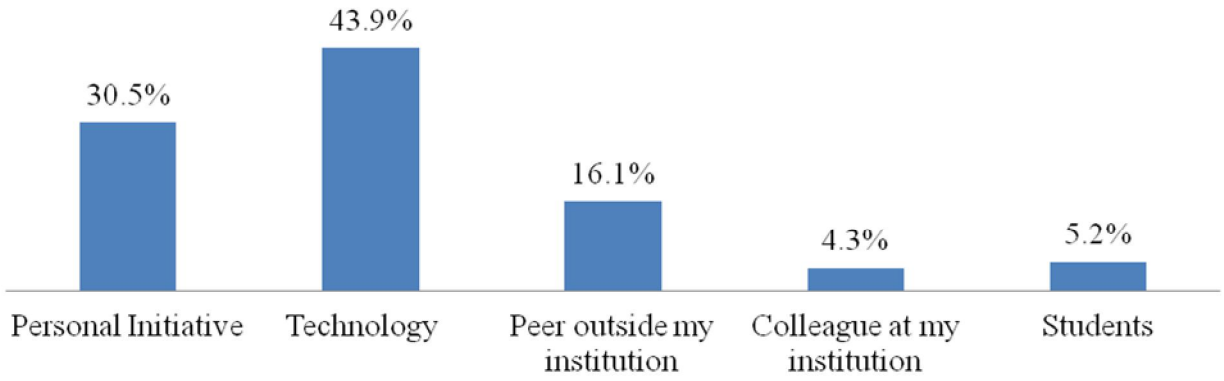
Figure – 2: Mobile Devices Used



The two dominant internal lubricant technology (43.9%) and personal initiative (30.5%) that provided the fuel in illumine to the faculty members for teaching activities. This is similar to the findings of (Roebuck, Siha, & Bell 2013) (See figure 3)

ISSN 2394 - 7780

Figure - 3 : Internal Drives to Use Social Media



REGRESSION ANALYSIS

There is some construct in this study is adopted to check the social media advantages and impact of social media for teaching style of faculty members in this higher education institution. As for as this is concerns, one dependent variable *faculty members* and two independent variable *social media advantages* and *social media for teaching style* is considered. To the check, the impact of the dependent variable on independent (predictor) variables, simple regression analysis was followed and the resulting figures are represented in tabular forms below. (See Table VI)

The proposed hypotheses after the review literature found that none of the aforesaid hypotheses were supported. However, there is no correlation seen between faculty members and social media advantages in this study. It was predicted in the hypotheses that there is the correlation between faculty members and social media advantages. A positive non-significant relationship was observed (β=077, p>0.05). Thus *H1: There is a correlation between faculty Members and social media advantages* were rejected.

Social media teaching style is predicted that in the hypotheses that both faculty members and social media teaching style were correlated. It is against our expectation, a non-statistical negative relationship was seen (β= -.157, p>.0.05). Therefore *H2: There is a correlation between faculty members and social media teaching* were rejected. (See table VII for additional information)

Table - VI : Result of Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.115	.013	.007	.78286	1.120

Source: Computed and Compile on the basis of the questionnaire

Table – VII: Result of Hypotheses

Hypotheses	Beta Coefficient	Std. Error	Sig.	Supported?
H1: There is the correlation between faculty Members and social media advantages.	.077	.015	.346*	No
H2: There is the correlation between faculty members and social media teaching	-.157	.014	.057*	No

Source: Computed and Compile on the basis of questionnaire *p<0.05

DISCUSSIONS AND CONCLUSIONS

This study designed with the primary motive to understand teaching behavior of the faculty members about sophisticated social media tools across different institutions. A survey was conducted on faculty members in different Indian academic institutions to know perception about these technologies. Results of the study revealed that faculty members adopted social media tools and getting its advantages. Integration of social media tools into the learning environment facilitated students in higher order thinking (Jonassen et al., 1999; Kearney & Treagust, 2011).

ISSN 2394 - 7780

However, the present study synchronized with Lenhart et al. (2010), Tiryankioglu and Erzurum (2011), Bryer and Chen (2010) and Boyd and Ellison (2007) confirmed that social media are habitually used for private purposes then professional practices among the faculty members and students. These outcomes are highly coordinated with the results of Moran et al. (2012), Settle et al. (2011) and Bonk (2009) which revealed that social media, especially Facebook, have become highly trendy among college professors and were used mostly for communication. Tasks using social media were primarily for communicating, sending/receiving messages and finding information. In agreement with Lenhart et al. (2010), Tiryakioglu and Erzurum (2011), Bryer and Chen (2010) and Boyd and Ellison (2007) who inveterate that social media are mostly used among faculty members and students for personal purposes and a low percentage of them uses these sites for academic practice. In this regard, Tinti-Kane (2013), Jalal and Zaidieh (2012), Liu (2010) and Mattingly et al. (2010) stated that the use of social media could create privacy concerns among faculty members which, in turn, negatively affect the use (Mansour, 2015).

The rapid advancement in sophisticated digital technology and rising student's interest that compile the faculty members to adopt these tools for teaching practices. This study is also found the surprising fact that a majority of faculty members personally initiated to utilize it as teaching

Aids. However, their students were using mobile devices and social media tools to complete the assignment (Kelm, 2011). Therefore if the organization would provide training and develop the culture of the digital world, it would make communication easy for faculty members in teaching practices and also in sharing the educational resources.

LIMITATION AND FUTURE DIRECTION

In the context of this study, it can't be generalized that all faculty members were adopted Social media tools for teaching purposes. It depends on the motivation, availability of sophisticated technological tools. In addition to this, the study does not cover the entire academic institution its coverage area limited to only two central universities. However, herein just higher educational institutions were included while the teacher might also adopt social media and mobile devices at the school level.

Finally, there is a need to carry more studies on social media and mobile devices in Indian academic institutions, as this young generation Z are more nanotechnological oriented. There is also the need to assist in developing and endorsing computer skills as recommended by Perryman (2011). Social media are becoming more involved in our daily life day by day (Tiryakioglu and Erzurum, 2011, p. 149). The near future will witness more involvement and use of these media, especially in education. Other university and similar colleges, therefore, should enhance their faculty members' awareness of the advantages of using such important media.

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MECHANISMS FOR MAKING OPTIMAL SOLUTIONS IN THE COMPANY MANAGEMENT SYSTEM

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ABSTRACT
In this article, the author highlights content of factors that affect managerial decision-making and development process of managerial decisions. Moreover, author analyzes the degree of demand and supply of software application for decision-making process and role of information systems in decision-making.

Keywords: management, decision, management decisions, information systems, decision-making process, information support for decision-making.

The activity of any manager is related to the performance of managerial functions, including the planning, organization, coordination and control of any processes. This activity is implemented in the form of disposition, business conversation, instructions, etc. A solution is the result of a person's mental activity that leads to a conclusion or to necessary actions, for example, complete inaction, the development of an action or the choice of an action from a set alternatives and its implementation. The solution can be aimed at achieving one-time results, at creating ongoing processes, maintaining ongoing processes, and at stopping any activity. The development and implementation of decisions are influenced by many factors, including the personal qualities of a person, relationships in his family, religion, etc. (Fig. 1).

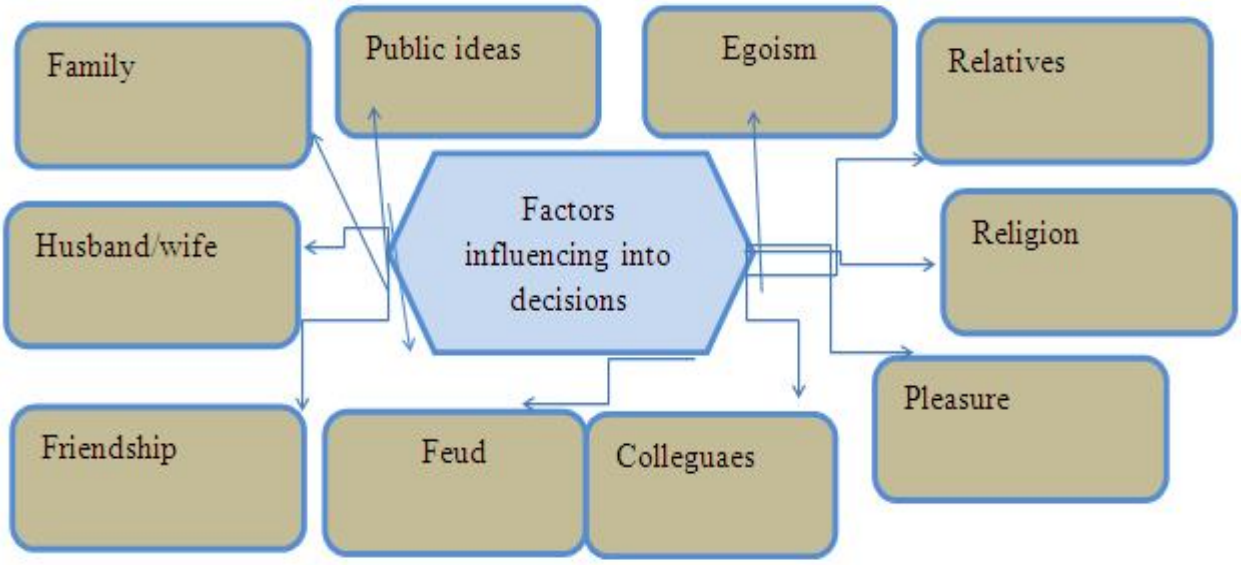

Fig-1: Some factors that influenced to elaboration process of making decision.

Each person makes decisions of a different nature every day and in most cases does so without special training at the level of common sense. In normal cases, the results are more likely to meet expectations, and in complex cases they may not meet the goals of the solution. Especially it concerns the development and implementation of solutions in companies, the formation and development of which takes place in conditions of constantly changing parameters of the external and internal environment. The regulation is achieved by the development and implementation of diverse solutions, the quality and efficiency of which determine the effectiveness of the company. The main type of decision is a management decision carried out by linear and functional managers. A management decision is the result of a collective creative work, it is always of a social, social nature, even when the manager alone develops solutions, collective intelligence implicitly influences this process. Work on the development of management decisions should be highly professional, using theoretical and methodological developments of domestic and foreign scientists, as well as accumulated and systematic practical experience. Before the production process itself begins, the manager creates his model (goals, forms of specific activities, available resources and opportunities, probable difficulties and ways to overcome them). All this is formed in the form of a management decision that directs, organizes and stimulates the work activity of the team. A sign of a good managerial decision is a minimum of a subordinate's address to his or her counselor for clarification and help. In the modern world, every solution implemented in a company, one way or otherwise, it affects other companies, people outside the company. The epoch of global decisions influence on internal and external regarding company situation is coming. Soon the manager will need:

ISSN 2394 - 7780

- A global view of problems at the level of several companies and even internationally;
- New strategic concepts on key success factors when entering the world level of competition, identifying global needs and interests of a person and society, building new virtual organizational structures of production and management;
- Systems of new analytical thinking, including the ability to identify leading markets on a global scale, to accumulate global experience.

The above definition of a management decision is sufficiently correct for an initial understanding of the nature and content of SD. Nevertheless, not every decision developed and implemented by a manager is managerial. Thus, decisions related to the technical side of the company's activities, for example, decisions aimed at summarizing its activities or documentation, are not managerial.

The managerial decision is a creative, volitional action of the subject of management based on the knowledge of the objective laws of the functioning of the controlled system and analysis of information about its functioning, consisting in choosing the goal, program and methods of the team's activities to solve the problem or change the goal. The management decision is the basis of the management process. To control is to re-shat. The term "managerial decision" is used in two basic meanings: as a process and as a phenomenon. As a process, a management decision is the search, grouping and analysis of the required information, development, approval and implementation of a management decision. As a phenomenon, a management decision is an action plan, decision, verbal or written order, etc. A management decision can be represented by a set of smaller decisions, including managerial, technical and biological ones. Each of them should contribute to solving a common problem. Therefore, the initiator of the general managerial decision requires good knowledge in technical areas, and possibly in biological ones. The worst in management is not a bad decision, but the lack of a solution. It is believed that the amount of the implemented management decision characterizes the managerial experience of the manager.

The scheme is based on the Global Management Goal block. The global goal of managing any social system is the maximum satisfaction of the needs and interests of a person, a collective, a society. Within this global goal, technocratic and social goals of government are formed. Technocratic goals include technical, technological and others, the achievement of which is based on formalized techniques. The social ones include: achieving social justice, protecting the environment, creating a positive motivation for work, and creating conditions for personal development. The concrete situation is the real state of affairs regarding the proclaimed goal. The problem is formed as the difference between the goal and the corresponding situation. The development of the economic, technical and social sphere necessitates the acceleration of information processes and, accordingly, the computerization of management. In many countries, the era of the "golden mouths" has begun. It is characterized by equipping employees with modern technical means of managing and processing information on the basis of personal computers and modern software. New information technologies influence the process of developing and implementing a management decision:

- Information becomes the main subject and product of managerial labor. It gradually goes into the category of goods and acquires use value;
- Part of working time is released thanks to management information systems. This time the manager can use for better development of the management decision and methods for their implementation;
- The comfort of managerial labor increases as a result of obtaining high-quality information and working with software products that simulate the intellectual activity of a specialist, consultant;
- The manager has the opportunity to choose from the set of correct decisions the best in his opinion;
- The cost of the decision is growing. Information as a management decision repeatedly increases its value, being realized in the material-material elements of production. Incorrectly developed and adopted decisions across the industry can lead to large material and social costs and losses;
- The direction of the manager's functions is changing in the direction of the direct management process. Modern managers combine the functions of highly qualified specialists and direct production organizers.

The least studied subject of management for creating software products is the top management of companies. There are practically no corresponding information systems for them, and the existing theoretical developments in the field of organization and management, as a rule, are not used by them - there are some elements of rejection. Top managers of organizations — the general director, the president, the director, and others —

ISSN 2394 - 7780

usually accomplish tasks of a general nature, based on integrated information coming from information systems, personnel, and the external environment. In addition, the director may have a number of responsibilities outside the organization of representation, corporate and others. All the burden of responsibility for the state of affairs in the company is completely on him. There are great difficulties with the creation of software systems for the director. A director is a special kind of position, activity, behavior and human life.

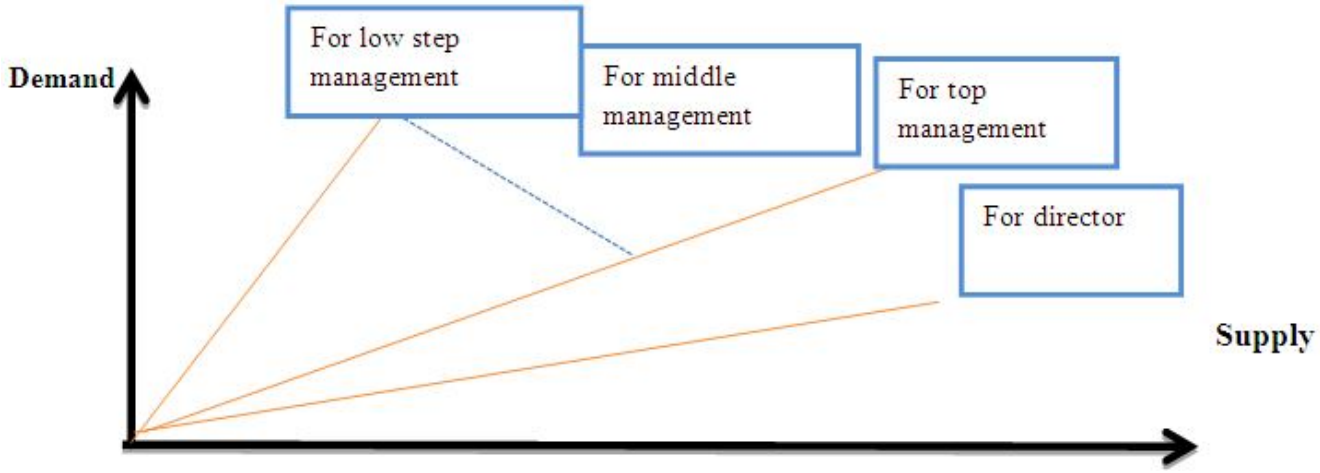

Fig-2: The nature of the demand and supply of consulting services and software products for the device management company.

A director can only be understood by another director. The career of an employee who has become a director goes through two segments of the path: evolutionary (all the way to the director) and revolutionary (entry on the path of directorship). The evolutionary path is characterized by understanding on the part of consultants and programmers with their mathematical logic of the problems of the middle and lower level managers. The revolutionary way is quite difficult for them, although quite a lot of software products are created for the director (Fig. 2).

The entire range of software products and management consulting techniques for the first segment of a career is done very well and is well accepted by consumers. With the director, the situation is much worse. A man who has become a director, suddenly feels himself in a position of a capi-tane, deprived of a navigator. He himself has to pave the way for his company, he becomes suspicious, cautious; the way of his life changes significantly, to a greater extent submitting to the interests of the company. For these and other reasons, company specialists and even consultants of management firms cannot always take the director to the right decisions, although at present there is a large set of various software products for managing the company. As the practice of consulting firms shows, for a large group of directors of medium and large companies information is needed in the following areas:

1. A simplified system for tracking key parameters of the company;
2. A set of standard patterns of effective management;
3. Brief information about the basic concepts of management with references to relevant literature;
4. Descriptive information about modern information systems for business management, workflow, accounting, personnel accounting, financial planning, etc.;
5. Reference data about who and what can help the director on the main 20-30 practical issues, including where he can improve their skills;
6. Information on how to find a partner for foreign economic activity;
7. Brief historical biographical data on key figures domestic business and their contribution to the national economy;
8. Specific material on practical pedagogy for working with staff;
9. Material about the healthy lifestyle of directors: methods of stress reduction, food, physical education lessons, work day planning, tricks to stay sober at presentations, meetings and other events;
10. Key information about marketing and advertising;
11. Brief information on the technology of reforming and restructuring the company.

ISSN 2394 - 7780

Consider further some of these areas

1. Due to the time constraints on the actual management of the company, the director needs to transfer a certain set of information, adequately reflecting the state of affairs in the company, and a set of possible actions to eliminate negative phenomena and strengthen positive trends.

The information system of the company, in our opinion, should provide four options for issuing the results of the evaluation of information about the company's activities for the director.

1 Option: The values of all the monitored parameters of the company's activities are in acceptable ranges. In this case, a screensaver about the full order in the company is given to the director's screen; the values of the parameters are not displayed.

2 Option: The values of the individual secondary controlled parameters go beyond the permissible ranges. In this case, the director receives information about the relative order. The computer screen also displays the values of non-standard secondary parameters of the company. At the same time, the heads of the relevant services of the company receive detailed information on deviations for making decisions.

3 Option: The values of a number of key controlled parameters go beyond the allowable range or re-go beyond the allowable range of secondary controlled parameters. The director is given information on deviations in the company. The computer screen also displays the values of the non-standard parameters of the company. Generalized information on deviations is issued to the director for subsequent monitoring or decision making. More detailed information and solutions are given to the respective functional managers.

4 Option: The state of key parameters is significantly outside the acceptable range. The director, all functional managers and relevant specialists are given detailed information on the state of the monitored parameters and the set of possible solutions. Thus, the director's information system should receive information from the network system, the processing of which will signal the position to the company (Fig. 3).

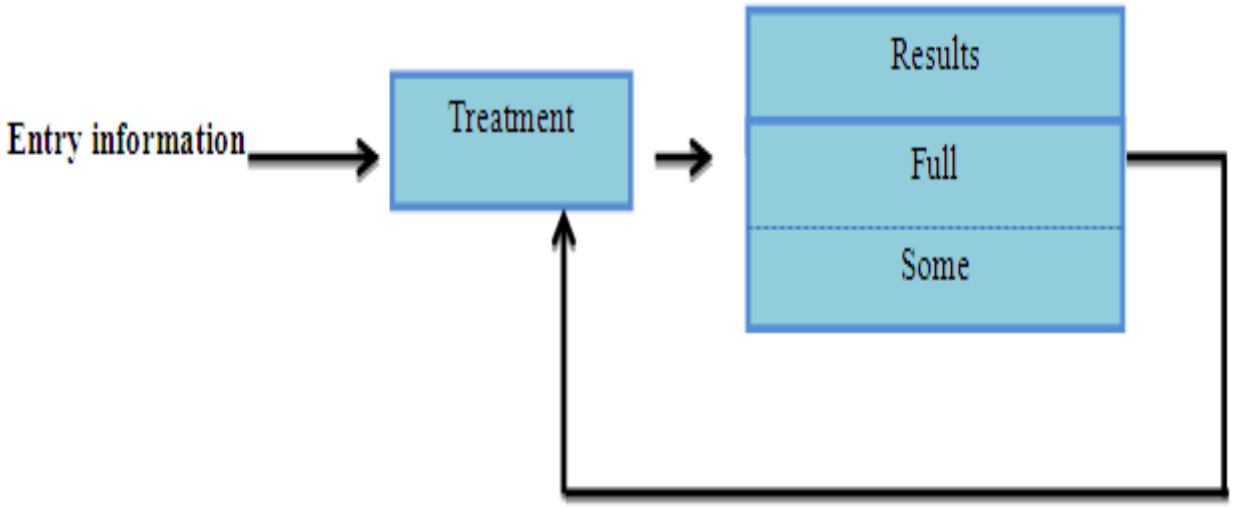

Fig-3: Scheme of the functioning of the information system director.

Information systems reorganize the management process, providing powerful new opportunities to help managers in strategy, planning, organizing, making management decisions and monitoring their implementation. Thus, information systems are powerful tools of organizational changes that allow an enterprise to improve its structure, communications, products, services, etc.

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A STUDY ON FOOD AND BEVERAGE SERVICES OF LUXURY HOTELS AND SATISFACTION OF DOMESTIC TOURISTS IN MADURAI

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ABSTRACT
Food and beverage department is the most important revenue generating department of hotels and it fulfills fundamental needs for hunger and enjoyment in eating of food and drinking beverages for psychological and physical happiness. Among various categories of hotels, luxury hotels offer exceptional lodging and dinning experience to tourists and luxury hotels provide accommodation facilities mainly to upper class, but they also give services to all types of tourists. More than two fifth of domestic tourists view the food and beverage services of luxury hotels at moderate level. Significant difference is there among food and beverage services of luxury hotels and profile of domestic tourists. The food and beverage services of luxury hotels have significant, positive and moderate relation with satisfaction of domestic tourists. To improve views of domestic tourists towards food and beverage services, luxury hotels should give adequate quantity of food and beverage and they must provide silver service of food and beverage.

Keywords: Domestic Tourists, Food and Beverage, Luxury Hotels, Satisfaction

1. INTRODUCTION

The hotel business in India is growing remarkably in last two decades because of growth of tourism and it is shifting very quickly because of advancements in technologies, hotels have to be pro active in preference of tourists, quality of food and beverages, changing and dynamic nature and habits and preferences of tourists (Victorino et al 2005). Food and beverage department is the most important revenue generating department of hotels and it fulfills fundamental needs for hunger and enjoyment in eating of food and drinking beverages for psychological and physical happiness (Ha and Jang, 2010). Food and beverage services are the indispensable connection among menus and tourists. The department of food and beverage is responsible for serving good quality of beverage and food to tourists those who are occupying in the hotels and it also provides varieties of food and beverages in different fashion of operations (Bagchi and Sharma, 2006).

The unique features of tourists are that they are charged for consumption of products and utilizing services and amenities particularly food and beverage unless there is payment of boarding and lodging. Additionally, supply and demand of hotel service mainly engages food and beverage services and services of food and beverage are influencing gladness and satisfaction of tourists during the process of consumption (Dedeoglu and Demirer, 2015). Services of food and beverage are one of the significant aspects of quality of hotels (Bujisic et al 2014) that influence satisfaction of tourists. Among various categories of hotels, luxury hotels offer exceptional lodging and dinning experience to tourists and luxury hotels provide accommodation facilities mainly to upper class, but they also give services to all types of tourists. Therefore, it is essential to study food and beverage services of luxury hotels and satisfaction of domestic tourists in Madurai.

2. REVIEW OF LITERATURE

Baig and Khan (2010) found that variety, quality and service of break-fast and meals, serving time and quality of services were affecting satisfaction of guests. Al Khattab and Aldehayyat (2011) concluded that quality, quaintly, price, room services, taste and appeal of food were influencing satisfaction of customers.

Ryu et al (2012) revealed that food and beverage services along with pleasant environment provided by hotels influenced satisfaction of customers and quality and quantity of food was also affecting satisfaction and future visit of customers. Hussain et al (2013) indicated that quality, attractiveness and sufficient quantum of food items, quality of services and appeal of food items were positively influencing satisfaction of customers.

Giritlioglu et al (2014) showed that knowledge of employees and assurance, attractive and health food, reliability, service delivery and empathy were important aspects of food and beverage services of spa hotels. Al-Tit (2015) stated that freshness, delicious, nutrition, variety and appeal of foods were important aspects of quality of food and it had positive and significant effect on satisfaction of customers.

Suksutdhi (2016) found that guests had high degree of expectation towards food and beverage quality standards followed by varieties, environment and sequences of service of food and beverages of boutique hotels. Kumar and Bhatnagar (2017) concluded that insights of customers towards quality of food were high and quality of food was positively and highly correlated with satisfaction of customers.

ISSN 2394 - 7780

Anand et al (2018) revealed that there was no significant difference among demographics of guests and food and beverage services of hotels and there was a high and positive relation among quality of services and services of food and beverage provided by hotels.

3. METHODOLOGY

The present research is done in Madurai. The domestic tourists are selected by using convenience sampling method and questionnaire method is used to collect data from 320 domestic tourists. Percentages are worked out to examine profile of domestic tourists and mean and standard deviation are computed for views of domestic tourists towards food and beverage services of luxury hotels. t-test and ANOVA test are done to scrutinize difference among profile of domestic tourists and food and beverage services of luxury hotels. The correlation analysis is used to study relation among food and beverage services of luxury hotels and satisfaction of domestic tourists.

4. RESULTS AND DISCUSSION

4.1. Profile of Domestic Tourists

The profile of domestic tourists is given in Table-1. The findings explain that 53.75 per cent of domestic tourists are males, whereas, 46.25 per cent of them are females and 28.75 per cent of them are falling under age category of 41– 50 years, whereas, 19.69 per cent of them are falling under age category of 51 – 60 years.

The findings exhibit that 41.87 per cent of domestic tourists are holding under graduation, whereas, 25.00 per cent of them are holding secondary education and 34.37 per cent of domestic tourists are earning monthly income of Rs.30,001 – Rs.40,000, whereas, 16.25 per cent of them are earning monthly income of more than Rs.50,000. And 84.69 per cent of domestic tourists are married, whereas, 15.31 per cent of them are unmarried.

Table-1: Profile of Domestic Tourists

Profile	Number of Domestic Tourists	Percentage
Gender		
Male	172	53.75
Female	148	46.25
Age Category		
21 – 30 Years	77	24.06
31– 40 Years	88	27.50
41 – 50 Years	92	28.75
51 – 60 Years	63	19.69
Education		
Secondary	80	25.00
Higher Secondary	106	33.13
Under Graduation	134	41.87
Monthly Income		
Less than Rs.30,000	56	17.50
Rs.30,001 – Rs.40,000	110	34.37
Rs.40,001 – Rs.50,000	102	31.88
More than Rs.50,000	52	16.25
Marital Status		
Married	271	84.69
Unmarried	49	15.31

4.2. Food and Beverage Services of Luxury Hotels

The views of domestic tourists towards food and beverage services of luxury hotels are given in Table-2.

Table-2: Views of Domestic Tourists towards Food and Beverage Services of Luxury Hotels

Views towards Food and Beverage Services	Mean	Standard Deviation
Luxury hotels supply good quality of food and beverage	3.95	1.04
Luxury hotels offer variety of food and beverage	3.91	1.02
Luxury hotels serve food and beverage quickly	3.88	1.03
Luxury hotels give sufficient quantity of food and beverage	3.39	1.06
Luxury hotels provide room service for food and beverage	3.90	1.07
Luxury hotels give silver service of food and beverage	3.32	1.12
Luxury hotels serve food and beverage in correct order	3.86	1.08

ISSN 2394 - 7780

Luxury hotels offer complementary food and beverage	3.37	0.99
Luxury hotels provide butler service to very important persons only	3.98	0.98
Luxury hotels give food and beverages as per orders	3.84	1.13

The domestic tourists are agreed with luxury hotels supply good quality of food and beverage, luxury hotels offer variety of food and beverage, luxury hotels serve food and beverage quickly, luxury hotels provide room service for food and beverage, luxury hotels serve food and beverage in correct order, luxury hotels provide butler service to very important persons only and luxury hotels give food and beverages as per orders, while, they are neutral with luxury hotels give sufficient quantity of food and beverage, luxury hotels give silver service of food and beverage and luxury hotels offer complementary food and beverage.

4.3. Profile of Domestic Tourists and their Views Towards Food and Beverage Services of Luxury Hotels

The distribution of domestic tourists based on their views towards food and beverage services of luxury hotels is given in Table-3. The views of domestic tourists towards food and beverage services of luxury hotels is segmented into low, moderate and high levels on the basis of Mean ± SD. Mean and SD are 37.34 and 3.60 respectively.

Table-3: Distribution of Domestic Tourists Based on their Views towards Food and Beverage Services of Luxury Hotels

Level of Food and Beverage Services of Luxury Hotels	Number of Domestic Tourists	Percentage
Low	83	25.94
Moderate	135	42.19
High	102	31.87
Total	**320**	**100.00**

The findings disclose that 42.19 per cent of domestic tourists view the food and beverage services of luxury hotels at moderate level following by high (31.87 per cent) and low (25.94 per cent).

4.3.1. Gender and Food and Beverage Services of Luxury Hotels

The relation among gender of domestic tourists and food and beverage services of luxury hotels is given in Table-4.

Table-4: Gender and Food and Beverage Services of Luxury Hotels

Gender	Level of Food and Beverage Services of Luxury Hotels			Total	t-Value	Sig.
	Low	Moderate	High			
Male	46 (26.75)	74 (43.02)	52 (30.23)	**172 (53.75)**	6.900	.000
Female	37 (25.00)	61 (41.22)	50 (33.78)	**148 (46.25)**		
Total	**83 (25.94)**	**135 (42.19)**	**102 (31.87)**	**320 (100.00)**	-	-

(The figures in the parentheses are per cent to total)

Amongst 172 male domestic tourists, 43.02 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (30.23 per cent) and low (26.75 per cent). Amongst 148 female domestic tourists, 41.22 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (33.78 per cent) and low (25.00 per cent).

The t-value of 6.900 is demonstrating significant difference prevails in food and beverage services of luxury hotels among gender of domestic tourists at one per cent level.

4.3.2. Age Category and Food and Beverage Services of Luxury Hotels

The relation among age category of domestic tourists and food and beverage services of luxury hotels is given in Table-5.

Table-5: Age Category and Food and Beverage Services of Luxury Hotels

Age Category	Level of Food and Beverage Services of Luxury Hotels			Total	F-Value	Sig.
	Low	Moderate	High			
21 – 30 Years	19 (24.67)	33 (42.86)	25 (32.47)	**77 (24.06)**	7.132	.000

ISSN 2394 - 7780

31– 40 Years	20 (22.73)	42 (47.73)	26 (29.54)	**88 (27.50)**		
41 – 50 Years	27 (29.35)	40 (43.48)	25 (27.17)	**92 (28.75)**		
51 – 60 Years	17 (26.98)	20 (31.75)	26 (41.27)	**63 (19.69)**		
Total	**83 (25.94)**	**135 (42.19)**	**102 (31.87)**	**320 (100.00)**	-	-

(The figures in the parentheses are per cent to total)

Amongst 77 domestic tourists falling under age category of 21– 30 years, 42.86 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (32.47 per cent) and low (24.67 per cent). Amongst 88 domestic tourists falling under age category of 31– 40 years, 47.73 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (29.54 per cent) and low (22.73 per cent).

Amongst 92 domestic tourists falling under age category of 41– 50 years, 43.48 per cent of them view the food and beverage services of luxury hotels at moderate level following by low (29.35 per cent) and high (27.17 per cent). Amongst 63 domestic tourists falling under age category of 51– 60 years, 41.27 per cent of them view the food and beverage services of luxury hotels at high level following by moderate (31.75 per cent) and low (26.98 per cent).

The F-value of 7.132 is demonstrating significant difference prevails in food and beverage services of luxury hotels among age category of domestic tourists at one per cent level.

4.3.3. Education and Food and Beverage Services of Luxury Hotels

The relation among education of domestic tourists and food and beverage services of luxury hotels is given in Table-6.

Table-6: Education and Food and Beverage Services of Luxury Hotels

Education	**Level of Food and Beverage Services of Luxury Hotels**			**Total**	**F-Value**	**Sig.**
	Low	**Moderate**	**High**			
Secondary	23 (28.75)	34 (42.50)	23 (28.75)	**80 (25.00)**	6.095	.000
Higher Secondary	23 (21.70)	42 (39.62)	41 (38.68)	**106 (33.13)**		
Under Graduation	37 (27.61)	59 (44.03)	38 (28.36)	**134 (41.87)**		
Total	**83 (25.94)**	**135 (42.19)**	**102 (31.87)**	**320 (100.00)**	-	-

(The figures in the parentheses are per cent to total)

Amongst 80 domestic tourists holding secondary education, 42.50 per cent of them view the food and beverage services of luxury hotels at moderate level following by high and low (28.75 per cent). Amongst 106 domestic tourists holding higher secondary education, 39.62 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (38.68 per cent) and low (21.70 per cent). Amongst 134 domestic tourists holding under graduation, 44.03 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (28.36 per cent) and low (27.61 per cent).

The F-value of 6.095 is demonstrating significant difference prevails in food and beverage services of luxury hotels among education of domestic tourists at one per cent level.

4.3.4. Monthly Income and Food and Beverage Services of Luxury Hotels

The relation among monthly income of domestic tourists and food and beverage services of luxury hotels is given in Table-7.

Table-7: Monthly Income and Food and Beverage Services of Luxury Hotels

Monthly Income	**Level of Food and Beverage Services of Luxury Hotels**			**Total**	**F-Value**	**Sig.**
	Low	**Moderate**	**High**			
Less than Rs.30,000	13	25	18	**56**	7.240	.000

ISSN 2394 - 7780

	(23.22)	(44.64)	(32.14)	**(17.50)**		
Rs.30,001 – Rs.40,000	31 (28.18)	43 (39.09)	36 (32.73)	**110** **(34.37)**		
Rs.40,001 – Rs.50,000	22 (21.57)	42 (41.18)	38 (37.25)	**102** **(31.88)**		
More than Rs.50,000	17 (32.69)	25 (48.08)	10 (19.23)	**52** **(16.25)**		
Total	**83** **(25.94)**	**135** **(42.19)**	**102** **(31.87)**	**320** **(100.00)**	-	-

(The figures in the parentheses are per cent to total)

Amongst 56 domestic tourists earning monthly income of less than Rs.30,000, 44.64 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (32.14 per cent) and low (23.22 per cent). Amongst 110 domestic tourists earning monthly income of Rs.30,001 – Rs.40,000, 39.09 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (32.73 per cent) and low (28.18 per cent).

Amongst 102 domestic tourists earning monthly income of Rs.40,001 – Rs.50,000, 41.18 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (37.25 per cent) and low (21.57 per cent). Amongst 52 domestic tourists earning monthly income of more than Rs.50,000, 48.08 per cent of them view the food and beverage services of luxury hotels at moderate level following by low (32.69 per cent) and high (19.23 per cent).

The F-value of 7.240 is demonstrating significant difference prevails in food and beverage services of luxury hotels among monthly income of domestic tourists at one per cent level.

4.3.5. Marital Status and Food and Beverage Services of Luxury Hotels

The relation among marital status of domestic tourists and food and beverage services of luxury hotels is given in Table-8.

Table-8: Marital Status and Food and Beverage Services of Luxury Hotels

Marital Status	**Level of Food and Beverage Services of Luxury Hotels**			**Total**	**t-Value**	**Sig.**
	Low	**Moderate**	**High**			
Married	70 (25.83)	109 (40.22)	92 (33.95)	**271** **(84.69)**	6.038	.000
Unmarried	13 (26.53)	26 (53.06)	10 (20.41)	**49** **(15.31)**		
Total	**83** **(25.94)**	**135** **(42.19)**	**102** **(31.87)**	**320** **(100.00)**	-	-

(The figures in the parentheses are per cent to total)

Amongst 271 married domestic tourists, 40.22 per cent of them view the food and beverage services of luxury hotels at moderate level following by high (33.95 per cent) and low (25.83 per cent). Amongst 49 unmarried domestic tourists, 53.06 per cent of them view the food and beverage services of luxury hotels at moderate level following by low (26.53 per cent) and high (20.41 per cent).

The t-value of 6.038 is demonstrating significant difference prevails in food and beverage services of luxury hotels among marital status of domestic tourists at one per cent level.

4.4. Relation among Food and Beverage Services of Luxury Hotels and Satisfaction of Domestic Tourists

The relation among food and beverage services of luxury hotels and satisfaction of domestic tourists was studied by using correlation analysis and the results are given in Table-9.

Table-9: Relation among Food and Beverage Services of Luxury Hotels and Satisfaction of Domestic Tourists

Particulars	**Correlation Co-efficient**
Food and Beverage Services of Luxury Hotels and Satisfaction of Domestic Tourists	0.49^{**}

** Significant at one per cent level

ISSN 2394 - 7780

The correlation coefficient between food and beverage services of luxury hotels and satisfaction of domestic tourists is 0.49 which is moderately and positively related at one per cent level of significance.

5. CONCLUSION

The findings of this study expose that more than two fifth of domestic tourists view the food and beverage services of luxury hotels at moderate level. Significant difference is there among food and beverage services of luxury hotels and profile of domestic tourists. The food and beverage services of luxury hotels have significant, positive and moderate relation with satisfaction of domestic tourists. To improve views of domestic tourists towards food and beverage services, luxury hotels should give adequate quantity of food and beverage and they must provide silver service of food and beverage. Additionally, luxury hotels should offer complementary food and beverage.

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ANALYSIS OF INNOVATIVE DEVELOPMENT UZBEKISTAN`S INDUSTRY

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ABSTRACT
In the article has been analyzed the innovative development of industry in Uzbekistan, in particular, the automobile industry of the country was chosen as an object. By empirical research has been done regression model of technological, marketing and organizational innovations in the industry of the Republic of Uzbekistan. Also, was investigated correlation between innovative work in the industrial sector of Uzbekistan, costs for services and innovations. At the end of the paper proposed recommendations for innovative development of country`s industry.

Keywords: innovations, innovative development, innovative marketing, automobile industry, industrial enterprises.

INTRODUCTION
Strategic strategies for industrial innovation in Uzbekistan require significant changes in market entities and their adaptation to market requirements. Innovations, which are an important factor in increasing the competitiveness of the economy, are considered as a priority. In the years of independence in the country the necessary infrastructure has been created in the field of science and technology development, the formation of certain intellectual and technological potential. However, insufficient use of available capacity and capacities for the development and implementation of innovative ideas and technologies has led to the existence of a number of problems that hinder the effective implementation of reforms and accelerated innovation development in the country and the need to identify targeted strategies for their effective solution, in particular:

- Identify trends and trends in science and innovation in industry;
- Organization of fundamental and applied research, effective integration of science, education and production;
- Introduction of high-tech production in industrial enterprises, introduction of effective mechanisms of know-how and modernization;
- Further strengthening of cooperation with foreign (international) organizations with high expertise and Potential in the production and implementation of innovative products;
- Effective use of innovation in addressing topical issues of industry development.

LITERATURE REVIEW
The formation of the science of innovation was made a significant contribution by Russian and foreign scientists, whose works are devoted to the innovative development of the economy: I. Ansoff, A.G. Aganbegyan, J. Van Dane, Camerer C., Loewenstein G.[2], Doerre K.[3], Drucker Peter F.[4], G.B. Kleiner, N.D. Kondratiev, A. Kleinknecht, B.N. Kuzyk, G. Mensch, Galkina N.[5], Goden B.[6], B.Z. Milner, L.E. Mindeli, V.M. Polterovich, Robinson L.[7], B. Twiss, Kuchukov R. [9], F. Hayek, J. Schumpeter, Ilyenkov S.D. [10], Zinov V. G.[11], Williamson O. [8], F. Jansen and others. The problems of innovative development of industrial enterprises are explored in the works of foreign scientists F.F. Glysin, K.P. Gonchar, S.M. Gurieva, E.B. Kolbacheva, B.V. Kuznetsova, M.G. Kuzyka, E.L. Loginova, P.M. Nureeva, Yu.V. Simacheva, O.S. Sukhareva, A.Yu. Yudanova, E.G. Yasin. Of particular note are studies of the high-tech complex of industry, the study of which was done by V.M. Aldoshin, A.E. Warsaw, I.A. Kuznetsova, V.I. Mayevsky, B.J Makarov, I.E. Frolov, A.Yu. Shatrakov, E.V. Yurchenko.

The issues of managing the innovative development of industrial enterprises on the basis of the formation and use of innovative potential are disclosed in the works of H.H. Akhmetova, A.I. Bazilevich, E.V. Popova, A.G. Porshneva, A.G. Prigulnogo, H.A. Solomatina, A.A. Trifilova, A.N. Fedoseev. In the economic literature, not enough attention is paid to the creation of innovative capital of industrial enterprises, as a rule, the problems of formation and evaluation of intellectual capital are studied. The study of the formation of innovation clusters involved many domestic and foreign economists: M. B. Alekseeva, L.G. Akhtarieva, Yu.L. Vladimirov, L.A. Voronin, I.B. Gurkov, L.N. Drobyshevskaya, G.B. Kleiner, A. Marshall, M. Porter, M.N. Rumyantseva, G.N. Stashevskaya, V.P. Tretiak, O.A. Tretiak, E.Ya. Fiyaksel, T.V. Cihan, A.E. Shastitko, M.Yu. Sheresheva, K. Doerre, L. Van den Berg, R. Rabelotti.

ISSN 2394 - 7780

DISCUSSION OF ANALYZING RESULTS

The Strategy for the five main priorities of the Republic of Uzbekistan for 2017-2021 sets out specific targets for radical improvement of the well-being of the population and improvement of living standards, comprehensive and dynamic development of society and state, modernization of the country and liberalization of all spheres of life. Also, our main task is to transform Uzbekistan into a stable market economy with a high share of innovation and intellectual contribution to production, competitive industry in the modern and global market, and rapidly developing country with a favorable investment and business environment. [1]. In view of the above, the Decree of the President of the Republic of Uzbekistan dated November 29, 2017, №PF-5264 "On the Establishment of the Ministry of Innovative Development of the Republic of Uzbekistan" was adopted. According to this Decree, an effective system of state support for innovation in Uzbekistan and stimulation of the effective implementation of innovative ideas, developments and technologies in public administration, economy priorities and social sphere have been created.

Introduce innovations to their initial assessment should be justified. Creating methodological basis for such an assessment first of all affect the total innovation process and ultimately, the effectiveness of this or that innovation a set of determinants must be identified.

The development of Uzbekistan's economy is seen as a key aspect of innovation, and over the last 10 years, the focus is on technological innovation in the industry.

In the country for 2008-2016 there are 4762 innovations in the industry, 4620 of which are technological innovations. Over the analyzed years, 81 new marketing innovations have been implemented in the industry, with 61 innovation innovations.

Table-1: The number of technological, marketing and organizational innovations in the industry of the Republic of Uzbekistan

Years	Industrial production, billion sums	Total innovations	A total of technological innovations	A total of marketing innovations	Total organizational innovation
	Pi	**TLi**	**Ti**	**Mi**	**Oi**
2008 y.	23848	243	243	0	0
2009 y.	28387,3	231	226	0	5
2010 y.	38119	248	243	0	5
2011 y.	47587,1	307	300	1	6
2012 y.	57552,5	288	264	10	14
2013 y.	70634,8	693	665	19	9
2014 y.	84011,6	882	837	35	10
2015 y.	97598,2	889	866	16	7
2016 y.	111869,4	982	976	1	5
Total	**559608**	**4763**	**4620**	**81**	**61**

Source: Data from the Statistics Committee of the Republic of Uzbekistan.

The interconnected development of innovations in relation to the production of industrial products is the following:

$$Pi = 107{,}9 * Ti - 911{,}05 * Mi + 3159{,}8 * Oi - 6480{,}3 \quad (3.1)$$

R^2=0,98; F_{fish}= 84,4; p=0,0004

As regards the results of the regression analysis, it is clear that the growth of industrial output in Uzbekistan is largely dependent on technological and organizational innovation, and the realization of marketing innovations has a negative impact on it. In particular, innovations in one industry-based technology provide the production of 107.9 units of conditional units (billion soums) and organizational innovations - 3159.8 billion soums. However, marketing innovations have led to a decline in product output to 911.05 Conditional units. A number of other aspects of marketing innovation are related to product manufacturing. The inevitable dependence of marketing innovations on product development is explained by the fact that these innovations are aimed at increasing the production process of the enterprise, ie, not directly dependent on the volume of production. However, from the analysts' findings, in almost every 2016, industrial enterprises did not have any marketing innovations. When analyzing marketing innovation in the sectoral sector, the share of communications and information services is high.

ISSN 2394 - 7780

In 2016, 43 marketing innovations have been implemented across the country, with major innovations being 23 (54%) in the field of information and communication, 2 in transport and storage (5%); 7 (16%) wholesale and retail trade; 7 (16%) marketing innovations were implemented in financial services. Innovative marketing activities of the company have been thoroughly analyzed in the preceding chapters in the formulation of a new idea of creating a brand new product, building up a new brand, and increasing its value in the market.

While adhering to the dynamics of marketing innovation, it has been recognized that it contradicts product and organizational innovation. At the next stages of innovative development of enterprises, the rapid growth of economic development or marketing innovation in marketing innovations was based on theories.

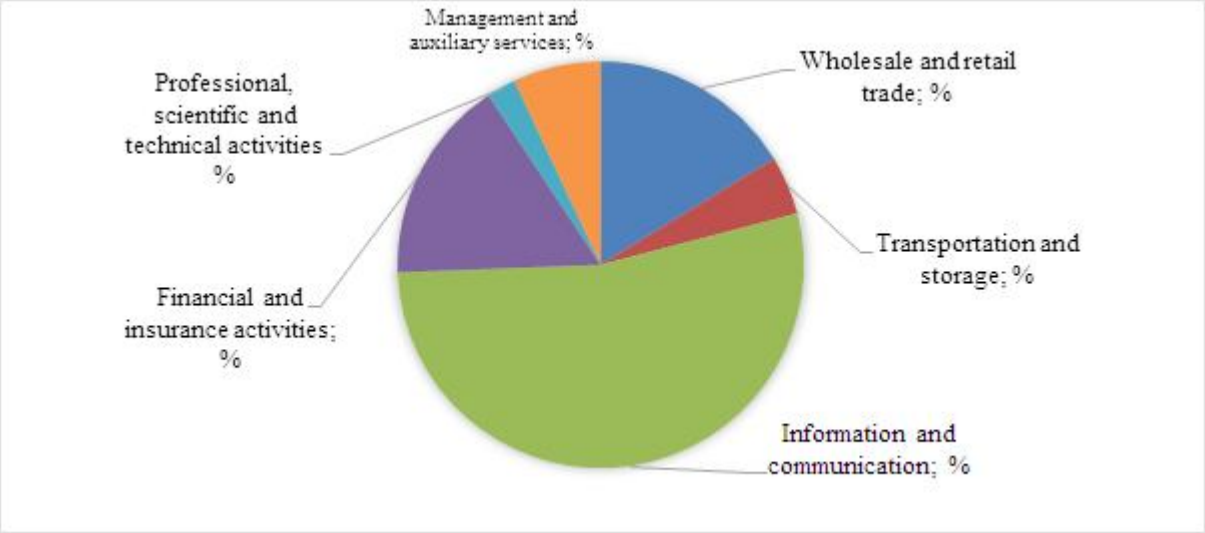

Fig-1: Marketing innovations, unified in the sector in 2016.

In most cases, businesses focus on product innovation and pay close attention to marketing innovation. However, the results of intensifying competition in the market will increase marketing innovation and encourage enterprises to make these innovations.

In the light of the above, it can be determined by analyzing the correlation of the growth of innovative products, works and services produced in the industrial sector of Uzbekistan by technological, marketing and organizational innovation. Given the adverse impact of marketing innovation on the production of industrial products, marketing innovations develop further after the development of technological and institutional innovations. In the industrial sector of the Republic of Uzbekistan, the tendency of innovation works and growth of services has been maintained. The use of marketing innovations in the industry has been in effect since 2009, and organizational innovations have been spent by the nurses since 2010. This is based on the fact that marketing innovations have been formed in the post-technological or post-innovative years (table-2).

Table-2: Innovative work in the industrial sector of Uzbekistan, costs for services and innovations

Years	Volume of innovation products, works, services, mln.so'm	Technological innovation costs, UZS mln	Marketing Innovation Costs, mln UZS	Costs for organizational innovation, mln UZS
	IV	Tic	Mic	Oic
2008 y.	1164868,2	297757,6	0,0	0,0
2009 y.	1648601,0	275850,1	463,8	0,0
2010 y.	1762157,7	241915,7	21,7	136,5
2011 y.	1193220,7	185370,9	335,7	3076,8
2012 y.	3533801,4	271396,5	255,9	2752,0
2013 y.	3900658,5	3119985,5	3531,3	2506,0
2014 y.	6118385,8	3254354,9	3671,9	2191,4
2015 y.	5384817,4	6831107,8	7794,8	10526,2
2016 y.	6715334,7	13476844,7	15253,9	17975,6

Source: Data from the Statistics Committee of the Republic of Uzbekistan.

Studying the dynamics of innovation will serve as a basis for targeted decision-making on marketing innovation. We know that the law of dynamics in marketing innovations is valid. It is possible to divide this dynamic into a three-stage system, ie the period of transition, transitions, and special periods. Innovations at

ISSN 2394 - 7780

these stages are based on the production process, radical and contradictory, ie the vibration of innovations varies in different ways. According to the data of the table, expenses for marketing innovations in 2009 decreased from 463.8 million soums to 21.7 soums in 2010, and in 2011 - by 335.7 million soums. Marketing innovations, which reflect the dynamics of the post-2012 period, from the final stage of implementation of the anti-crisis program in our country, increased the cost of marketing innovations in high-profile. This situation clearly demonstrates the level of dynamics. Also, innovation costs can not fully support the growth of sales of innovative products this year, and its return will be seen later in the year.

To further clarify this analysis, it is necessary to study the dependence of industry-created innovations on costs. Accordingly, we create a linear equation for the effects of industry innovations on the impact of marketing innovations. The results of the regression analysis have enabled the following functionality:

$$IV = -1{,}55 * Tic + 2031{,}62 * Mic - 281{,}9 * Oic + 24796708 \quad (3.2)$$

R^2=0,71; F_{fish}= 0,715; p=0,007

It is known from this function that marketing innovations are inextricably linked with technological and organizational innovation, and its formation has been driven primarily by increasing technological and organizational innovation. At the same time, the unified cost of marketing innovations was determined by the probability of 71% increase of innovative goods and services by 2061.6 mln. This, in turn, highlights the necessity of establishing the necessary infrastructure for the industrial enterprises to address the most complex issues in the process of establishing the innovation system and implementing perspective strategies, and introducing innovations in industrial enterprises.

The share of machine-building and metal-working industry in innovations in the Republic of Uzbekistan has been maintaining leadership over the years.

The share of finished goods with high added value in the machine-building and metal-working industry is rising.

The machine-building and metal processing industries accounted for 93.4% of the innovations in the national industry in 2008, down from 72.7% in 2014. However, in the analyzed years, the share of machine building in innovative products, jobs and services is high.

Table-3: The share of sectors of innovative products, works, services in the industrial sectors of Uzbekistan

Rate	2008 y.	2009 y.	2010 y.	2011 y.	2012 y.	2013 y.	2014 y.
Total industry	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Electroenergetics	0,0	0,0	0,0	0,2	0,0	0,0	0,0
Fuel industry	0,1	10,5	13,5	4,3	0,0	0,0	0,1
Metallurgy	0,0	0,2	4,2	14,4	5,0	12,6	9,5
Chemical and petrochemical industry (except chemical and pharmaceutical industry)	1,0	0,5	2,8	3,5	1,3	6,3	4,7
Machine-building and metalworking (without the medical engineering industry)	93,4	76,8	73,9	59,7	84,7	68,3	72,7
Building materials industry	3,6	9,2	1,8	2,3	0,9	2,2	2,8
Light industry	0,1	0,6	2,4	7,1	4,7	4,5	5,2
Food industry	1,0	2,0	1,0	7,5	3,1	5,1	3,4
Others	0,8	0,3	0,3	1,0	0,3	0,9	1,7

Source: Data from the Statistics Committee of the Republic of Uzbekistan.

The above analyzes show that the Uzbek industry is not paying much attention to the introduction of marketing innovations. Compared to industries, the share of the machine-building industry in marketing innovations is high.

CONCLUSION

The Republic of Uzbekistan is implementing a number of targeted materials for innovation development in the automobile industry. On this subject. Decree of the President of the Republic of Uzbekistan from June 1, 2017 "About measures on further development and enhancement of management of the automobile industry in 2017-2021" № PP-3028 has been defined as the most important tasks:

ISSN 2394 - 7780

- Ensuring increase in the output of competitive automobiles in foreign and domestic markets through the implementation of investment projects aimed at the acquisition of new modern types and brands of products with attraction of foreign investors;
- Further diversification of external markets and exporting products, strengthening the role and position in foreign markets;
- Reducing the share of imports and reducing the cost of production through the intensification of inter-sectoral collaboration links to mastering the production of basic raw materials and materials required for the deepening of localization of production of components and joints;
- To ensure sustainable development of the sector in the conditions of tight competition environment in foreign markets and liberalization of the monetary policy, increase profitability of the enterprises of Uzavtosanoat JSC and their financial support;
- Improvement of corporate governance of "Uzavtosanoat" JSC by introduction of modern international standards;
- Strengthening the personnel potential of the sector, strengthening the cooperation between the production organizations of JSC "Uzavtosanoat" and higher and secondary special, professional education and research institutions, involving young and talented specialists in the field;
- To radically improve the retail sales of automobiles manufactured in our country and to improve the public service delivery system, to increase the transparency and effectiveness of the "Uzavtosanoat" JSC in accordance with modern requirements;
- Development of scientific and applied research and innovation development, introduction of processes of modernization, technical and technological modernization of production, further strengthening of science and production.

The main direction of effective implementation of these tasks and further improvement of the corporate management system of the automotive industry, the sustainable development of foreign markets and the liberalization of the monetary policy, the main direction of increasing the production of competitive products and increasing the productivity of the organizations is to develop effective marketing strategies introduction.

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MAKE IN INDIA: ROAD FORWARD OR A MIRAGE

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ABSTRACT
India is one of the eminent countries having cheap labour in abundance at its disposal; the idea of utilizing the cheap labour to produce for the world is not new. India, among the world's fastest growing economies is the third largest in the world by Purchasing power parity (PPP) and tenth by Nominal GDP. The Make in India is an attempt to attract the manufacturing houses to manufacture their produce In India, the campaign was started by the Government of India on 25th September 2014 with the objective of job creation and skill enhancement covering 25 sectors of Economy. Except three- Space (74%), Defence (49%) and News Media (26%), 100% Foreign Direct Investment (FDI) is permitted in rest 22 identified sectors. The slogan "Zero Defect Zero Effect" was coined by The Prime Minister to emphasise the mechanism of production that would produce the products with zero defects and without any adverse effects on the Ecology and Environment. The fact however lies that though India being among the fastest growing economies still lags behind in comparison to some of the developing and developed economies, the manufacturing sector in India has been less vigorous compared to the potency of service sector on Economy. The paper covers an Overview of the Make in India Campaign, the sectors covered, the road blocks, opportunities and the viability of the project. The make In India on one hand is set to develop and enhance the competitiveness of the manufacturing sector while the execution of the campaign is indispensable.

Keywords: Eminent, Purchasing power parity, Nominal GDP, FDI.

INTRODUCTION
The make in India campaign is an attempt to make India a global hub of manufacturing with the major objective of increase in employment, Enhancement in product quality and skill development of personnel. Wieden+Keneddy designed the campaign and launched a web portal along with the release of Brochures on all the 25 identified sectors. In order to encourage investments, the policy permitted Foreign Direct Investment of 100% in 22 sectors out of the total 25 identified ones, the three capped sectors include News Media, Defence and Space where FDI is permitted up to the limit of 26%, 49% and 74% respectively. The process reforms saw India jumping to the 100th place in 2017 from the 130th in 2016 in the World Banks ease of doing business index.

The aim of the initiative is to increase the contribution of Manufacturing to GDP to 25% by 2022 from the stagnant contribution of 10-15% for over a decade, the results are somewhat visible if not significant to claim as the Contribution of Manufacturing has rose to 17.1 % after the campaign was announced, the contribution is however very low compared to the neighbouring countries such as Thailand where it is 35%, china has 32%, Philippines has 30% and Indonesia 29%.Though the campaign saw various states launching their own make in India Initiatives such as Make in Maharashtra, Vibrant Gujarat and Make in Haryana. The road ahead is not going to be a cake walk.

REVIEW OF LITERATURE
Since the inception of Make in India campaign, a good number of articles and review papers have been written and propounded to threw light on the different aspects of Campaign, the crux of some the core writings are given as under

India has what it takes to be a global hub of manufacturing, the government is taking the steps to encourage Investment and improve the overall climate for business, there are however many challenges that needs to be tamed for milking Make in India (Pratiksha Mishra, Dr. Taruna, 2016)

(Bhattacharya, Bruce and Mukherjee, 2014) concluded that the awful condition of the manufacturing sector in India is improving after the initiative of Make in India Campaign, the visits by the prime minister to several foreign destinations have brought commitments of Foreign Investments to India.

The vision and the policy stated by make In India campaign will be handy if there is more clarity about the scope of the campaign vis-a-vis its relationship with Different departments and stakeholders (Raju Rao, 2017)

India has the potential to make itself a global hub of manufacturing, there is however much to be done to make it a reality, the execution will create the job opportunities and lead to the overall development (Dr Aftab Anwar, Eram Khan, 2017)

ISSN 2394 - 7780

(Selvam V, 2016) tries to present a balanced review of the various opportunities and challenges of make in India. The paper describes different opinions, thoughts, approaches and assumptions of different persons like Academicians, industrialists, public, human resource practitioners and government officials available for solving the obstacles of make in India.

(Dr Puneet Aneja, 2016) concluded that Make in India being an ambitious project that India desperately need to kick start to sustain the growth momentum; there is much to be done to make the campaign a reality. The pool of available labour is a natural acquired advantage for the country, the infrastructure; labour laws, administration, good governance etc need to be looked into.

The Make in India Campaign on One hand is expected to bring capital inflows into the country however on the other the focus must be on curbing inflation and fiscal deficits, ease of doing business, ensuring a realistic exchange rate and letting the market decide which sectors should flourish to make it a success. (Dr T.V Ramana, 2015)

OBJECTIVES OF THE STUDY

To identify the selected sectors for make in India campaign

To examine the current position of manufacturing sector and flow of FDI into it

To explore the challenges and Developments of the campaign

To put forth suggestions in light of the findings of the study

RESEARCH METHODOLOGY

The study is a review and analysis of the information available in form of secondary data, the data collected from different articles, journals , Government and non Governmental websites, surveys, books , newspapers etc.

The Focus sectors

The government of India has identified 25 sectors as the focus areas in order to make India a global hub of manufacturing, among the identified ones the six sectors are showing a visible impact as compared to others, The sectors constitute of Automotive, Electronic system design and manufacturing, Renewable Energy, Roads and Highways, Pharmaceuticals and Food processing.

AUTOMOBILE	**AUTOMOBILE COMPONENTS**	**AVIATION**	**BIOTECHNOLOGY**	**CHEMICALS**
CONSTRUCTION	**DEFENCE MANUFACTURING**	**ELECTRIC MACHINERY**	**ELECTRONIC SYSTEMS**	**FOOD PROCESSING**
IT AND BPM	**LEATHER**	**MEDIA AND ENTERTAINMENT**	**MINING**	**OIL AND GAS**
PHARMACEUTICALS	**PORTS AND SHIPPING**	**RAILWAYS**	**RENEWABLE ENERGY**	**ROADS AND HIGHWAYS**
SPACE	**TEXTILES AND GARMENTS**	**THERMAL POWER**	**TOURISM AND HOSPITALITY**	**WELLNESS**

FDI, GDP AND THE MANUFACTURING SECTOR

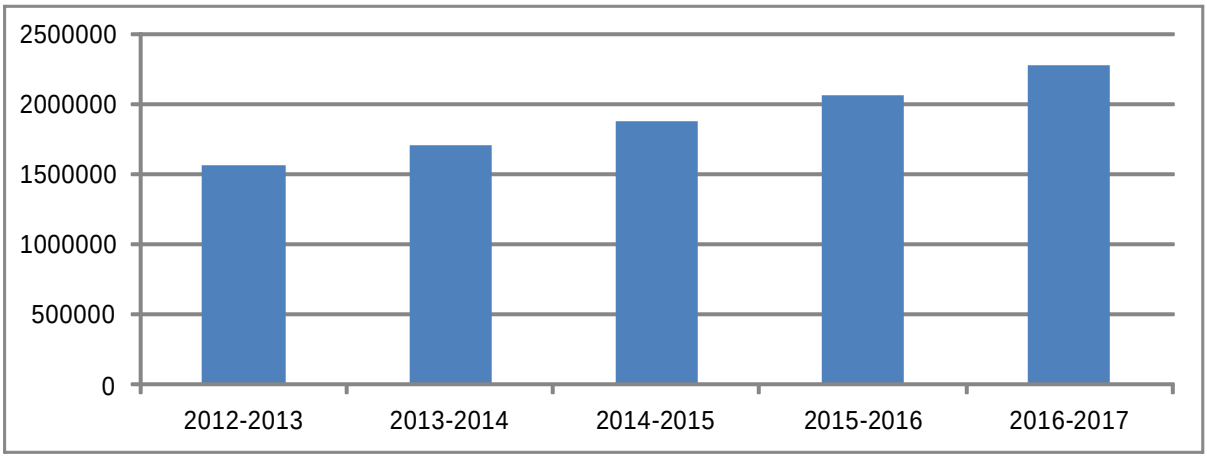
The Indian economy is divided into three broad categories compromising of Agriculture and Allied, services and industry, Agriculture includes livestock, Logging and Forestry, Fishing and related activities. Services include Hotels, transport, trade, communication and Broadcasting, Financial, Real estate and other services, Industry includes Quarrying and mining, manufacturing, Gas, electricity, construction and water supply.

GROSS VALUE ADDED BY MANUFACTURING AT CURRENT PRICES

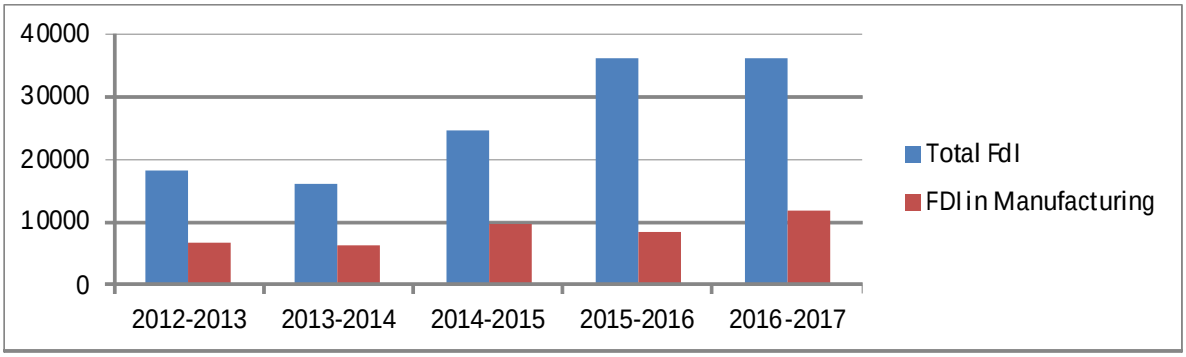
Year	Amount
2012-2013	**1572830**
2013-2014	**1713445**
2014-2015	**1883929**
2015-2016	**2065093**
2016-2017	**2278149**

Source: Ministry of Statistics and Programme Implementation

ISSN 2394 - 7780



Flow Of FDI in India			
Year	**Total Inflows**	**Inflows to Manufacturing sector**	**Proportion of total to Manufacturing**
2012-2013	18286	6528	35.7
2013-2014	16054	6381	39.7
2014-2015	24748	9613	38.8
2015-2016	36068	8439	23.4
2016-2017	36317	11972	32.97
Source : RBI Annual Report 2016-17			



CHALLENGES OF THE INITIATIVE

The make in India Is an ambitious campaign which calls for a pragmatic vision and a lot of hard work to execute the plans and make the initiative a quiet success, the following areas call for a broader framework in order to make India a Global hub of manufacturing:

The need Of Infrastructure: The need for infrastructure in India isn't hidden from world, The Infrastructure development in India has lagged woefully and is ranked 81st out of 140 countries as per world forum's Global competitiveness report on overall infrastructure. India lags its BRICS countries where Russia is Ranked 35th, China 39th, South Africa 68th and Brazil 74th in the same report.

The labour laws: India need to review its laws relating to labour, the labour laws in India are complex and very stringent. There are more than 200 Laws regarding Unions, Disputes, and Conditions of Employment etc.

The Labour Skill: The Skill and Education of Labour in any country are the key driving forces to growth, there is a huge skill gap among workers in India and there is an Urgent need to tackle the same. The quality of education also need to be looked at and improved according to the demanding times.

***The Acquisition of Land*:** The Acquisition of Land again restricts the business environment; The Acquisition of land in India is a lengthy and complex process which many a times result in political hassles, the land for Nano plant in West Bengal (Singoor) is a classical example.

ISSN 2394 - 7780

The Political Dilemma: The political battles between the ruling forces and opposition, Central Government and state governments are again a snag to the business. The SEZ (Special Economic Zones) in India can only be allowed with the permission of state governments while Foreign Investment approvals by development commissioner who in turn is the representative of the Government at centre

THE DEVELOPMENTS

Tax Reforms: The introduction of Goods and services tax from 1st July 2017 all over the country except the state of J&K where GST was introduced from 8th July 2017 has turned India as a unified whole. The World Bank doing Business report 2018 saw India improving 53 places in rankings of ease of paying taxes. Moreover the Government in its budget 2018-2019, reduced the Income Tax rate to 25% for all companies having a turnover of 250 Crores or less.

The Digital Era: The systems right from incorporating a company to taxation are being moved online, the digital system will streamline processes such as getting constructions permits, will reduce the number of procedures and the time.

The FDI policy: The government of India has made drastic changes in the FDI policy to ecourage Capital flows into India. The Sectoral Caps among almost all the identified sectors have been done away with.

Phased Manufacturing Programme (PMP)*:* The phased manufacturing Programme aim at adding more of the Smartphone components under Make in India campaign to enable a push to the manufacture of mobile handsets in India.

The Strategic Partnership**:** The Ministry of defence has approved the strategic partnership between the foreign players and the private Companies in India to tie up for manufacturing fighter jets, submarines, armoured vehicles and helicopters.

SUGGESTIONS

There is an immediate need to increase the contribution of manufacturing to the overall development of the country and making India a Global Hub of Manufacturing, the important suggestions to make in India from a diverse of views are as under:

- ✓ The skill shortage in different sectors need to addressed with zeal and zest, the spending on education which is just 4.7% of the total GDP need to be enhanced. Skill development initiatives need to run parallel with Make in India.
- ✓ The Technological up gradation is required for zero defect products and environment friendly manufacturing.
- ✓ A dedicated team headed by an altogether new ministry should be formed to look into all the matters pertaining to the Make in India campaign. The focus must be on campaign Marketing and Advocacy.
- ✓ The inclusive growth should be made a reality and all the states should assist the central government to implement the same
- ✓ The infrastructure development is an immediate need, the road connectivity, water supply, electricity should be given priority.

CONCLUSION

The contributions of Manufacturing sector to the GDP has almost been stagnant for over a Decade, The Make in India is an initiative to improve the contributions of the sector to 1/4th from a stagnant average of 15% to The GDP. The campaign saw the change in the stagnant contribution of manufacturing by almost 2% , though the government has taken various steps for making India a manufacturing hub, much more concrete steps are needed to mark up the contribution to 25%. India has been among the counties that attract Foreign Investment but there is a lot of scope to attract more, the Make in India campaign saw several mobile phone, luxury and automobile brands to set or looking to establish their manufacturing bases in India. The companies from countries like U.S.A, Japan, U.A.E, Germany and Sweden are taking a lead role in the initiative. “Make in India” is a long term initiative taken at the right time however there is a greater road ahead to execute, implement and make the campaign a success. The manufacturing sector will play a great role for the economic development, job creation, Technology up gradation and skill development.

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ISSN 2394 - 7780

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STUDY OF IMAGE WATERMARKING USING 2D DISCRETE WAVELET TRANSFORM, LIFTING WAVELET TRANSFORM AND DISCRETE COSINE TRANSFORM AND WATERMARKED IMAGE COMPRESSION USING SPHIT ALGORITHM

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ABSTRACT
This paper presents the image watermarking using 2D Discrete Wavelet Transform (DWT), Lifting Wavelet Transform (LWT) and Discrete Cosine Transform (DCT) and watermarked image is compressed through SPHIT (Set Partitioning in Hierarchical Trees) algorithm. The embedding of watermark is based on DWT, LWT and DCT. The aim of this is to investigate signal to noise ratio (SNR), Peak signal to noise ratio (PSNR) and weighted peak signal to noise ratio (WPSNR) for invisible watermarks.

Keywords: Watermarking, Discrete Wavelet Transform (DWT), Lifting Wavelet Transform (LWT) and Discrete Cosine Transform (DCT), Set Partitioning in Hierarchical Trees (SPHIT)

INTRODUCTION
The abundant use of internet in daily life make the ease of routine task, at the same time make the system more vulnerable to unauthorized use of digital data placed over the internet. It is so because data over the internet may be accessible to any individual who may be authorized to access that data or not. With the aim to protect the digital data from unauthorized uses the invisible watermarking is the significant tool. For this purpose, different techniques have been implemented in the past over the last so many years, and a lot of business products are already available. In this approach, source image is accurately hidden into target image in that manner that it becomes very difficult see it.

In this paper, work is subdivided as: watermarking is done through the said methods and then compression is done for that watermarked image using Set Partitioning in Hierarchical Trees (SPHIT) algorithm.

Discrete Wavelet transform (DWT2) 2D
Out of available signal decomposition methods DWT is considered better due to fewer complexities. The WT improves upon the STFT by scaling the window length that is chosen as per the frequency range considered for analysis.

The reconstruction of signal can be done with the use of low pass filter with down sampling and high pass filter with up sampling and decomposition level can be adjusted as per the cut off frequency.

Lifting Wavelet Transform (LWT) 1D
LWT scheme is the enhancement to second generation wavelets. This scheme is not only confined to develop a filter organization for the second generation wavelets but has the option to build ladder type organization for first generation wavelet filters. With the use of Euclidean algorithm any finite filter bank can be decomposed into lifting steps. It also simplifies the signal boundaries. To do the faithful reconstruction, the upside down capability of the addition operation is explored. This makes the reconstruction possible by accepting the rounding error in convolution.

Discrete Cosine Transform (DCT) 1D
Discrete Cosine Transform is most common technique for image compression, and related to Fourier series coefficients of a periodically and symmetrically extended sequence. DCT is an orthogonal transform, which has a fixed set of basis function. DCT works on a function for finite number of discrete data points. DCT is used to map an image space into a frequency.

SPHIT (Set Partitioning in Hierarchical Trees) Algorithm [2]
The SPHIT (Set Partitioning in Hierarchical Trees) algorithm is based on the principal of partial ordering by magnitude and then set the partitioning of obtained data by significance of magnitudes with respect to a sequence of octavely decreasing thresholds [2]. With this approach subset partitioning is very helpful to compress the data than the other available methods like arithmetic coding [2].

In this paper, section II describes the performance metrics. Section III contains results and discussion. Section IV concludes the results.

ISSN 2394 - 7780

PERFORMANCE METRICS

To do the analysis, performance metrics are signal to noise ratio (SNR), Peak signal to noise ratio (PSNR), mean square error (MSE), root mean square error (RMSE) and weighted peak signal to noise ratio (WPSNR).

$$MSE = \frac{1}{NM}\sum_{i=0}^{N-1}\sum_{j=0}^{M-1}[f(x,y) - f^*(x,y)]$$

Where $f(x,y)$ and $f^*(x,y)$ are the actual image data and watermarked image respectively. The formula for performance metrics are:

$$RMSE = \sqrt{MSE}$$

$$SNR = 10log\left\{\frac{\sum_{i=0}^{N-1}\sum_{j=0}^{N-1} f(x,y)^2}{\sum_{i=0}^{N-1}\sum_{j=0}^{M-1}[f(x,y) - f^*(x,y)]}\right\}$$

$$PSNR = 20log\left(\frac{255}{RMSE}\right)$$

Typical value for the PSNR in lossy image are between 30 and 50 dB, where higher is better [1].

WEIGHTED PEAK SIGNAL TO NOISE RATIO (WPSNR)

The WPSNR is the extension of the traditional PSNR. Local activity factors of each term of PSNR are weighted to have WPSNR. It takes into account the local human visual system (HVS) sensitivity and additionally uses the parameter called the Noise Visibility Function (NVF). NVF uses a Gaussian model to estimate how much texture exists in any area of an image. The WPSNR uses the value of NVF as a penalization factor [1].

$$WPSNR = 10\log_{10}\left(\frac{L_{\max}^2}{MSE^* NVF^2}\right)$$

For flat regions, the *NVF* is close to 1. And for edge or textured regions *NVF* is more close to 0. The form of NVF is given as

$$NVF(i,j) = \frac{1}{1+\theta\sigma_x^2(i,j)}$$

Where $\sigma_x^2(i,j)$ denotes the local variance of the image in a window centered on the pixel with coordinates (i,j) and θ is a tuning parameter corresponding to the particular image. Local variance is given as

$$\bar{x}(i,j) = \frac{1}{(2L+1)^2}\sum_{k=-L}^{L}\sum_{l=-L}^{L} x(i+k, j+L)$$

$$\sigma_x^2(i,j) = \frac{1}{(2L+1)^2}\sum_{k=-L}^{L}\sum_{l=-L}^{L}(x(i+k,j+l) - \bar{x}(i,j))^2$$

where a window of size (2L+1)x(2L+1) is considered. The image-depend tuning parameter is given as

$\theta = \frac{D}{\sigma_{x(\max)}^2}$ Where σ_x^2 is the maximum local variance for a given image and D is an experimental value, range from 50 to 100.

RESULTS AND DISCUSSION

This paper is divided into two parts first part is watermarking using 2D Discrete Wavelet Transform (DWT), Lifting Wavelet Transform (LWT) and Discrete Cosine Transform (DCT) and second part is watermarked image compression using SPHIT algorithm.

First original image and marked image that is to be hided is transformed by 2D Discrete Wavelet Transform (DWT), Lifting Wavelet Transform (LWT) and Discrete Cosine Transform (DCT). The marked image transformed coefficients are added to the original image transformed coefficients within the threshold level. Then, the inverse transformed coefficients of added watermark. In compression 'biorthogonal 4.4' filter is used to transform the watermark image by wavelet decomposition. SPHIT algorithm encodes the transformed

ISSN 2394 - 7780

coefficients at the rate of 1.0 bit per pixel. For reconstruction of the signal done in opposite way, compressed image is decoded by SPHIT algorithm and then inverse wavelet transform.

The results are presented in Table I through Table VI for two images Fruit and Lena. These Tables shows the SNR, WPSNR, PSNR and values for watermark image and PSNR and MSE values for compressed image at different threshold values. Table I, II and III are showing the results for image fruit, and the PSNR value at 300 threshold level for DWT, LWT and DCT is 41.69 dB, 43.08dB and 43.26 dB respectively. Table IV, V and VI are showing the results for image Lena and shows that the PSNR value at 300 threshold level for DWT, LWT and DCT is 41.02 dB, 37.12dB and 37.11dB respectively.

Table I and Table II conclude that Watermarking using WAT performance is better than two dimensional discrete wavelet transform (DWT2), discrete cosine transform (DCT2) and fast Fourier transform (FFT2) [1][3]. In [1][3] concludes that DCT2 gives better picture quality that gives 43.85 dB PSNR value at 300 threshold level (fruit.jpg (256×256)) and 41.64 dB PSNR value at 250 threshold value (lena.jpg (512×512)). In this paper PSNR value is higher than 50 dB in case of watermarking. In compression the PSNR value is near to the 40 dB.

Figure 1 to 2 shows the original images of Fruit and Lena respectively. Figure 3 shows the marked image which is to be hided to the original images. Figure 4 to 9 shows the watermarked, marked and reconstructed images. Figure 4 and 7 shows the watermarked image of fruit and Lena respectively. Figure 5 and 8 shows the watermarked image fruit and Lena respectively. Figure 6 and 9 shows the reconstructed watermark image after compression fruit and Lena respectively.

TABLE - I: RESULTS OF IMAGE FRUIT.JPG (256×256) USING DWT2

Image: fruit.jpg (256×256); Marked Image: dmg2.tif (64×64);					
Watermarking through DWT2				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	38.73	37.24	43.32	41.05	5.1116
100	39.03	37.24	43.32	41.06	5.0888
150	39.35	37.24	43.32	41.07	5.0842
200	39.71	37.24	39.71	41.08	5.0723
250	40.49	37.24	43.33	41.09	5.055
300	41.69	37.23	41.69	41.12	5.0246

TABLE - II: RESULTS OF IMAGE FRUIT.JPG (256×256) USING LWT

Image: fruit.jpg (256×256); Marked Image: dmg2.tif (64×64);					
Watermarking through LWT				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	40.71	37.19	43.34	41.20	4.9349
100	41.54	37.16	43.29	41.19	4.9407
150	43.29	37.18	43.29	41.20	4.9347
200	46.29	37.24	43.30	41.20	4.9318
250	--------	36.62	43.08	41.21	4.9258
300	---------	36.62	43.08	41.21	4.9258

TABLE - III: RESULTS OF IMAGE FRUIT.JPG (256×256) USING DCT

Image: fruit.jpg (256×256); Marked Image: dmg2.tif (64×64);					
Watermarking through DCT				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	42.38	37.22	43.33	41.12	5.0219
100	44.80	37.29	43.34	41.15	5.0076

ISSN 2394 - 7780

150	70.73	36.87	43.26	41.17	4.9668
200	79.38	36.87	43.26	41.17	4.9673
250	80.28	36.87	43.26	41.17	4.9654
300	80.88	36.87	43.26	41.17	4.9654

TABLE- IV: RESULTS OF IMAGE LENA.JPG (512×512) USING DWT2

Image: lena.jpg (512×512); Marked Image: dmg2.tif (64×64);					
Watermarking through DWT2				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	35.7551	34.84	41.02	37.04	12.8594
100	36.3061	34.84	41.02	37.04	12.8646
150	37.2263	34.84	41.02	37.04	12.8428
200	38.3959	34.84	41.02	37.06	12.8006
250	39.7524	34.83	41.02	37.07	12.7625
300	42.0737	34.82	41.02	37.10	12.6926

TABLE - V: RESULTS OF IMAGE LENA.JPG (512×512) USING LWT

Image: lena.jpg (512×512); Marked Image: dmg2.tif (64×64);					
Watermarking through LWT				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	37.9862	34.87	41.10	37.10	12.6791
100	40.2199	34.84	41.00	37.11	12.6642
150	44.0208	34.89	40.97	37.11	12.6414
200	49.9211	34.96	40.99	37.12	12.6301
250	--------	34.41	40.88	37.12	12.6253
300	--------	34.41	40.88	37.12	12.6253

TABLE - VI: RESULTS OF IMAGE LENA.JPG (512×512) USING DCT

Image: lena.jpg (512×512); Marked Image: dmg2.tif (64×64);					
Watermarking through DCT				**SPHIT Compression after watermarking (1.0 bit per pixel)**	
Threshold Level	**SNR**	**WPSNR**	**PSNR (db)**	**PSNR (db)**	**MSE**
50	42.1878	34.91	41.08	37.10	12.6878
100	43.7769	34.97	41.04	37.11	12.6570
150	45.2117	34.98	41.02	37.11	12.6459
200	46.9973	34.98	41.01	37.11	12.6478
250	46.9128	34.98	41.01	37.11	12.6474
300	61.2838	34.98	41.01	37.11	12.6509

Fig. – 1: Original image fruit.jpg (256×256)

ISSN 2394 - 7780

Fig. – 2: Original image lena.jpg (512×512)

Fig. – 3: Marked image that is to be hided dmg2.tif (64×64)

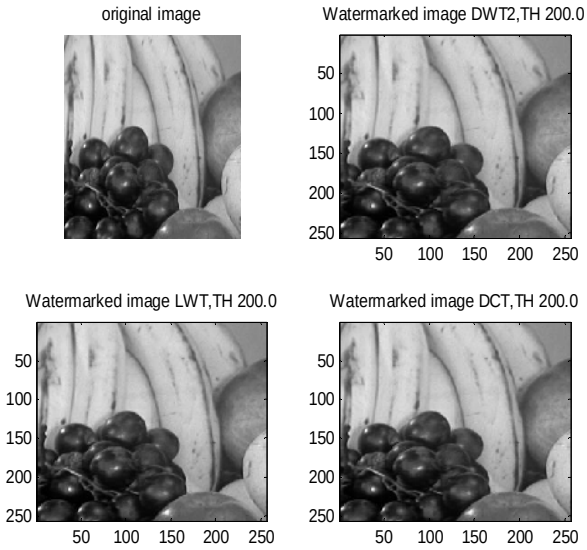

Fig. – 4: Watermarked image of fruit.jpg (256×256) at threshold 200 using DWT, LWT and DCT

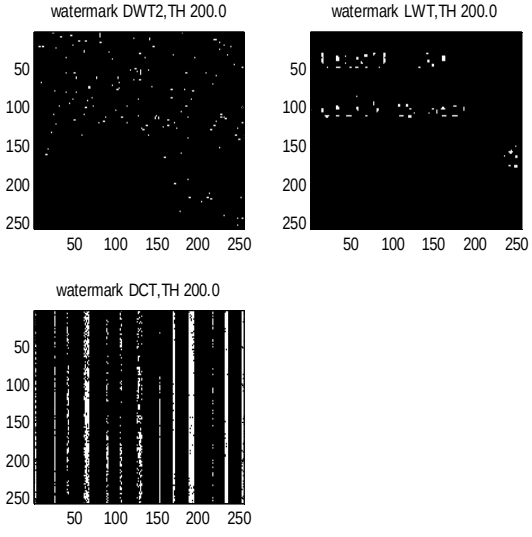

Fig. – 5: Marked image of fruit.jpg (256×256) at threshold 200 using DWT, LWT and DCT

ISSN 2394 - 7780

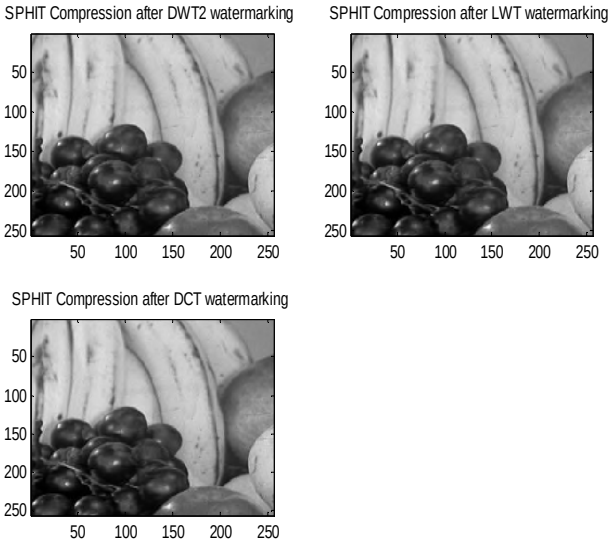

Fig. – 6: Reconstructed watermark image of fruit.jpg (256×256) at threshold 200 using DWT, LWT and DCT after compression

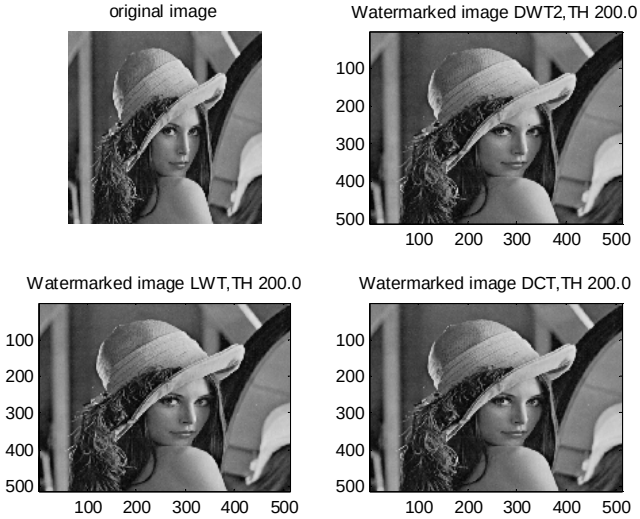

Fig. – 7: Watermarked image of Lena.jpg (512×512) at threshold 200 using DWT, LWT and DCT

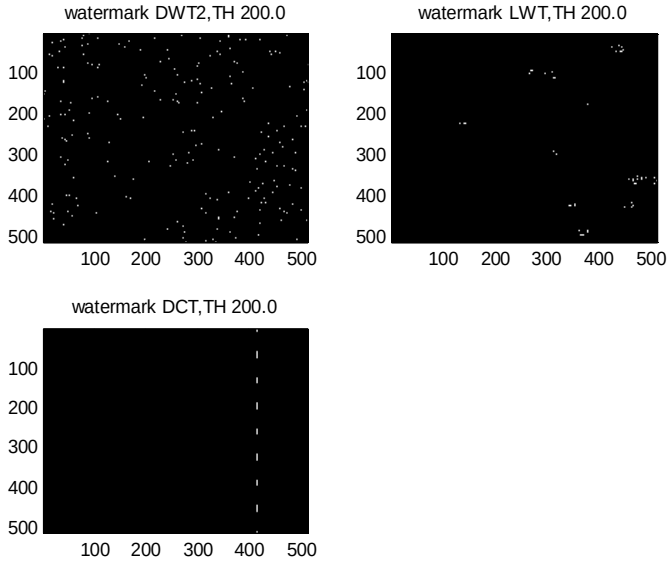

Fig. – 8: Marked image of Lena.jpg (512×512) at threshold 200 using DWT, LWT and DCT

ISSN 2394 - 7780

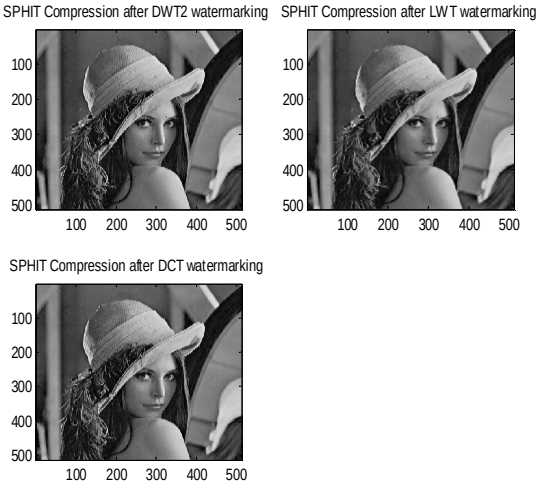

Fig. – 9: Reconstructed watermark image of Lenat.jpg (512×512) at threshold 200 using DWT, LWT and DCT after compression

CONCLUSION

This paper represents the watermarking using 2D Discrete Wavelet Transform (DWT), Lifting Wavelet Transform (LWT) and Discrete Cosine Transform (DCT) and watermarked image compression using SPHIT algorithm. From the results it can be concluded that not even single transform showing supremacy over the other so can be used as per particular requirements.

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O. HENRY'S THE COP AND THE ANTHEM: A PREDICAMENT OF HUMAN EXISTENCE

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ABSTRACT
The American literature has been richly indebted to O. Henry for contributing short stories which have fascinated readers of all ages and of all countries with their gripping narratives and anti climax plots. There are many philosophers, like Nietzsche and Camus who have endeavored to present the absurdities of life in philosophical terms. On the other hand, the readers find how the bitter truths of life can be explained through the medium of short story. This story is a perfect mixture of philosophy and humour. This research paper aims at bringing about the futility and absurdities of human life.

Keywords: Absurdities, complexities, humour, pathos

Porter William Sidney known as O. Henry is the most widely read American writer after Mark Twain and E.A. Poe. His short stories has won him acclaimed all over the world and has been rightly called the "master of the short story". He has penned down more than 300 hundred short stories. Most of his short stories are best known for his observation on the diverse lives of everyday Americans. His most popular stories are full of humour, ironic twists and co-incidents. O Henry is best known for his surprising and unexpected end which is known as 'an O Henry ending' which is always contrary to the readers' expectations. It has been attributed:

> O. Henry's stories are remarkable for the ingenious twist of a surprise ending. He is regarded as one of the masters of the modern short story. (S S S)

O. Henry's 'The Cop and the Anthem' is a very simple story relating to the life of the poor man Soapy. The story presents the true picture of the society where thousands of the underdogs like Soapy have nothing to do in their life. They are deprived of their basic needs. They just live their life by the ways as destiny offers them. They have no ideals for what is good or right and what is bad or wrong. They just want to feed their hungry belly by any means. The story also focuses on how the absurd society without humanity brings moral and spiritual degradation of the human beings. It has been rightly noted:

> The Cop and the Anthem…illustrates significant issues and social problems that came as a result of the rapid changes and perpetual flux of the late 19th and early 20thcentury. With increased urban populations came an increase in poverty and sub-human living conditions. As lower class citizens struggled to survive in slums and find work in over-populated cities with an unequal economic hierarchy, they lost a sense of humanity and pride. O. Henry expertly employs irony to illuminate the overlying social tensions of this time period. (chelsosworld.com)

The narrative of the story encapsulates one night and a morning in the life of a tramp soapy, a homeless man who has no time, no family, no money, no ambition and no ideals. He has no bed to sleep on and no clothes to wear. He always slept on a bench in Madison Square Park. He covered himself with old newspapers. All this was due to his aimlessness. He was too lazy to earn his living. The protagonist lives his life like the street dogs.

The story begins with the description of approaching winter which may be hard for Soapy to survive. Winter is the cruelest season for the homeless person like Soapy. The signs of the coming of the winter as described by the story teller fascinate the readers and make Soapy too much worried. The solid signs of approaching winter are: When the wild geese are heard at night and women grow kind to their husbands and when Soapy was cold and restless on his bench in the park. The narrative of the story begins thus:

> Soapy moved restlessly on his seat in Madison Square. There are certain signs to show that winter is coming. Birds begin to fly south. Women who want nice new warm coats become very kind to their husbands. And Soapy moves restlessly on his seat in the park. When you see these signs, you may know that winter is near.(87)

The very thought of winter alerts Soapy. He thinks that since he has

no enough clothes to protect himself in winter, he has to find a safer place to survive. For years together "hospitable Blackwell's had been his winter quarters" as the jail would be the nice and comfortable place for him to pass the winter there. He could get free boarding and lodging and warm clothes. He doesn't carve for any magnificent trip nor does he have any other plans in his mind. He decides to get himself arrested by committing a very mean crime what he did for years together.

ISSN 2394 - 7780

Soapy made many desperate attempts to get him arrested. First at all soapy tried to enter in a very costly cafe. The waiter saw him in poor clothes and turned him away from the door. The incident is narrated thus:

> But as Soapy put foot inside the restaurant door the head waiter saw his broken old shoes and the torn clothes that covered his legs. Strong and ready hands turned Soapy around and moved him quietly and quickly outside again. (89)

In his second attempt he broke the window of a shop. People came running around the corner. The police was called but he did not arrest him thinking that the criminal would take to his heels. In his third attempt, he went into a hotel. He ate whatever he liked. The waiter came with a bill. Soapy told him to call the police because he had no money to pay the bill. The waiter did not call the police but took him to the footpath and beat him up very hard.

Poor Soapy failed to get himself arrested three times. Therefore he decided to change the mode of offence. First of all, in his new mode of offence, he behaved indecently with a young beautiful woman. The policeman was watching but he did not arrest him. He thought that the man might be her kith. In his second attempt he made terrible noises and danced madly in front of a theatre. The Cop thought that he might be a stupid college student. He would have got zero mark in the examination therefore the police did not arrest him. Finally Soapy stole an umbrella but that also did not help him getting arrested. The failing attempts create a kind of despair in Soapy. His distress is described thus:

> He talked to himself about cops and what he thought of them. Because he wished to be arrested, they seemed to believe he was like a king, who could do no wrong.
>
> At last Soapy came to one of the quite streets on the east side of the city. He turned here and began to walk south towards Madison Square. He was going home , although home was only a seat in a park.(92)

The winter was approaching. Soapy did not succeed in being arrested. He was now a broken hearted man. He was going back to his old garden bench. On his way he heard the notes of an Anthem. It reminded him of earlier fruitful life which consists of family and friends. The music worked magic of his soul. He realized the degradation of his present life. Therefore he decided to change his ways and be a good man.

Soapy had decided to find out a job and rebuild his life so far he had been doing nothing to earn his living. He wanted to join a job. But it was not in his destiny to live a life of a respected citizen. Fate played a trick with Soapy. It did not favour Soapy's plan to live a better life than this one by earning his own livelihood. The irony of fate played a very opposite trick on him. When he was trying to get him arrested, the police always refused to arrest him under one pretension or the other. When he had finally decided to turned his aimless life into a life with some aim, disrespectful life to respectful one, the cop put him back on his old way of life.

The end of the story is sudden, Surprising and superb. The story ends with irony of fate for Soapy. He was arrested not for a crime but for doing 'nothing.' "Three months on the Island" said the magistrate in the Police Court the next morning.

The sudden twist in the life of Soapy exhibits the ultimate truth of the world and the human being's impuissance against fate. The famous proverb 'Man proposes and God disposes' clearly indicates that whatever a person wishes to do is not going to happen as the ultimate decision is in the hands of fate. Human beings are mere puppets in the hands of the fate. The writer has also ironically presented the very ways of the society where the homeless persons like Soapy live life without any aim.

The writer through the story of Soapy criticizes the harsh realities of the world. He also attacks the system where no prompt steps are taken to have a dignified life for the underdogs of the society. To put a homeless, jobless, moneyless and aimless person to jail is not the ultimate step to change the fate of a person like Soapy; on the contrary the magistrate might have suggested or forced him to work somewhere and in that way might have brought him a respectful and dignified life, which unfortunately does not happen.

The story clearly reveals Henry's concern for the underdogs of the society. Soapy's change of mind on listening the anthem clearly shows that such deprived class of the society wants to live a life in the main stream of the society but circumstances never allow them to do so or the society never pay any attention towards them. There are thousands like Soapy whose very existence is in jeopardy. It has been rightly noted:

> O. Henry is expressing his own feelings in this story…His sympathy for the underdog, so apparent in many of his stories, was due to his feeling like an underdog himself. (www.enotes.com)

ISSN 2394 - 7780

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GULE NILOFER (*Nymphaea alba*) AN INFLUENTIAL DRUG IN UNANI MEDICINE: A REVIEW WITH IMMENCE THERAPEUTIC POTENTIAL AND PHYTO-PHARMACOLOGICAL PERSPECTIVE

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ABSTRACT
Nymphaea alba (Gule nilofer) commonly known as white water lily, the most mesmerizing aquatic flowering plant used in Unani system of medicine for the treatment of various ailments. The different parts of the species belonging to Nymphaea are consumed as food in different countries globally. A number of diseases are treated by the plant which is used either singly or in combination with other plant. It is used in the treatment of insomnia, anxiety, migraine, hepatitis, diarrhea, bronchial catarrh etc. All the parts of the plant have medicinal uses in traditional system of medicine and possess a multiple pharmacological activities such as antioxidant, anticarcinogenic, antibacterial, anxiolytic, analgesic, anti-inflammatory etc. This review provides updated information on its botanical description, ethnopharmacology, pharmacognosy, phytoconstituents and its pharmacological aspects in health benefits and also their applications in traditional medicine.

Keywords: Aquatic plants, ethnopharmacology, Nymphaea, phytoconstituents, traditional medicine.

INTRODUCTION
Nymphaea alba Linn. (Gule nilofer) belongs to the family Nymphaecae commonly known as white water lily. It is an aquatic herb with perennial rhizomes or rootstocks anchored within the mud. Nymphaea is considered as one of the most archaic flowering plant. Phylogenetic trees based on taxonomy suggest an evolutionary link between some carnivorous plant families such as Nepanthaceae and Sarraceniaceae to Nymphaeaceae (Tetali *et al*, 2008). It is also considered as a religious plant and has been introduced and naturalized outside of their active habitats. It occurs almost worldwide, comprising 45-50 species. The tender leaves, peduncles, flowering stalks is being consumed as vegetable. Starchy rhizomes are eaten as raw or boiled. The pistils are used with black pepper for both external and internal purpose. Decoction of flowers is effective in reducing thirst.The seeds are made into flour which is mixed with wheat or barley flour. In India, root and seed are consumed as a diet under the name of Dhapar Koki. The root stock is eaten after boiling and mixing it with milk and sugar (Nadkarni, 2001). The peduncles and tender leaves are also used as ingredients in salad. Boiled rhizomes and parched seeds are eaten in times of scarcity. Rhizomes are employed for tanning purpose (Jayaweera, 1982). It is rich in gallic acid, glycosides, alkaloids, tannic acid, sterols, hydrolysable tannins and high molecular weight polyphenolic compounds (Eliana *et al*, 2008). In Unani system of medicine, it is used as an astringent (*Qabiz*), cardio tonic (*Muqawwi qalb*), brain tonic (*Muqawwi dimagh*), aphrodisiac (*Muqawwi bah*), uterine tonic (*Muqawwi rehem*). It produces calming and sedative effects upon the nervous system, and is useful in the treatment of anxiety, insomnia, malencholia, migraine, intestinal ulcers and palpitation etc. Externally, it can be used in the form of douche to treat vaginal discharge and soreness. An infusion of the flower and fruit is given in diarrhea and as a diuretic (Kang *et al*, 2006). Alcoholic extract of rhizome containing alkaloids has a mild sedative and spasmolytic action and do not significantly depress the heart in large doses but are reported to have a paralyzing action on medulla (Irvine *et al*, 1945). The leaves of this plant contain a flavones glycoside, myricitin. A glycoside nymphalin with digitalis like action has also been identified in the flowers. Various parts of the plants contain ascorbic acid (Hoppe, 1943; Sheikh MA. 2014).This review gives a detailed account of updated information on the botanical description, phylogenetic studies, geographical distribution, ethnopharmacology, and more about the phytochemical and pharmacological aspects.

Figure - 1: Images of *Nymphae alba* Linn.

ISSN 2394 - 7780

SCIENTIFIC CLASSIFICATION: (United states department of agriculture, Anonymous.YNM)

Kingdom- Plantae

Subkingdom- Tracheobionta

Superdivision- Spermtophyta

Division- Magnoliophyta

Class- Magnoliopsida

Subclass- Magnoliidae

Order- Nymphaeales

Family- Nymphaeaceae

Genus- Nymphaea

VERNACULAR NAMES: (Anonymous, 2013)

English- European White Water-lily

Ayurveda- Kumuda, Utpala (White flowered var.) (Mahotpla is the synonym of Nelumbo nucifera)

Unani- Nilofer

Hindi- Neelophal, Kanwal

Bengali- Swet Padma, Kamal

Kashmir- Brimposh

Tamil- Tamarai

Malayalam- Tamara, Aravindam

Kannada- Kamala

Telugu- Tamara

HABITAT: Distributed throughout the world. It is globally distributed in Europe, North Africa, Southwest Asia, India, China and Russia. In India, it is found in the lakes of Kashmir, at an altitude below 1800m. It is also maintained for ornamental purposes in ponds and lakes. (Anonymous,YNM).

DESCRIPTION: *Nymphaea alba* Linn. is a perennial aquatic herb, found in lakes and ponds. Its leaves are rounded, 12-25 cm in diameter, cordate, entire or sub-orbiculate; lobes contiguous; rhizome black. Flowers are solitary, white in colour, 10-13 cms across, floating; sepals linear or ovate, oblong, nerves reticulate; petals about 10, outer linear-oblong equaling the sepals. Fruits are spongy, ripe under water; seeds are minute, punctuate, buried in pulp (Anonymous, YNM)

MORPHOLOGY

MACROSCOPIC: Flowers of *Nymphaea alba* Linn. consists of 4 to 5 deciduous sepals, numerous petals arranged in 2 to 3 or more rows; It has numerous stamens and aborted ovules. Sepals are oval to lanceolate in shape; outer side is darker than inner and leathery. Its petals are white in colour, thin, slightly membranous with longitudinal striations. Stamens are long, dehiscence is by longitudinal slit, yellow in colour.

MICROSCOPIC: The outer surface of the calyx consists of polygonal parenchymatous cells. Occasionally, certain round parenchymatous cells with thick-walls are also observed. Isolated sclereids have been observed on the long axis of sepal.The sclereids are of various shapes and sizes, thicked-walled, with a narrow lumen and lignified. The parenchymatous cells adjacent to the vascular traces in the centre of the sepals are almost rectangular and found in two rows. The cells of the calyx on either side of the vascular traces range from 120-180µ. The vascular traces consist of only spiral elements, 7-9 in number. Sclereids and stomata are more towards the centre of the sepal and at the bottom of the round cells. At the tip of the sepal, stomata and sclereids are sparcely distributed. On the inner surface of the sepals sclereids are found more. These sclereids are branched and simple.

The outer surface of the corolla is made up of parenchymatous cells, which are rectangular to polygonal, with isolated round cells, containing some yellowish brown substance. Number of stomata on outer side and inner

ISSN 2394 - 7780

side as compared to sepals are small. The corolla lobes consist of 5-7 and more vascular traces of spiral elements. On either sides of the mid-rib the number of cells ranges from 130-190. Sizes of cells of the petal are almost uniform upto base.The stomata are guarded by two kidney-shaped guard cells. The stomata are of anomocytic type.Transverse section of the anther shows four individual chambers. The epidermis is single layered with almost isodiametric cells, covered with a thin cuticle. Ground tissue of the anther is composed of polygonal parenchymatous cells. Tapetal cells are elongated amd palisade in nature. Individual chambers are round to oval in shape. The centre of the anther consists of a vascular trace surrounded by air chambers. These air chambers are attached to ground tissue by single layered trabeculae. Pollen grains are round, smooth and thin-walled.

PHYTOCHEMICAL CONSTITUENTS: Flowers of *Nymphae alba* Linn. contains alkaloids, steroids/triterpenes, tannins, flavonoids including quercetin, kaempferol and apigenin. It also contains proteins/amino acids, reducing sugars and volatile oils. Some inorganic substances are also found in trace such as, copper, sulphate, chloride (Osmani MI, 2008). A cardiac glycoside, named nymphalin, which in smaller doses shows sedative action is also isolated (Khare CP, 2007)

It is rich in tannic acid, gallic acid, sterols, glycosides, hydrolysable tannins and high molecular-weight polyphenolic compounds. It contains active alkaloids, such as nupharine and nymphaeine (Eerike M and Maheswari Nu, 2013).

Parts Used: Flowers and Rhizome (Anonymous, YNM; Anonymous, 2013)

Temperament (Mizaj): Cold 2º Moist 2º (Anonymous, YNM; Anonymous, 2013)

Cold 3º Moist 3º (Ghani N, YNM)

Dose [Miqdar khurak]: 3 to 10g (Anonymous, YNM)

Adverse effects or Toxicity [Muzir asrat]: Masana (Urinary bladder)

Correctives [Musleh}: Shahed (Honey) (Anonymous, YNM)

Substitutes [Badal]: Khatmi (*Althaea officinalis* L.) and Banafsha (*Viola odorata* L.) (Anonymous, YNM; Ghani N, YNM)

COMPOUND FORMULATIONS [MURAKKAB]
Sharbat nilofer (Anonymous, YNM)

Majoon suparipaak (Anonymous, YNM)

Arq murakkab musaffi khoon (Anonymous, YNM)

Sharbat ahmad shahi (Kabeeruddin, YNM; Anonymous, 1986)

Dayakuza (Anonymous, 1986)

Safoof lodh (Anonymous, 1986)

Sharbat ajaz (Anonymous, 1986)

Sharbat denar (Anonymous, 1986)

Sharbat shifa (Anonymous, 1986)

Sharbat gaozaban (Anonymous, 1986)

Arq fawakah (Anonymous, 1986)

Arq murakkab musaffi khoon (Anonymous, 1986)

Arq harabhara (Anonymous, 1986)

AFAAL (PHARMACOLOGICAL ACTIONS
Aphrodisiac (*Muqawwi Bah*) (Ghani N, YNM; Jayaweera, 1982)

Blood purifier (*Musaffi dam*) (Jayaweera, 1982)

Antipyretic (*Dafe humma*) (Anonymous,YNM)

Haemostyptic (*Habisuddam*) (Anonymous,YNM)

ISSN 2394 - 7780

Hypnotic (*Munavvim*) (Ghani N, YNM; Jayaweera, 1982)

Nervine tonic (*Musakkin asab*) (Ghani N, YNM; Jayaweera, 1982)

Cardio tonic (*Muqawwi Qalb*) (Ghani N, YNM)

Brain tonic (*Muqawwi Dimagh*) (Ghani N, YNM)

Uterine tonic (*Muqawwi Rehm*) (Ghani N, YNM)

Astringent (*Qabiz*) (Anonymous,YNM)

ISTEMALAT (THERAPEUTIC USES)

Malencholia (Anonymous,YNM)

Insomnia (*Seher*) (Jayaweera, 1982)

Fever (*Humma*) (Jayaweera, 1982; Anonymous,YNM)

Hepatitis (*Warme Kabid*) (Anonymous,YNM)

Palpitation (*Khafqan*) (Anonymous,YNM)

Migraine (*Shaqeeqa*) (Anonymous,YNM)

Polydipsia (*Kasrate atash*) (Paharia AK and Panduragan, 2013)

Chronic diarrhea (*Ishaal muzmin*) (Khare CP, 2007)

Dyspepsia (*Sue hazm*) (Jayaweera, 1982)

Piles (*Bawaseer*) (Jayaweera, 1982)

Cystitis (*Warme masana*) (Jayaweera, 1982)

Nephritis (*Warme gurda*) (Jayaweera, 1982)

Enteritis (*Warme ama*) (Jayaweera, 1982)

Diabetes (*Ziyabetus*) (Sowemimo. A.A, 2007)

Eye disorder (*Amraze ain*) (Sowemimo. A.A, 2007)

Bilious and haemolytic fevers (*Balghami aur damvi bukhar*) (Paharia AK and Panduragan, 2013)

Sore throat (*Sozish halak*) (Khare CP, 2007)

Vaginitis (Khare CP, 2007)

PHARMACOLOGICAL STUDIES

Antioxidant (Anindya *et al*, 2012)

Anxiolytic (B.S Thippeswamy *et al*, 2011)

Urolithiac activity (Shelke *et al*, 2011)

Analgesic activity (Raja *et al*, 2010; Anindya *et al*, 2012]

Anti solar activity (S.K Afsar *et al*, 2012)

Anticarcinogenic activity (Khan N and Sultan S, 2005)

Bio-indicator of metal (Agnieszka Klink *et al*, 2004)

Antifertility and contraceptive (Izharul H and Danish K.C, 2012; Ghazia K, 2013)

Central depressant activity (Anindya *et al*, 2012)

Antidiabetic activity (Rajagopal ans Sasikala, 2008; Selvakumari *et al*, 2016)

Hepatoprotective (Ashish and Pandurangan, 2016)

Hyperproliferative response and Renal carcinogenesis (Khan and Sultana, 2005)

Mutagenic activity (Sowemino *et al*, 2007)

Antiproliferative activity (Selvakumari and Shantha, 2012)

ISSN 2394 - 7780

Antiinflammatory (Jacob *et al*, 2013; Selvakumari *et al*, 2016)

Antinociceptive activity (Saha *et al*, 2015; Selvakumari *et al*, 2016)

Docking studies (Anidya *et al*, 2012; Selvakumari *et al*, 2016)

Phytosome formation (Sumathi and Sethamarai, 2015)

CONCLUSION

Nymphaea alba Linn. It is one of the most important aquatic plant from *Nymphaeaceae* family is considered as a holy ancient plant. It has been used as a therapeutic agent for a variety of diseases, as emphasized in this article. Moreover, numerous modern investigations on *Nymphaea alba* have been confirmed its anticancer, antibacterial, antioxidant, anti-inflammatory, antianxiety, antifertility, analgesic activities etc. Alkaloids, glycosides resins and tannins which were isolated from this plant may be responsible for its pharmacological activities. Although, many studies demonstrated the medicinal applications of *Nymphaea alba* in vitro and in vivo, but other large preclinical and clinical studies are needed for evaluating its potencies on different patients.

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DYNAMICS AND FEATURES OF DEVELOPMENT OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN UZBEKISTAN

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At this stage of development of the world economy, small businesses and private entrepreneurship have become one of the key factors of social and economic development of developed and developing countries. The subjects of small business and private entrepreneurship are the subjects of the real market, independently defining the type, production, prices and operating risks. From the experience of developed countries, thousands of small business entities have been criticized for a year and thousands of new ones are opened. According to Samarkand Region statistics, in 2016, the number of newly established CBRT subdivisions in the region was 2305, while 1486 were abolished and 819 were active in the region. This is a natural phenomenon in small businesses. However, small businesses and private entrepreneurship have their place in the socio-economic development of each country. In the context of Uzbekistan, CWRD contributes to the development of all sectors and branches of the economy, with a considerable share and preservation. In 2017, the share of CFCs in the country's GDP (EDP) was 53.3 percent. According to statistical data of our country for 2017, the share of CMLT in economic activity is greater and further confirms the above-mentioned points (Table 1).

Table-1: The share of SMEs in economic activity in 2017, in %

No.	Types of economic activity	Share
1	GDP of Uzbekistan	**53,3**
2	Industry	39,6
3	Agriculture	99,0
4	Investments	32,0
5	Construction	65,1
6	Sales	88,4
7	Services	58,4
8	Shipping	55,7
9	Freight forwarding	77,9
10	Passenger traffic	94,8
11	Employment	78,3
12	Export	27,0
13	Import	50,0

The highest share of SMEs is in economic activity, 99.0% in agriculture, 94.8% in passenger transportation, 88.4% in trade and 77.9% in freight turnover. CWRD plays a crucial role in the employment of the population. 78.3 percent of the working resources are in this area. The main components of the country's GDP, industrial production, amounted to 39.6%, services - 58.4%, construction - 65.1% and exports - 27.0%.

In 2017, we will look at the share of SMEs in the sectors of industry, services, construction and employment (Table 2). The highest share of SMEs in industrial production is observed in Tashkent (71.3%), Namangan (68.4%) and Jizzakh (61.3%) provinces. This indicates a relatively low growth of large industrial enterprises in the provinces. As it is known, despite the large number of small businesses in developed countries, large firms account for 2/3 of the total industrial output, ie 60%. The lowest regions are Kashkadarya (23.1%), Navoi (18.8%) and Tashkent (29.6%) regions. In these provinces, large enterprises have a high role. In the rest of the provinces, the role of large enterprises in industrial production is relatively high. In Samarkand region, the share of CSCs in industrial production is 55.5%, where the main role is occupied by CCTIB.

Table-2: The share of small business in the industry in 2017,%

Regions	Industrial	Services	Construction	Employ ment
Republic of Uzbekistan	39,6	58,4	65,1	78,3
Republic of Karakalpakstan	18,0	61,3	79,2	75,2
Regions				
Andijan	34,4	73,7	94,3	84,5
Bukhara	43,4	74,9	67,8	78,5
Jizzakh	61,3	74,2	91,3	82,0

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Kashkadarya	23,1	71,9	76,8	80,0
Navoi	18,8	67,3	75,4	60,3
Namangan	68,4	73,7	93,9	83,4
Samarkand	55,5	76,5	92,3	84,5
Surkhandarya	45,8	76,3	79,4	81,1
Syrdarya	44,9	66,4	91,4	79,5
Tashkent region	29,6	76,2	79,2	77,0
Fergana	41,4	75,9	89,0	80,5
Khorezm	40,6	71,4	87,2	82,9
Tashkent city	71,3	51,1	66,8	56,8

CMLTs have a high share of services and construction in the regions. The share of CFCU in the sphere of services in the republic was 58.4, while in all regions excluding Tashkent, this index exceeded the national average. Increasing the income of the population will increase the demand for services, which means that the CSTO will remain in the forefront in the future. CWRD plays a crucial role in the employment of the population in the regions. In areas where the CBRT's share of economic activity is high, these regions have a high level of employment. Employment in Namangan region is 83.4%, Andijan - 84.5%, Samarkand - 84.5%, Khorezm - 82.9%, Jizzakh - 82%. The lowest employment is in Tashkent city (56.8%). This means that in Tashkent the number of large companies in these sectors is quite high and other industries are well developed. We look at the volume of industrial production for 2013-2017 by the subjects of CSTO (Table 3).

Table-3: Industrial production in the regions of Uzbekistan by small business and private entrepreneurship, UZS billion

Regions	**Years**				
	2013	**2014**	**2015**	**2016**	**2017**
Republic of Uzbekistan	23311,8	30907,1	39643,5	50020,8	57095,3
Republic of Karakalpakstan	533,1	713,3	1006,3	1188,2	1197,3
Andijan	1880,8	2446,8	3115,3	3880,7	4551,4
Bukhara	1117,7	1592,9	2121	2598,4	2758,8
Jizzakh	461,3	579,4	773,6	1119,8	1402,1
Kashkadarya	1501,8	1754,2	2187	2643,8	2494,7
Navoi	992,4	1305,1	1802,9	2190,5	2460,9
Namangan	962,2	1385,7	1773,3	2347,6	2669,4
Samarkand	1865,3	2539,4	3415,3	4898,8	5088,7
Surkhandarya	449,2	608,2	747,6	964,1	1003,2
Syrdarya	628,5	873,9	1136,3	1599	1528,9
Tashkent region	2734,4	3665,6	4440,6	5503	6230,6
Fergana	1721,1	2329,7	3075,3	3641,1	3978,9
Khorezm	575	687,7	1018,4	1330	1553,4
Tashkent city	7889	10425,2	13030,6	16115,8	20177

From the table it is clear that in 2013-2017 the volume of industrial production in all regions grew. In 2017, the highest industrial production is in the city of Tashkent (20177 billion UZS), Tashkent region (6230.6 billion UZS), Samarkand (5088 billion UZS) and Andijan (4551.4 billion UZS) regions. The lowest production was registered in Khorezm (1553.4 billion UZS), Syrdarya (1528.9 billion UZS), Jizzakh (1402.1 billion UZS), Surkhandarya (1003.2 billion UZS) and the Republic of Karakalpakstan (1197.3 billion UZS). In other provinces this indicator is on average 2460.9 - 3978.9 billion UZS. UZS. In Samarkand region this figure is 5088.7 billion UZS. It should be noted that the difference between the provinces of Namangan and the city of Tashkent is very big, and in 2017, the highest GDP is in the Tashkent region - 6230.6 billion UZS, and the lowest in Surkhandarya region - 1003.2 billion UZS. The difference between them is 5227.4 billion sums. Such a big difference can lead to aggravation of the unevenness of socio-economic development of the regions. The percentage of industrial production in the period from 2013 to 2017, compared to the previous year, is examined by the subjects of CSTO, Table 3A.

ISSN 2394 - 7780

Table-3a: The growth rate of industrial production in the regions of Uzbekistan by small business and private entrepreneurship is relatively high compared to the previous year

Regions	Years				
	2013	2014	2015	2016	2017
Republic of Uzbekistan	136,2	132,6	128,3	126,2	114,1
Republic of Karakalpakstan	157,5	133,8	141,1	118,1	100,8
Andijan	145,6	130,1	127,3	124,6	117,3
Bukhara	139,1	142,5	133,2	122,5	106,2
Jizzakh	131,5	125,6	133,5	144,8	125,2
Kashkadarya	157,2	116,8	124,7	120,9	94,4
Navoi	155,0	131,5	138,1	121,5	112,3
Namangan	122,6	144,0	128,0	132,4	113,7
Samarkand	125,4	136,1	134,5	143,4	103,9
Surkhandarya	123,8	135,4	122,9	129,0	104,1
Syrdarya	157,1	139,0	130,0	140,7	95,6
Tashkent region	104,7	134,1	121,1	123,9	113,2
Fergana	137,2	135,4	132,0	118,4	109,3
Khorezm	138,3	119,6	148,1	130,6	116,8
Tashkent city	145,6	132,1	125,0	123,7	125,2

It can be seen from the table that in 2013 - 2017 the indicator has grown every year from 12 out of 14 regions. If we look at the rate of growth in 2017 compared to 2016, it has decreased in Syrdarya region (95.6%) and Kashkadarya region (94.4%), while the rest of the regions have grown. High growth rates were registered in Tashkent City (125.2%), Jizzakh (125.2%), Andijan (117.3%), Khorezm (116.8%), Namangan region (113.7%) provinces. In Samarkand region this figure was 103.9%. We look at the share of CDMT subjects in the total volume of industrial output of the Republic (Table 4).

Table-4: The share of small businesses and private entrepreneurship in the regions in the total volume of industrial production of the Republic in total industrial output

Regions	Years				
	2013	2014	2015	2016	2017
Republic of Uzbekistan	100	100	100	100	100
Republic of Karakalpakstan	2,3	2,3	2,5	2,4	2,1
Andijan	8,1	7,9	7,9	7,8	8,0
Bukhara	4,8	5,2	5,4	5,2	4,8
Jizzakh	2,0	1,9	2,0	2,2	2,5
Kashkadarya	6,4	5,7	5,5	5,3	4,4
Navoi	4,3	4,2	4,5	4,4	4,3
Namangan	4,1	4,5	4,5	4,7	4,7
Samarkand	8,0	8,2	8,6	9,8	8,9
Surkhandarya	1,9	2,0	1,9	1,9	1,8
Syrdarya	2,7	2,8	2,9	3,2	2,7
Tashkent region	11,7	11,9	11,2	11,0	10,9
Fergana	7,4	7,5	7,8	7,3	7,0
Khorezm	2,5	2,2	2,6	2,7	2,7
Tashkent city	33,8	33,7	32,9	32,2	35,3

If we look at the dynamics of this indicator for 2013-2017, there is no serious or dramatic change. However, the share of Samarkand, Namangan, Khorezm, Jizzakh regions and Tashkent city increased in this period. In Bukhara, Ferghana and Tashkent provinces, and the Republic of Karakalpakstan, this indicator is relatively low. By 2017, we will cover the highest share of the provinces in Tashkent city (35.3%), Tashkent region (10.9%), Samarkand (8.9%), Andijan (8.0%) and Farhona (7.0%) possible. The lowest share is observed in Khorezm (2,7%), Jizzakh (2,5%), Syrdarya (2,7%) provinces and the Republic of Karakalpakstan (2,1%). This indicates that there is a potential for SME development in the industrial sector in the above provinces. It is advisable to develop measures for the development of CFM in these regions. The remaining regions have an average share of Bukhara (4.8%), Kashkadarya (4.4%), Navoi (4.3%) and Namangan (4.7%) provinces. Table 5 presents the industrial product produced by SEEs per capita in the regions.

ISSN 2394 - 7780

Table- 5: Industrial production of small business per capita in regions, UZS

Regions	Years				
	2013	2014	2015	2016	2017
Republic of Uzbekistan	759,5	996,2	1255,5	1557,3	1748,5
Republic of Karakalpakstan	307,0	404,6	561,8	653,8	649,9
Andijan	670,4	856,3	1070,4	1309,9	1511,3
Bukhara	636,4	892,2	1168,5	1409,5	1475,3
Jizzakh	376,0	463,5	606,2	860,7	1059,0
Kashkadarya	518,7	592,7	722,8	855,9	792,4
Navoi	1101,3	1429,2	1943,0	2323,4	2569,3
Namangan	384,2	542,5	681,1	885,1	989,0
Samarkand	541,4	722,5	953,0	1341,5	1368,1
Surkhandarya	194,6	257,9	310,0	391,5	399,2
Syrdarya	822,9	1124,6	1437,3	1991,0	1874,3
Tashkent region	1003,1	1328,9	1589,3	1945,0	2177,2
Fergana	508,2	676,3	877,3	1021,4	1099,1
Khorezm	341,4	400,9	583,0	748,6	860,8
Tashkent city	3352,9	4396,4	5444,8	6648,2	8183,4

This indicator has been growing from 11 out of 14 regions for 2013-2017. In Kashkadarya and Syrdarya regions and in the Republic of Karakalpakstan this indicator has decreased by 2017 compared to 2016. This indicator in the republic in 2017 amounted to 1,848.5 billion UZS, an increase of 2.3 times compared to 2013. In 2017, the figure was higher than the national average in Tashkent city (8183.4 thousand UZS), Navoi region (2569.3 thousand UZS), Tashkent (2177.2 thousand UZS) and Sirdarya (1874.3 thousand UZS) regions. The lowest registered regions are Namangan (989.0 thousand UZS), Khorezm (860.8 thousand UZS), Kashkadarya (792.5 thousand UZS), Surkhandarya (399.19 thousand UZS) regions and the Republic of Karakalpakstan (649.9 thousand UZS)). In the rest of the provinces, this indicator is below the national average, Andijan (1511.3 thousand UZS), Bukhara (1475.3 thousand UZS), Samarkand (1368.1 thousand UZS) and Ferghana (1099.1 thousand UZS). In Jizzakh region this figure is 1059.0 thousand UZS. The annual growth rate of industrial output produced by the subjects of CSTO per capita in comparison with the previous year (Table 6).

Table-6: Growth of industrial production in the regions by per capita, small business and private entrepreneurship, in%

Regions	Years				
		2014	2015	2016	2017
Republic of Uzbekistan		131,2	126,0	124,0	112,3
Republic of Karakalpakstan		131,8	138,9	116,4	99,4
Andijan		127,7	125,0	122,4	115,4
Bukhara		140,2	131,0	120,6	104,7
Jizzakh		123,3	130,8	142,0	123,0
Kashkadarya		114,3	122,0	118,4	92,6
Navoi		129,8	136,0	119,6	110,6
Namangan		141,2	125,6	129,9	111,7
Samarkand		133,5	131,9	140,8	102,0
Surkhandarya		132,5	120,2	126,3	102,0
Syrdarya		136,7	127,8	138,5	94,1
Tashkent region		132,5	119,6	122,4	111,9
Fergana		133,1	129,7	116,4	107,6
Khorezm		117,4	145,4	128,4	115,0
Tashkent city		131,1	123,8	122,1	123,1

In Syrdarya (94.1%), Kashkadarya (92.6%) provinces and the Republic of Karakalpakstan (99.4%), this indicator decreased in comparison with the previous year by 2017. In spite of the fact that Tashkent region (123.1%) has a tendency to decrease in the regions with high rates of growth, ie growth rates of growth in the republic (112.3%), Djizak (123.0%), Andijan (115.4%) and Khorezm (115.0%) regions. Now, we look at the share of indices of industrial production per capita of the CSTO in terms of the national average, per capita, Table 8.

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Table-8: Index of the share of industrial output per capita in the average per capita of the republic in average per capita of the small business and private entrepreneurship

Regions	Years				
	2013	2014	2015	2016	2017
Republic of Uzbekistan	1,00	1,00	1,00	1,00	1,00
Republic of Karakalpakstan	0,40	0,41	0,45	0,42	0,37
Andijan	0,88	0,86	0,85	0,84	0,86
Bukhara	0,84	0,90	0,93	0,91	0,84
Jizzakh	0,50	0,47	0,48	0,55	0,61
Kashkadarya	0,68	0,59	0,58	0,55	0,45
Navoi	1,45	1,43	1,55	1,49	1,47
Namangan	0,51	0,54	0,54	0,57	0,57
Samarkand	0,71	0,73	0,76	0,86	0,78
Surkhandarya	0,26	0,26	0,25	0,25	0,23
Syrdarya	1,08	1,13	1,14	1,28	1,07
Tashkent region	1,32	1,33	1,27	1,25	1,25
Fergana	0,67	0,68	0,70	0,66	0,63
Khorezm	0,45	0,40	0,46	0,48	0,49
Tashkent city	4,41	4,41	4,34	4,27	4,68

The volume of industrial production per capita by CSTO is higher than in the Republic of Uzbekistan, which is characterized by Tashkent city (4.68 times more), Tashkent region (1.25 times), Navoi (1.47 times) and Syrdarya (1.07 times more than in the provinces). From the table it is clear that these regions maintain leadership throughout the region for 2013-2017. The above regions are part of the high-tech and industrialized regions and this creates great potential for SMEs in the production of industrial products. It should also be noted that in the rest of the region, this index is almost stable in 2013-2017, although the change is very small. The regions close to the national index can include Andijan (0.86), Bukhara (0.84) and Samarkand (0.78) regions. The lowest index is in the Republic of Karakalpakstan (0.37) and Surkhandarya (0.23) with Kashkadarya (0.45) and Khorezm (0.49). In these regions, the volume of products per capita produced by CMLTs is lower than 50% of the national average. In other regions, this index can be relatively low. These are Ferghana (0.63) and Jizzakh (0.61) provinces.

Creation of favorable conditions for the development of small businesses along with large industrial enterprises in regions where per capita indices of industrial output are low. It is desirable to encourage the development of cooperation between small businesses and large enterprises in Tashkent, Tashkent, Andijan, Bukhara and Navoi regions in developed regions and at the same time focus on development of small business in these regions through advanced foreign technologies. Developing small businesses in priority areas by setting up small industrial zones on land areas of Norentabel and damaged industrial enterprises. In areas with high industrial output, the key issue can be highlighted as the major issues of modernization, diversification, localization of large and medium-sized enterprises on the basis of new technologies, and creation of joint ventures with foreign enterprises.

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MENTAL HEALTH AWARENESS AMONG YOUTH IN DELHI

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ABSTRACT
The present study is aimed to explore the awareness among youth in Delhi on mental health. A questionnaire was constructed to collect the data. For this purpose youth in the age group 18 - 24 years were taken. The results revealed that most of the respondents had well awareness about mental health. Most of the respondents believed that support of family and friends will help the person with mental health problem become well again. Most of the respondents believed that people with mental health problems face stigma and discrimination. Internet was the main source of information regarding mental health for the youth in Delhi.

Keywords: Mental Health, Awareness, College going youth

I. INTRODUCTION

Earliest civilizations like Indian, Greek, and Roman associated mental health problems, as a result of bad karma or possession by evil spirits. These civilizations saw psychological and behavior problems as a penalty for the wrong deeds committed by the individual. Though with time civilization have evolved but perception of people towards mental health problem have not changed and people still discriminate and stigmatize people with mental health problems. However, in recent times efforts have been made to destigmatized mental health problems by creating awareness about mental health problems among the general public. But these efforts have not changed the perception of people at large. WHO defines mental health as "State of well being in which every individual realizes his or her potential and can cope up with normal stresses of life, can live productively and fruitfully and is able to make a contribution to her or his community [21]. Mental health is critical to quality living and personal growth as it describes how we think and feels about ourselves and others. The understanding of mental health problems and the stigma associated with it is strongly influenced by the level of knowledge and awareness regarding mental health problem.

The traditional belief regarding mental health illness and stigma attached to it has strongly influenced the perception of people[2]. People with mental health problems suffer stigma and discrimination and are regularly confronted by stereotypes and that create misconceptions about mental health problems among people. Stigma associated with mental health problems can be understood with respect to three components: stereotypes, prejudice and discrimination. Social psychologists consider stereotypes as mainly efficient social knowledge structures that are learned by members of a social group.[8, 11]

People plagued by prejudice support negative stereotypes for example "all persons with mental illness are violent".[6] Prejudice is essentially a cognitive and affective response, in turn, leads to discrimination and behavioral reaction, like of an employer does not want persons with mental problem nearby so he does not hire them[4.] This limits economic participation of people suffering from mental health problem. Knowledge, attitude and beliefs towards mental health are shaped by personal awareness-, cultural stereotypes, knowing and interacting with someone with mental health problems. [3, 19.] Therefore the perception of young generation is a primary importance as this stage is a critical time for the development of attitude and awareness towards mental health. The impact mental health problem can be reduced with the right knowledge and attitude and is of vital significance in caring attitude towards the one with a mental health problem. According to a report by National Institute of Mental Health and Neuro-Sciences (NIMHANS) 70 million people in India suffer from mental ailments and yet, 50-90 percent is not able to access remedial services due to less or lack of awareness and negative attitude or stigma towards mental illness.[17]

As future adults, the youth of any country act as agents of change, therefore their awareness about mental health problems is of utmost importance to end the cycle of stigma and discrimination. Hence, developing the right kind of knowledge and attitude among youth will help to create positive environment for seeking professional support to deal with a mental health problem and provide help to anyone who is in need of-support. The present study assesses the awareness among youth in Delhi in the age group of 18 to 24 years towards mental health**.**

II. METHODOLOGY

The present study was conducted with 18 - 24 years old youth in Delhi using convenient sampling technique. A total of 175 youth who were able to read English language were selected. To collect the required data a questionnaire was prepared keeping in mind the aim of the study. It consisted of 13 questions to assess the awareness on mental health problems.

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III. RESULT AND DISCUSSION

The present study was conducted to assess the awareness of youth in Delhi on mental health. Most of the respondents (89.14%) were aware of the term mental health whereas only (10.86%) of the respondents were not aware of the term. The result is similar to a study which revealed that majority of the students strongly agreed that they familiar the term mental health.[14]

When asked about the understanding of the term mental health majority the respondents (76%) reported that mental health is emotional, psychological and social well being, on the other hand (12%) of the respondents reported it as mental sickness and few of the respondents (6.86%) reported it as abnormality in person while the rest (4%) as sickness in the brain respectively.

In the present study the majority of the respondents reported an understanding of the term mental health which is inconsistent with the findings of a study done by MacGown, [15] which showcased that youth of Delhi were well aware of the term mental health.

Most of the respondents agreed that depression (61.14%), followed (18.86%) reported to anxiety disorder and (12.57%) reported to psychotic disorder respectively, although few respondents (4.57%) agreed that drug and alcohol addiction and (2.86 %) as bipolar disorder as mental health problems. Though there was no direct relationship between the finding of present studies and the previous studies that show that depression, anxiety, drug and alcohol addiction but they are considered to be the commonest mental health problems in college going youth.

The Trauma and stress were reported to be two of the main causes for mental health problems by majority of the respondents with (46.86%) each .This finding is supported by a study done by Dev et.al. [7] which reports that traumatic event as one of the reason for mental health problems like depression and psychosis. The other very important finding from the present study is negative perception of self is attributed as a factor which causes mental health problem with support from (40%) of the respondents. On the other (8.57%) of the respondents reported brain defects and (4.57%) reported genetics as causes of mental health problems.

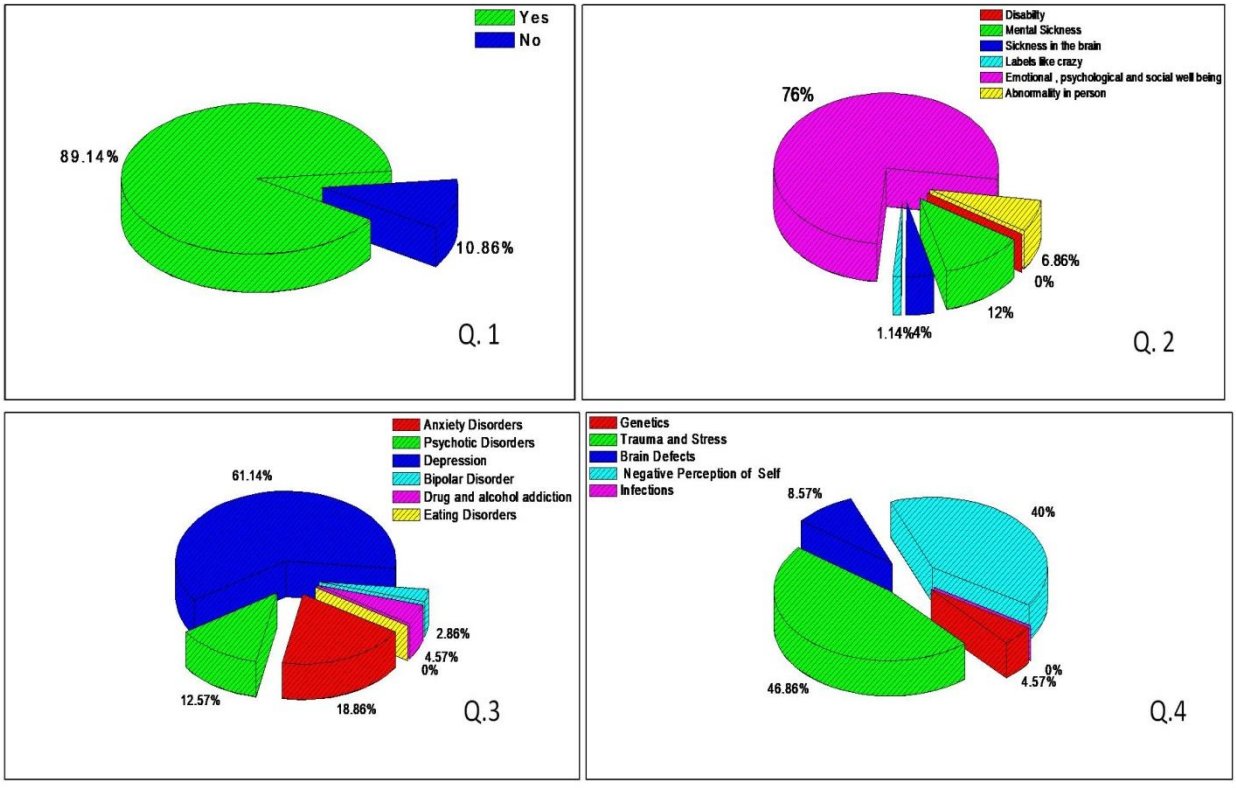

Fig - 1: Depicts awareness the term mental health, types and causes of mental health problems.

When asked about the signs of mental health problems most of the respondents (66.29%) reported to withdrawal from people, confusion, eating too much or too little, fluctuating mood, displaying atypical emotions, consistently low energy whereas (9.71%) agreed to withdrawal from people followed by (9.14%) and (5.71 %) with the former respondents reported displaying atypical behavior as one of the sign of mental health problem and the latter reported fluctuating mood as sign of mental health problem. This finding in the present study is

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consistent with findings of Wyatt & Oswalt , [22]and Mental Health Association, [16], (46.86%) of the respondent reported that mental health issues can be treated by professional help and whereas (45.71%) reported mental health issues can be dealt with by creating awareness. On the other hand only (6.29 %) of the respondents reported that it can be treated by leaving the person alone.

Majority of the respondents (66.86%) reported that anyone can have mental health problem. (14.86%) of the respondents reported that may be anyone can have mental health problem and (10.29%) of the respondents were not sure of the same. (38.29%) of the respondents reported that no, one does not deal with mental health issues all life on the other hand (22.86%) considered it to a lifelong issue and the same percentage of respondents that's (22.86%) reported maybe. The rest (16%) were not sure about it.

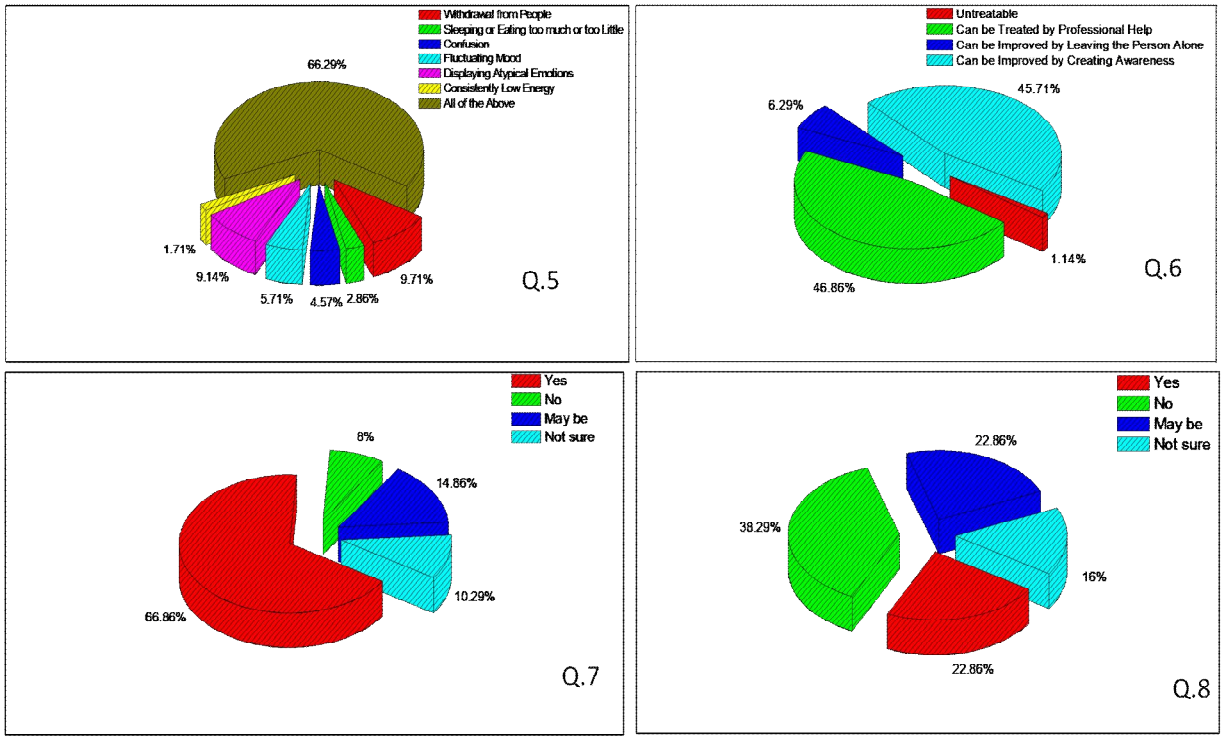
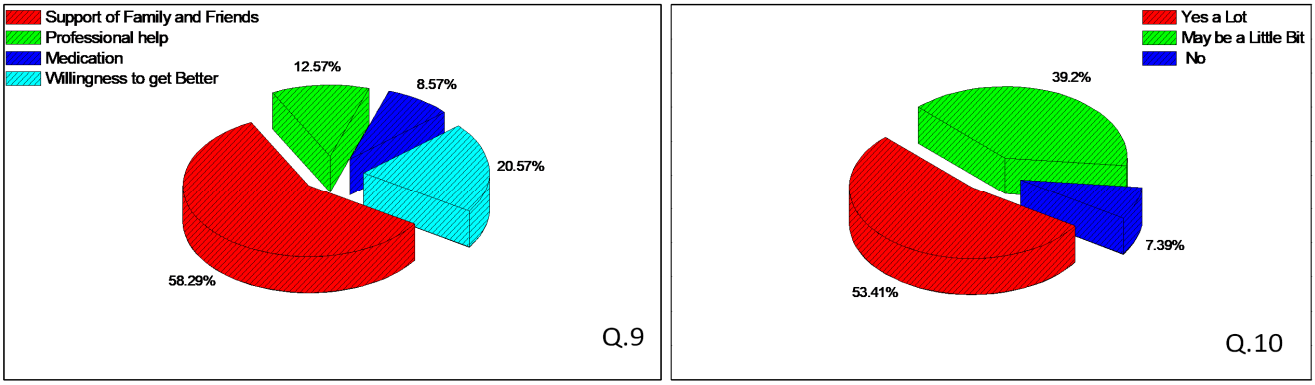


Fig - 2: Depicts signs and awareness towards mental health problems.

Support of family and friends were considered important with majority that's (58.29%) considered that would help the person to become well again. This result was consistent with the previous studies done by Karmode et.al , NJ.et.al. Jorm et.al, [10,11,13,19]. Whereas (20.57%) of the respondents said that willingness to get better and (12.57%) and (8.57%) of the respondents considered with the former considered professional help and the later considered medication that would help the person become well again. Majority of the respondents (53.41%) perceived that people with mental health problem face a lot of stigma and discrimination. This finding is consistent with previous studies done by Eisenberg.et.al [8]. On the contrary (39.2%) of the respondents said people with mental health issues may be face a little bit of stigma, discrimination and the rest (7.39%) of the respondents perceived that people with mental health do not face any of that by saying no. These results are consistent with previous studies which reported that people with mental health problems are faced with stigma and discrimination.



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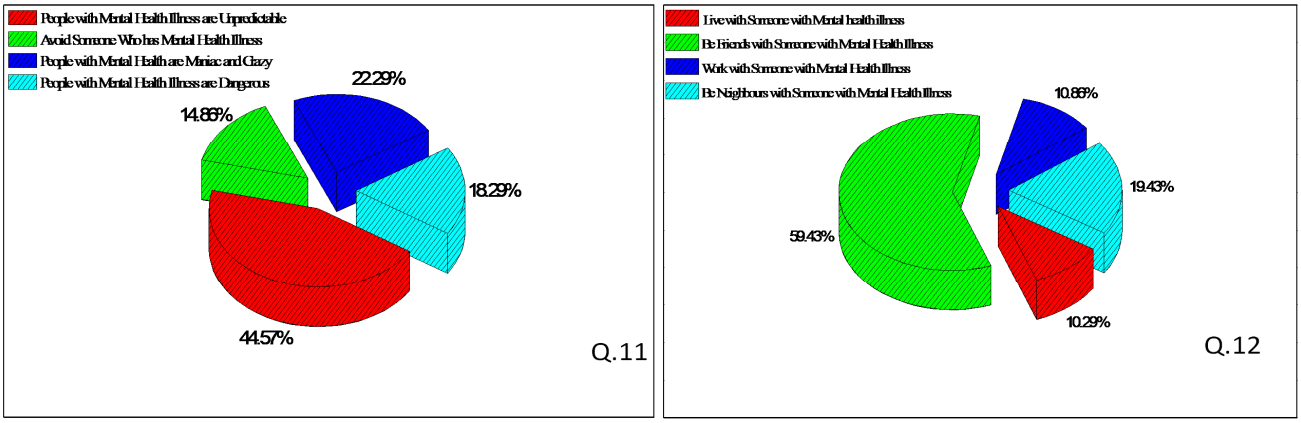

Fig - 3: Depicts opinion on factors that can help a person become well again, discrimination and stereotypes confronted by people with mental health problems.

Most of the respondents (44.57%) reported that people with mental health issue are unpredictable. Whereas (22.29%) of the respondents considered people with mental health illness as crazy and maniac. In a study done by Asuni [1] majority of the respondents perceived people with mental problems as dangerous which is similar as the current finding with (18.29%) of the respondents reported people with mental health illness to be dangerous. The rest (14.86 %) of the respondents reported to avoid someone with mental illness. As oppose to the responses on prevalent beliefs which presented a negative picture of people with mental health illness.

The present study reported that most of the respondents that's (59.43%) reported they would like to friends with someone with mental illness whereas (19.43%) said they are ok with being neighbors with someone with mental illness this present finding is consistent with the studies done by Chung.et.al and Muga .et.al [5, 17.] On the other hand (10.86%) and (10.29%) of the respondents with the former reported they can work with someone with mental illness and the latter reported they can live with someone with mental illness. Most of the respondents that's (41.46%) reported internet as their main source of information. This finding is consistent with study done Dev.et.al.[7]

The source of information regarding mental health was reported to be school, friends, TV internet and radio with (16.59%). On the other hand (20%) stated school as a source the information which is a significant finding from the present. The rest of the respondents reported with (9.76 %) and (8.29%) with the former stated radio and the latter friends as their main source of information reading mental health

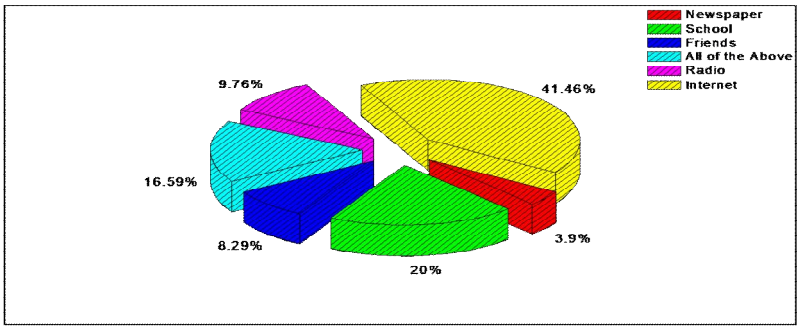

Fig - 4: Depicts the various sources of information regarding mental health problems.

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IV. CONCLUSION

Mental health as an issue is of utmost importance in the present times and still remains largely unaddressed. There is widespread ignorance within Indian society which often results in stigma and discrimination against people with mental health problems. The result from the present study depict that the youth of Delhi have adequate awareness about mental health. Mental health awareness can be both ways and means to end the social stigma attached to mental health problems. There is a need to strengthen the educational system that promotes and provides a platform for open discussion on mental health problems and dispel the misconceptions surrounding mental health.

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INCENTIVES TO ATTRACT FOREIGN DIRECT INVESTMENT IN THE ECONOMY OF UZBEKISTAN

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ABSTRACT
In the article analyzes key issues of attracting foreign investments to Uzbekistan and assesses the impact of foreign direct investment on the growth and development of the economy of the Republic. Particular attention is paid to the effectiveness of investment policy with an emphasis on the system of incentives, advantages and promotions. The recommendations on further activation of attracting foreign direct investment to Uzbekistan are justified.

Keywords: fixed investment, foreign investment, foreign direct investment, incentives, benefits, preferences.

INTRODUCTION
From the first years of independence, Uzbekistan gradually implements its strategy of socio-economic development. The reforms carried out in the republic have crossed their 26-year milestone, and have led to positive changes, fundamental changes in the political and socio-economic profile of the country, and the livelihoods of the resident population. The growth of the republic's economy has been more than doubled over the last 10 years, and structural changes and large-scale investment projects have increased the production of highly liquid products necessary to meet the needs of the population, industry, agriculture and transport. So, for the period from 2005-2016. the average annual increase in industrial production was 8.7%, agricultural products, respectively, 6.3%, consumer goods 13.7%, retail turnover 14.7% and paid services 14.3%.

The further development of Uzbekistan largely depends on investments in fixed assets, primarily foreign investments. Foreign investment, especially direct (hereinafter - FDI), is a form of participation of foreign capital in the implementation of investment projects in Uzbekistan. FDI is important for the economic development of the country and is a long-term investment of a foreign investor in manufacturing, trading and other commercial enterprises for the purpose of making a profit.

As a rule, own investment opportunities at the expense of profits and deductions for depreciation are limited and cannot fully meet investment demand. Under these conditions, the intensification of the investment process through the inflow of foreign capital is a reasonable way to increase capital investments in the economy. Investing in another country FDI, to a greater extent, is intended to contribute not to a single extraction of profits by the investor, but to a stable economic growth of the republic's economy.

The purpose of this article is to assess the contribution of FDI to the development of the country's economy based on the analysis of macroeconomic indicators and offer recommendations for enhancing their attraction.

Over the years of independent development, institutions and mechanisms for attracting foreign investment in the country's economy have been created in the republic. They are reflected in the laws, decrees of the President, in decisions of the government of the Republic of Uzbekistan, and generally reflect the state's investment policy in a transition to a market economy, ensure free movement of foreign capital, guarantees against risks and stimulate foreign investment in the modernization and development of production. The main legislative acts that establish the constitutional law and regulation of foreign investors in the country by the relevant regulations are: the Constitution of the Republic of Uzbekistan (dated December 8, 1992), the Laws of the Republic of Uzbekistan "On Investment Activities" (dated December 24, 1998 N 719 -I, in a new edition), "On foreign investments" (of April 30, 1998 No. 609-I), "On foreign economic activity" (of June 14, 1991, N 285-XII, in a new edition), " On guarantees and measures to protect the rights of foreign investors "(dated April 30, 1998. 661-I).

The authorized government body responsible for coordinating the formation and implementation of a unified state investment policy, as well as attracting foreign investment is the newly created State Investment Committee of the Republic of Uzbekistan in 2017. An advisory council consisting of local and foreign investment experts, scientific and technical circles, law and other industries (spheres) is organized under the Committee. Decisions of the advisory board will be advisory in nature.

LITERATURE REVIEW
In the study, the author relied on the results of a number of studies. The topic under study is widely covered in the works of economists from countries of near and far abroad, such as: L. Blykhman, Dyakina B. G., Kapustkin V. I., Kokushkina I. V., Kulivanov B. S., Kuznetsova N. P., Krotov M. I., Lebedev T. V., Markovsky

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V.P., Rubanova A.A., Sutyrin S.F., etc. In foreign economic literature, emphasis is mainly placed on the study of global trends in the development of foreign direct investment, the theoretical aspects of this topic, including the use of mathematical methods, issues of global integration and economic growth, the development of effective mechanisms for attracting and using foreign direct investment. Among foreign authors who have made significant contributions in this area, the following names should be noted: Rui Albuquerque [5], Patric Artisien-Maksimenko [6], Balasubramanyam, V. [7], R. E. Baldwin [8], Bellak C. [9], Belot Th. J. [10], A. Berg [11], E. Borensztein, Jose De Gregorio [12], Carter L.[13], D. D. Daniels [14], Fabrice Hatem [15], Jeffrey Frankel [16], Hirsch S. [17], S. Ch. Houndmills [18], Jun K. V., Singh H. [19], Lankes, H. P. [20], Jorma Larimo [21], Linda Lim [22], J. Llewellyn [23], P. Messelin [24], Meyer K. E. [25], J. Nellis [26], A. Quinet [27], Vernon R. [28], Wells, L. T., Wint Jr. A. G. [29] and others.

ANALYSIS AND RESULTS

As international experience shows, investment flows are characterized by the process of accelerating and increasing the volume of capital movements between countries. No wonder experts say that over the past three decades there has been an incredible increase in foreign investment. If the gross world product for this period increased fourfold, the volume of international trade more than six times, then the volume of foreign direct investment alone is more than 20 times compared with 1980. According to UNCTAD estimates, the volume of FDI attracted in the world in 2015 increased by 36% and reached 1.7 trillion. dollars (Fig. 1) - the highest level for the period after the crisis of 2008-2009. However, after 2015, global FDI tends to decrease. Thus, according to UNCTAD, in 2016 they fell by 16% and amounted to $ 1.52 trillion compared with the revised $ 1.81 trillion. a year earlier [2].

Fig-1: Dynamics of global direct foreign investment in 1991-2015

Source: UNCTAD. World Investment Report 2015 Management of the reform of international investment. UN. Geneva.- 2015.- 78 p.

This downward trend in FDI has not affected European countries. For transnational corporations, Europe remains a priority market, despite all the difficulties and uncertainties that have a negative impact on European politics and institutions. The fact that the continent is the center of attraction for a growing number of FDI projects demonstrates confidence in its economic prospects. The number of FDI projects in Europe over five years (2012-2016) increased 1.5 times and amounted to 5848 units. The number of jobs created during this period due to the implementation of FDI projects increased from 217,666 to 259,673 units [3]. The most significant factors of the investment attractiveness of the European continent for FDI are its huge dynamic market and high level of population welfare. Thus, the hesitating global investment dynamics raises questions about its causes, which for many economists provide another reason for examining the nature of FDI, identifying the prerequisites for their implementation, exploring the concepts and theories of FDI, as well as the effects / consequences for capital-recipient economies. With regard to investment policy measures taken by foreign countries, about 58 countries and economies took at least 124 policy measures in 2016, which is the highest value since 2006 [2].

These are privatization policies, in particular in the infrastructure sectors, improvement of business licensing procedures, creation of free economic zones, provision of investment benefits in other forms. Another noteworthy feature was the adoption or revision of investment legislation.

As international experience shows, investment policy pays relatively little attention to simplifying investment procedures. Of the 173 new investment promotion and facilitation measures that were introduced worldwide in 2010–2015, investment facilitation measures are only a small part. Simplifying investment procedures is different from encouraging investments. Investment promotion is associated with the promotion of the destination of investment and therefore is often tied to a specific country, also having a competitive nature. The

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structure of changes in the promotion or limitation of investments in foreign countries is shown in Fig. 2 The simplification of investment procedures for investors is the introduction of mechanisms to facilitate the placement or expansion of their investments. Such mechanisms may include both increasing transparency and information available to investors, as well as working towards improving the efficiency and effectiveness of administrative procedures for investors.

In addition, as foreign practice shows, the scope of investment facilitation may include increasing the consistency and predictability of the political environment for investors through consultation procedures, as well as overcoming investment disputes involving ombudsmen. The main results of foreign investment in the economy of Uzbekistan. Based on an analysis of the process of attracting foreign investment, in particular FDI, we can state the following. First, the measures taken earlier to attract foreign investment contributed to the fact that their inflow along with loans to the economy of the republic amounted at the end of 2016 in actual prices of 10,611.4 billion sums (see table). For comparison, in 2010 4340.8 billion soums were attracted, i.e. over seven years, the volume of this type of investment has increased by more than 2.4 times. However, the inflow of FDI into insignificant, and averaged in the last 7 years, an average of 4788.6 billion sums per year. Therefore, the hope that with the help of such a volume of FDI you can rebuild the entire industrial complex of the country is unfounded. FDI with the remaining volumes can be used more likely as a way to transfer individual scientific and technological achievements, technologies and management in the sectors of the economy of the republic.

Table-1: Investments in the Republic of Uzbekistan for 2010-2016

Indicators	2010 y.	2011 y.	2012 y.	2013 y.	2014 y.	2015 y.	2016 y.
Investments in fixed assets - total, billion **UZS**	15338,7	17953,4	22797,3	28694,6	35233,3	41670,5	**49770,6**
of them**:**							
foreign investments and loans	4340,8	3853,8	4653,3	5532,7	6980,1	8309,5	**10611,4**
Share of foreign investments and loans in investments in fixed assets**, %**	28,3	21,5	20,4	19,3	19,8	19,9	**21,3**
Share of FDI in investments in fixed assets**, %**	19,9	17,7	17,2	15,9	15,8	15,4	**15,3**
The share of FDI in foreign investments and loans**, %**	**70,5**	**81,5**	**79,4**	**78,3**	**78,3**	**76,7**	**71,3**

Source: compiled by author according to data from State Statistics Committee of Uzbekistan for 2010-2017.

Secondly, if we consider foreign investment per person living in the republic, then these revenues in the country are clearly not enough. Thus, according to the State Statistics Committee of the Republic of Uzbekistan, in 2016, per capita, all foreign investments amounted to $ 121.8, including FDI of $ 79.4. For example, the similar figure for developing countries is about $ 130, and for countries with economies in transition, $ 160. Therefore, for the further full-scale implementation of the tasks set in the Action Strategy [1], it is necessary to use all the potential available in the republic (resource, labor, management, etc.).

Thirdly, despite the tendency of growth of indicators of attracting foreign investments (in actual prices), their share in investments in the fixed capital of the republic for the period 2010-2016. has fluctuating performance, which is confirmed by the following. So, in 2010, the share of foreign investments and loans in all capital investments of the republic was 28.3%, in 2013 - 19.3%, and by the end of 2016, the share increased to 21.3% (see table) . The same can be observed with FDI. Their share in all foreign investments and loans of the republic for the period 2010-2016.

It ranged from 70.5% to 81.5%. Fourth, from 2010 to 2016. the share of FDI in the republic's GDP fluctuated on average at the level of 3.9–4%. This is a low level in comparison with developing countries and the CIS countries (for example, in Russia this figure was from 2005 to 2014 between 6.0% and 8.9%). Fifth, the implementation of measures to stimulate foreign investment has contributed to an increase in foreign investment and loans. In general, determining the contribution of FDI to the formation of fixed capital it can be stated that over the period from 2010 to 2016, the share of FDI decreased from 19.9% to 15.3% (see Fig. 3). However, in

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Secondly, if we consider foreign investment per person living in the republic, then these revenues in the country are clearly not enough. Thus, according to the State Statistics Committee of the Republic of Uzbekistan, in 2016, per capita, all foreign investments amounted to $ 121.8, including FDI of $ 79.4. For example, the similar figure for developing countries is about $ 130, and for countries with economies in transition, $ 160. Therefore, for the further full-scale implementation of the tasks set in the Action Strategy [1], it is necessary to use all the potential available in the republic (resource, labor, management, etc.). Thirdly, despite the tendency of growth of indicators of attracting foreign investments (in actual prices), their share in investments in the fixed capital of the republic for the period 2010-2016. has fluctuating performance, which is confirmed by the following. So, in 2010, the share of foreign investments and loans in all capital investments of the republic was 28.3%, in 2013 - 19.3%, and by the end of 2016, the share increased to 21.3% (see table-1) . The same can be observed with FDI. Their share in all foreign investments and loans of the republic for the period 2010-2016. It ranged from 70.5% to 81.5%.

Fourth, from 2010 to 2016. the share of FDI in the republic's GDP fluctuated on average at the level of 3.9–4%. This is a low level in comparison with developing countries and the CIS countries (for example, in Russia this figure was from 2005 to 2014 between 6.0% and 8.9%). Fifth, the implementation of measures to stimulate foreign investment has contributed to an increase in foreign investment and loans. In general, determining the contribution of FDI to the formation of fixed capital it can be stated that over the period from 2010 to 2016, the share of FDI decreased from 19.9% to 15.3%. However, in 2017 a turning point came and, according to preliminary data, the share of FDI in the main capital of the republic increased to 20.4%.

Sixth, FDI contributes to the creation of enterprises with foreign investments in the republic, and thereby influences the organization of new jobs. Under the enterprises with foreign investment in the Republic of Uzbekistan refers to enterprises in which foreign investment is not less than thirty percent of the shares (shares, shares) or statutory fund. They operate in any organizational and legal forms that do not contradict the laws of the country. One of the participants in an enterprise with foreign investment is always a foreign investor. The share of operating enterprises with foreign investments in the total number of all enterprises of the republic in 2010-2016 amounted to 1.7-1.8%.

The proportion of people employed in enterprises with foreign investments in the republic for 2010-2016. insignificant and amounts to 1.3-1.4% (see Fig. 3). The number of personnel in such enterprises has increased over this period by an average of more than 170 thousand people per year, and by the end of 2016 it amounted to 189.5 thousand people. Measures that stimulate FDI inflows and the activities of foreign investors in Uzbekistan. Increasing competition for foreign investment in recent years has set goals for the country's government related to the development and implementation of comprehensive economic policy measures. As a rule, measures are aimed at increasing the attractiveness of the country for foreign investors. Uzbekistan in the fight for foreign investment is not an exception, and just as other states pursue an active policy aimed at improving the investment climate and enhancing the attraction of foreign investment, which affected:

In the Decrees of the President of the country: "On additional measures to stimulate the attraction of direct private foreign investments" (dated April 11, 2005 NUP-3594);

"On additional measures to stimulate the attraction of foreign direct investment" (from 10.04.2012 g. NUP-4434); "On introducing amendments to the Decree of the President of the Republic of Uzbekistan of April 10, 2012, No. UP-4434" On additional measures to stimulate the attraction of direct foreign investments "(of 15.03.2013, NUP-4515);

"On additional measures to further improve the investment climate and business environment in the Republic of Uzbekistan" (from April 4, 2014, NUP-4609); "On Priority Measures for the Liberalization of Monetary Policy" (dated 02.09.2017, NUP-5177);

In the Presidential Decrees: "On Measures to Improve the Process of Attracting and Mastering Foreign Investments and Credits" (dated July 24, 2008 NPP-927); "On measures to increase the share and importance of the private sector in the economy" (dated April 28, 2014 No. PP-2340);

"On additional measures to attract foreign investors to joint stock companies" (from 12/12/2015, NPP-2454);

In the Decrees of the Cabinet of Ministers: "On measures to implement the Decree of the President of the Republic of Uzbekistan dated December 21, 2015 No. PP-2454" On additional measures to attract foreign

ISSN 2394 - 7780

investors to joint-stock companies "(dated 10.02.2016, No. 33 dated February 10, 2016 No. 33); "On introducing amendments and additions to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated February 10, 2016 No. 33" On measures to implement the Decree of the President of the Republic of Uzbekistan dated December 21, 2015 No. PP-2454 "On additional measures to attract foreign investors to joint stock companies" (of May 24, 2016 N172); "On the state of implementation of the Decree of the President of the Republic of Uzbekistan dated December 21, 2015 No. PP-2454" On additional measures to attract foreign investors to joint stock companies "(dated 05.08.2016, N 252).
The Action Strategy for the five priority areas of development of the Republic of Uzbekistan in 2017-2021, approved by the Decree of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev laid the foundation for the large-scale development of the country in the medium term [1]. This program document defines a number of tasks to enhance the attraction of foreign investments in the sectors of the economy and regions of the republic, to create favorable conditions for the development of private entrepreneurship on the basis of privatized government facilities, integrated socio-economic development of districts and cities, etc.

The measures taken today in Uzbekistan, both to enhance foreign investment and to support investors in the country, most fully and effectively reflect the efforts that the government is making to increase the flow of funds raised. It may be noted that the state provides a number of benefits and preferences, the establishment of special tax, customs and foreign exchange regimes for residents of the FEZ, for enterprises with foreign investments.

Today, Uzbekistan has created 14 free economic zones (11 free economic zones in 2017), which are the most important and effective tool of economic policy for attracting investments, including foreign ones, to expand exports, introduce innovative ideas, know-how, technologies, and support regions of the country. The FEZs are conveniently located to the extensive sales markets of large cities of the republic and neighboring states, and also have mineral and agricultural resources, personnel and entrepreneurial potential, etc.
For the participants of the FEZ, an extensive system of benefits and preferences is applied and a special tax, currency and customs regime is in force. Benefits are granted for a period of 3 to 10 years, depending on the amount of investments made, including the equivalent: from 300 thousand US dollars to 3 million US dollars - for a period of 3 years; from 3 million dollars to 5 million dollars - for a period of 5 years; from 5 million dollars to 10 million dollars - for a period of 7 years; from $ 10 million and above - for a period of 10 years, with the application of the profit tax rate and the single tax payment in the amount of 50% below the current rates for the next 5 years [4]. In addition, foreign investors, creating enterprises with foreign investments in the republic, enjoy all the rights, guarantees and privileges granted to them by the legislation of the Republic. The state encourages enterprises with foreign investments to provide both basic and additional tax, customs and other benefits and incentives. The Decree of the President of Uzbekistan No. UP-4434 of April 10, 2012 "On Additional Measures to Promote Attracting Foreign Direct Investment" approved a list of basic guarantees, benefits and preferences established for foreign investors and enterprises with foreign investments. In addition, Regulation No. 2822, registered by the Ministry of Justice of the Republic of Uzbekistan dated August 26, 2016, establishes the procedure for applying tax incentives, according to which enterprises, including joint-stock companies, attract foreign direct private investment specializing in manufacturing in a number of industries (20 industries) are exempt from payment of: income tax of legal entities; property tax; tax on the improvement and development of social infrastructure; single tax payment; mandatory contributions to the Republican road fund. Tax benefits: a) are provided with the volume of direct private foreign investment equal to (equivalent): from 300 thousand US dollars to 3 million US dollars inclusive - for a period of 3 years; over 3 million US dollars up to 10 million US dollars inclusive - for a period of 5 years; over 10 million US dollars - for a period of 7 years; b) are applied under the following conditions: location of enterprises in all cities and rural settlements of the republic, with the exception of the city of Tashkent and the Tashkent region; private foreign investment by foreign investors without a guarantee of the Republic of Uzbekistan; the share of foreign participants in the authorized capital of the enterprise must be at least 33 percent, and for joint-stock companies at least 15 percent; foreign investment in the form of freely convertible currencies or new modern technological equipment; the direction of not less than 50 percent of the income received as a result of the provision of these benefits during the period of their use, to reinvest with the aim of further development of the enterprise.
However, despite the fact that Uzbekistan has a number of favorable economic conditions, as well as active measures taken by the state over the past few years to stimulate FDI attraction, it is clear that the actual volume of FDI inflows is still not enough and they do not correspond to the economic potential and the needs of the country.

ISSN 2394 - 7780

CONCLUSION

Summarizing the above, it can be noted that Uzbekistan has created the basic conditions necessary for attracting foreign capital: fourteen free economic zones have been formed; foreign investors can minimize costs in case of placing their business in small cities and towns of the republic; there is a skilled and relatively cheap labor force; a developed transport infrastructure was created, etc. However, despite a number of attractive components of the investment climate, there is still a low interest on the part of foreign investors in relation to industries and enterprises of the republic. Therefore, more than ever, it is necessary to intensify efforts not only to increase the volume of FDI attraction to the economy, but also to distribute them more efficiently and rationally across sectors and regions.

1. The intensification of processes for regulating the attraction of foreign investment is connected with the need to observe a reasonable ratio in terms of the implementation of measures. Such measures are aimed at simplifying and liberalizing investment in compliance with key economic interests in order to ensure the national security of the state. The global trend is to shift the focus from a set of measures taken in favor of encouraging investments to the development of recommendations to simplify the legal regulation of investment procedures.
2. Stimulating the inflow of foreign direct investment in the economy of the republic causes a more active use of mechanisms that regulate general economic and institutional conditions, including the implementation of a clear link between the policy of attracting FDI and industrial policy with a focus on modernization and innovative development of its industries. Benefits and preferences for investors should also be provided selectively, purposefully, and depending on the development prospects of the industry.
3. It is necessary to undertake the strengthening of the innovative orientation of foreign direct investment in the economy. This can be done by optimizing the composition of tax preferences for foreign investors, subject to the conditions that ensure the improvement of the quality of investments: the creation of jobs in the regions of the republic; implementation of investment projects in small towns and settlements; production of attractive products in international markets; investor activities in accordance with the standards of environmental management systems.
4. The Strategy for Action in the five priority areas of development of the Republic of Uzbekistan in 2017–2021 defines the objectives of improving the investment climate in order to attract foreign direct investment in the economy and regions of the country and create new jobs. In light of the realization of this, it is necessary to implement first, further improvement of the regulatory framework governing the main issues of investment activity, attracting foreign investment and guaranteeing the protection of investors' rights; secondly, systematization, institutionalization and simplification of investment policy measures to reduce the costs of doing business and encourage FDI inflows both into the country's economy and its regions, as well as increase the employment of the economically active population of the republic; thirdly, the establishment of criteria and transparent procedures for making administrative decisions regarding the selection and approval of investments; fourth, further raising the awareness of foreign investors, organizing events and seminars with the participation of international experts to strengthen the capacity of national partners in attracting foreign investment.
5. It is also important to intensify the further attraction of foreign investments, primarily FDI for the implementation of investment projects. This should be carried out in conjunction with sectoral investment programs and comprehensive programs for the socio-economic development of territories.
6. In order to improve the efficiency of the use of FDI attracted to the country's economy, an analysis should be made of the activities of enterprises with foreign investments, including the JV; identify problem parties in the activities of such enterprises and take prompt measures to resolve them; monitor the implementation of investment commitments by investors; to identify factors hindering the effective implementation of investment projects involving foreign investment. All of the above should have a specific system and be implemented on an ongoing basis.

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FUNCTIONALITY OF UNISEX CLOTHING AMONG FASHION DESIGNERS IN ACADEMIC ENVIRONMENT: AN EMPIRICAL STUDY

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ABSTRACT
Unisex Clothing trend has been analyzed based on attributes such as Perception, Functionality, Expressiveness and Aesthetics, shortly indicated as PFEA. In this study three functionality aspects such as impact on clothing, accessories and aesthetic look. This study was carried out with the objective to identify the impact of clothing towards functionality of unisex clothing, to know the impact of accessories and to identify the Impact of aesthetic look. This study shows there exist significant differences in clothing towards functionality of unisex clothing, there were no significant differences in the preferences of accessories among respondents of region, gender and category and Aesthetic look has a greater impact among region, gender and category. The data were captured from 915 respondents of four regional centres of NIFT – Bengaluru, Chennai, Hyderabad and Kannur. The reliability and sufficiency of the data were analysed using reliability test (Cronbech alpha value) andMeasure of sampling adequacy (MSA). The reliability test shows that all the 21 variables were acceptable for the study. The anti-image correlation value test has been administered for identifying the sample adequacy. The anti-image correlation value for the components Cloths, Accessories and Aesthetic look indicates the sample adequacy. All the 4 variables of the impact on clothes agreed by the respondents.Out of which, Fit and Style given high order of preference.The preferences given for impact on accessories Stoles, belts, shoes, bags, rings/neckchains. In the case of impact on aesthetic looks, the preferences were given for perfumes, beauty products and tattoos. The SEM model has been used in this study which facilitates designing of unisex clothing based on functionality.

Keywords: Unisex clothing, Functionality in clothing, Aesthetic look, Clothing, Accessories

INTRODUCTION
Unisex Clothing trend has been analyzed based on attributes such as Perception, Functionality, Expressiveness and Aesthetics, shortly indicated as **PFEA.** In this study functionality aspect has been analysed. In the functionality aspect the factors that are normally considered were Type of cloth; Occasion; Impact – cloth; Impact – accessories; Impact – aesthetic look; Type and style; Comfort. In this paper, out of seven concepts, three concepts such as Impact – cloth; Impact – accessories and Impact – aesthetic look.

Fig-1: Functionality

REVIEW OF LITERATURE
Fit is a primary factor for determining comfort in clothing; an uncomfortable garment does not fit Delk and Cassill, 1989; LaBat and DeLong, 1990). Garments that do not fit well, regardless of the consumer definition of fit, may give consumers the message that there is something wrong with his or her body. On the other hand, a garment that fits well can give the wearer confidence, enhance self-esteem, enhance psychological and social well being, and increase comfort. (Alexander *et al.* , 2005; Anderson *et al.* , 2001). Since clothing fit is somewhat dictated by personal preference, understanding fit satisfaction from the consumer perspective is important (LaBat and DeLong, 1990).

OBJECTIVES
The objectives of the study were

- To identify the impact of clothing towards functionality of unisex clothing.
- To know the impact of accessories and
- To identify the Impact of aesthetic look

ISSN 2394 - 7780

HYPOTHESES

The following hypotheses were formulated based on objectives

1. There exist significant differences in clothing towards functionality of unisex clothing.
2. There were no significant differences in the preferences of accessories among respondents of region, gender and category and
3. Aesthetic look has a greater impact among region, gender and category.

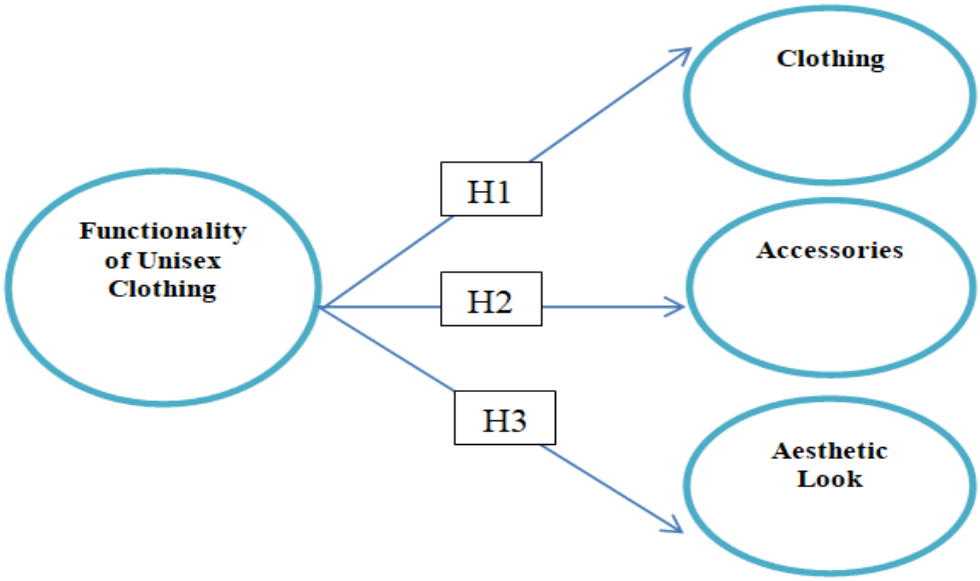

Fig 2: Hypotheses

DATA CAPTURE

National Institute of Fashion Technology (NIFT) has 16 Centres throughout India out of which the 4 Centres situated in Bengaluru, Chennai, Hyderabad and Kannur were taken up for the study. Out of 1067 questionnaires distributed 915 had responded and the response rate works out to 85.75%.

DEMOGRAPHIC DATA

The demographic details including city, gender andCategory were shown in Table 1.

Table-1: Demographic Details

S.No.	Description	Frequency	%	Cumulative %
CENTRES				
1	Bengaluru	259	28.3	28.3
2	Chennai	268	29.3	57.6
3	Hyderabad	211	23.1	80.7
4	Kannur	177	19.3	100.0
CATEGORY OF THE RESPONDENTS				
1	PG	135	14.8	14.8
2	UG	624	68.2	83.0
3	Faculty members	156	17.0	100.0
GENDER				
1	Male	278	30.4	30.4
2	Female	637	69.6	100.0
OVERALL				
	Total	915	100.0	

Out of 915 respondents, 624 (89.40%) were UG Students, 135 (68.88%) were PG Students and 156 (90.17%) were the Faculty Members from all the southern NIFT Centres. There were 278 (30.4%) Male respondents and 637 (69.6%) Female respondents. These 915 respondents is distributed towards four centres viz., Bengaluru (259, 28.3%); Chennai (268, 29.3%); Hyderabad (211, 23.1%) and Kannur (177, 19.3%).

In order to identify whether geographic domain, gender and age, will have an impact on unisex clothing, the sample has been analyzed with gender, geographic domain and age (indirectly calculated with designation) and the same has been shown in Table 2.

ISSN 2394 - 7780

Table-2: Centre Vs Gender and Category of Respondents

S.No	Centre	Gender	PG	UG	Faculty	Total
1	Bengaluru	Male	10 (3.6)	52 (18.7)	19 (6.8)	81 (29.1)
		Female	29 (4.6)	124 (19.5)	25 (3.9)	178 (27.9)
2	Chennai	Male	11 (4.0)	56 (20.1)	12 (4.3)	79 (28.4)
		Female	22 (3.5)	136 (21.4)	31 (4.9)	189 (29.7)
3	Hyderabad	Male	9 (3.2)	44 (15.8)	11 (4.0)	64 (23.0)
		Female	13 (2.0)	104 (16.3)	30 (4.7)	147 (23.1)
4	Kannur	Male	12 (4.3)	31 (11.2)	11 (4.0)	54 (19.4)
		Female	29 (4.6)	77 (12.1)	17 (2.7)	123 (19.3)
Total		**Male**	**42 (15.1)**	**183 (65.8)**	**53 (19.1)**	**278 (100.0)**
		Female	**93 (14.6)**	**441 (69.2)**	**103 (16.2)**	**637 (100.0)**

*Values in parenthesis denotes the Percentage

It can be inferred from the table 2 that the questionnaires have been evenly distributed over the geographic domain and gender. However the female sample seems to be higher side since the success of the fashion and clothing primarily depends on female than the male. Therefore it can be inferred that the findings can be universalized.

DATA RELIABILITY AND SUFFICIENCY

RELIABILITY TEST

Reliability is concerned with consistency of a variable. There are two identifiable aspects of this issue: external and internal reliability. Nowadays, the most common method of estimating internal reliability is Cronbach alpha (α). The formula used for internal reliability is

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K}\sigma_{Y_i}^2}{\sigma_X^2}\right)$$

A commonly accepted rules for describing internal consistency using Cronbach alpha (Cronbach, Lee and Shavelson 2004) are α≥0.9 (Excellent), 0.9>α≥ 0.8 (Good), 0.8>α≥0.7 (Acceptable), 0.7>α≥0.6 (Questionable), 0.6>α≥0.5 (Poor) and 0.5>α (Unacceptable). The reliability test had been used in fashion domain (Sunitha et al, 2018); management (Mohanraj et al, 2017), (Siva and Gopalakrishnan2018) and library and information science (Pattabiraman et al, 2014).

In order to identify the reliability of the variables, Cronbach alpha (α) analysis has been carried out for 21 variables on functionality of unisex clothing among fashion designers in academic environment. The Alpha value for the same are calculated and shown in Table 3, which indicates that all the variables are acceptable for further studies.

Table 3: Reliability Test

S. No.	Factors	No. of variables	Alpha value	Standardized alpha value
1	Cloths	4	0.9010	0.9092
2	Accessories	11	0.8051	0.8468
3	Aesthetic look	6	0.6998	0.7487

MEASURES OF SAMPLING ADEQUACY (MSA)

The image of a variable is defined as that part which is predictable by regressing each variable on all the other variables; hence, the anti-image is the part of the variable that cannot be predicted. The anti-image correlation

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matrix A is a matrix of the negatives of the partial correlations among variables. Partial correlations represent the degree to which the factors explain each other in the results. The diagonal of the anti-image correlation matrix is the Kaiser–Meyer–Olkin measure of sampling adequacy for the individual variables. Variables with small values should be eliminated from the analysis. The anti-image covariance matrix C contains the negatives of the partial co-variances and has one minus the squared multiple correlations in the principal diagonal. Most of the off-diagonal elements should be small in both anti-image matrices in a good factor model. Both anti-image matrices can be calculated from the inverse of the correlation matrix R via

A = {diag(R)}−1R{diag(R)}−1

C = {diag(R)}−1/2R{diag(R)}−1/2

The Anti-image correlation matrices are shown in Table 4, which measures the sampling adequacy for the variables taken for the study. The anti-image correlation has been used in library and information science (Siva and Gopalakrishnan, 2018).

Table-4: Anti-Image Correlation Value for Components Cloths, Accessories, Aesthetic Look - Summarised

Cloths (4)		Accessories (11)		Aesthetic look (6)	
Variables	**Correlation value**	**Variables**	**Correlation value**	**Variables**	**Correlation value**
Colour	.769(a)	Watch	.720(a)	Ear piercing	.701(a)
Print	.836(a)	Belt	.445(a)	Nose piercing	.736(a)
Style	.719(a)	Shoes	.459(a)	Tatoos	.793(a)
Fit	.909(a)	Socks	.740(a)	Perfumes	.482(a)
		Wallet	.605(a)	Beauty products	.885(a)
		Bags/Tote Bags	.677(a)	Vehicles-Bike/Scooter	.738(a)
		Eyewear	.159(a)		
		Cap/Hat	.692(a)		
		Stoles/Scarves	.688(a)		
		Ties	.718(a)		
		Rings/Neck chains/Bracelet	.527(a)		

a Measures of Sampling Adequacy(MSA)

The anti-image correlation value test has been administered for identifying the sample adequacy. The anti-image correlation value for the components Cloths, Accessories and Aesthetic look indicates the sample adequacy.

DATA ANALYSIS

Data were analysised based on the variables under each component as stated in Table 5.

Impact on clothes

The impact and importance of clothes, on Unisex Clothing was studied based on Colour; Print; Style and Fit in a five point scale such as Strongly Disagree, Disagree, No opinion, Agree and StronglyAgree. The mean and standard deviation were calculated and ranks were assigned based on mean and standard deviation. The opinion, mean, standard deviation and rank were shown in Table 5.

Table-5: Impact on Cloths

S. No.	Description	SDA	DA	NO	A	SA	Mean	Std	Rank
1	Colour	0 (0.0)	51 (5.6)	211 (23.1)	380 (41.5)	273 (29.8)	3.96	.866	4
2	Print	0 (0.0)	51 (5.6)	98 (10.7)	523 (57.2)	243 (26.6)	4.05	.771	3
3	Style	0 (0.0)	51 (5.6)	67 (7.3)	580 (63.4)	217 (23.7)	4.05	.729	2
4	Fit	0 (0.0)	95 (10.4)	95 (10.4)	287 (31.4)	438 (47.9)	4.17	.985	1

The mean value of all the variables for Clothes ranges between 3.96 and 4.17 which indicates that all the variables were lies between agree and strongly agree. The standard deviation ranges between 0.729 and 0.985 which indicates that there were no deviation among respondents opinion. Fit of clothes was indicated as first preference by the respondents. It is followed by style and Print. Least preference was given for Colour.

ISSN 2394 - 7780

The study further extended to Region, category of user and gender. The mean were calculated based on the respondents opinion and the same has been shown in Table 6.

Table-6: Impact on Cloths VsRegion, Category and Gender – Mean value

S. No.	Description	Overall Rank	Bengaluru	Chennai	Hyderabad	Kannur	PG	UG	Faculty Members	Male	Female
1	Colour	3.96	3.97	3.95	3.94	3.97	3.96	3.96	3.92	4.04	3.92
2	Print	4.05	4.05	4.02	4.04	4.08	4.04	4.05	4.03	4.05	4.04
3	Style	4.05	4.05	4.05	4.04	4.07	4.06	4.06	4.03	4.09	4.03
4	Fit	4.17	4.19	4.13	4.17	4.20	4.15	4.17	4.17	4.19	4.16

The mean value of the variables ranges between 3.92 and 4.19 which indicates that all the variables irrespective of region, category of user and gender had ranges between agree and strongly agree. The preferences were also identical to overall preferences. This indicates the synchronized opinion among users irrespective of region, category of users and gender for the impact of Clothing.

Highly preferred variables on clothing among region, designation and gender were identified based on the mean for the variables and the same has been shown in Table 7 and 8.

Table-7: Impact on Cloths– Preferences

S. No.	Description	Preference		
		Region	Designation	Gender
1	Colour	K>B>C>H	UG>PG>FA	M>F
2	Print	K>B>H>C	UG>PG>FA	M>F
3	Style	K>B>H>C	UG>PG>FA	M>F
4	Fit	K>B>H>C	FA>UG>PG	M>F

Table-8: Impact on Cloths– Summary

S. No.	Description	Preference		
		Region	Designation	Gender
1	Colour	Kannur	UG	Male
2	Print	Kannur	UG	Male
3	Style	Kannur	UG	Male
4	Fit	Kannur	FA	Male

Kannur UG Male has given its preference for Print, Style and Colour of Clothes. whereas Fit is indicated by Kannur Male faculty.

Impact on Accessories

Impact on accessories has been ascertained based on eleven variables such as Watch; Belt; Shoes; Socks; Wallet; Bags/Tote Bags; Eyewear; Cap/Hat; Stoles/Scarves; Ties and Rings/Neck chains/Bracelet. The respondents opinion were obtained in a five point scale such as Strongly Disagree, Disagree, No opinion, Agree and Strongly agree. The mean and standard deviation were calculated and ranks were assigned based on mean and standard deviation. The opinion, mean, standard deviation and rank were shown in Table 9.

Table-9: Impact on Accessories

S. No.	Description	SDA		DA		NO		A		SA		Mean	Std	Rank
1	Watch	0	.0%	52	5.7%	294	32.1%	526	57.5%	43	4.7%	3.61	.668	9
2	Belt	0	.0%	11	1.2%	217	23.7%	577	63.1%	110	12.0%	3.86	.621	2
3	Shoes	0	.0%	33	3.6%	192	21.0%	586	64.0%	104	11.4%	3.83	.663	3
4	Socks	0	.0%	79	8.6%	261	28.5%	496	54.2%	79	8.6%	3.63	.761	8
5	Wallet	15	1.6%	44	4.8%	312	34.1%	459	50.2%	85	9.3%	3.61	.787	11
6	Bags/Tote Bags	11	1.2%	22	2.4%	229	25.0%	533	58.3%	120	13.1%	3.80	.738	4
7	Eyewear	0	.0%	46	5.0%	304	33.2%	445	48.6%	120	13.1%	3.70	.758	6
8	Cap/Hat	0	.0%	48	5.2%	350	38.3%	430	47.0%	87	9.5%	3.61	.731	10
9	Stoles/Scarves	11	1.2%	22	2.4%	211	23.1%	438	47.9%	233	25.5%	3.94	.829	1
10	Ties	31	3.4%	22	2.4%	343	37.5%	314	34.3%	205	22.4%	3.70	.954	7
11	Rings/Neck chains/Bracelet	31	3.4%	15	1.6%	183	20.0%	569	62.2%	117	12.8%	3.79	.810	5

ISSN 2394 - 7780

In terms of accessories that has an impact on Unisex Clothing, the preferences are given in the order of stoles, belt, shoes, bags, rings/neckchains and lesser preference is given to Wallet, cap, watch, socks, ties.

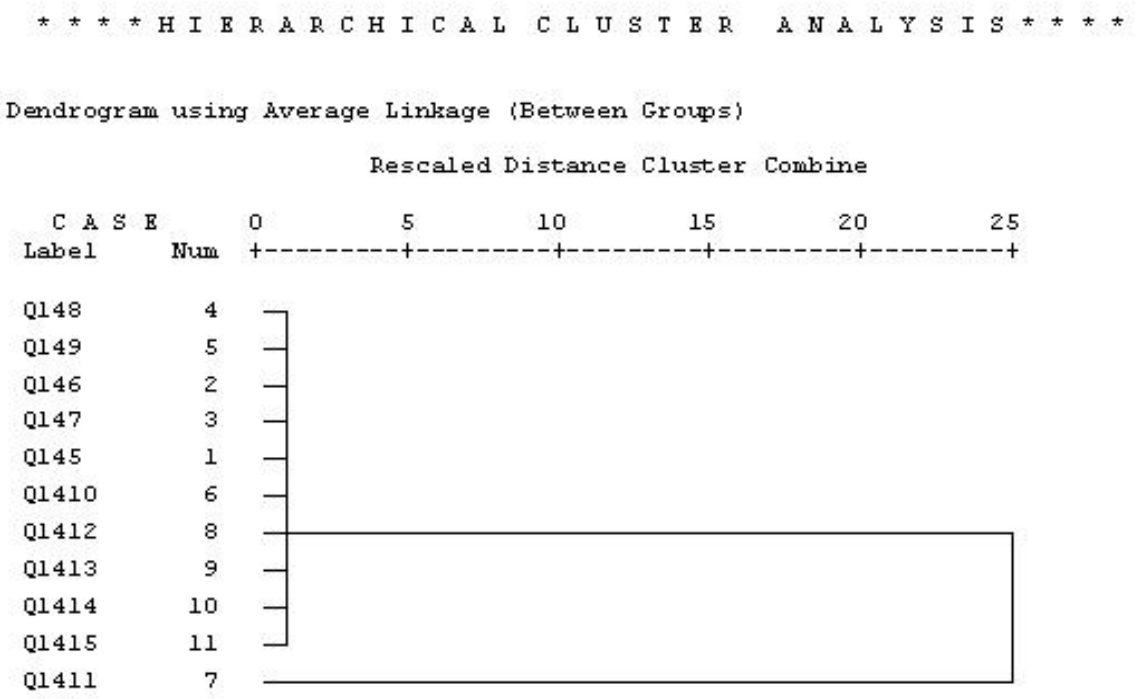

Fig-3: Dendrogram on Impact on Accessories

There exist two clusters at 5% level. The first cluster comprises variables such as Socks, Wallet, Belt, Shoes, Watch, Bags/Tote Bags, Cap/Hat, Stoles/Scarves, Ties and Rings/Neck chains/Bracelet. This cluster can be named as Primary importance on Accessories and the second cluster comprise of one isolated variable known as Eyewear. This cluster can be named as least importance on Accessories.

The study has further been extended to Region, category of user and gender. The mean calculated based on the respondents opinion were shown in Table 10.

Table-10: Impact on Accessories VsRegion, Category and Gender – Mean value

S. No.	Description	Overall Rank	Bengaluru	Chennai	Hyderabad	Kannur	PG	UG	Faculty Members	Male	Female
1	Watch	3.61	3.62	3.63	3.61	3.58	3.64	3.62	3.58	3.67	3.59
2	Belt	3.86	3.85	3.89	3.86	3.82	3.85	3.87	3.84	3.86	3.86
3	Shoes	3.83	3.82	3.85	3.83	3.82	3.86	3.83	3.82	3.84	3.83
4	Socks	3.63	3.63	3.65	3.63	3.60	3.72	3.62	3.60	3.68	3.61
5	Wallet	3.61	3.60	3.64	3.60	3.57	3.68	3.60	3.58	3.61	3.60
6	Bags/Tote Bags	3.80	3.78	3.78	3.81	3.84	3.81	3.79	3.80	3.86	3.77
7	Eyewear	4.35	4.31	4.15	4.46	4.60	4.02	4.40	4.47	4.05	4.49
8	Cap/Hat	3.61	3.61	3.62	3.60	3.60	3.65	3.60	3.60	3.72	3.56
9	Stoles/Scarves	3.94	3.93	3.92	3.94	3.97	3.99	3.94	3.92	4.09	3.87
10	Ties	3.70	3.69	3.70	3.70	3.71	3.76	3.69	3.67	3.85	3.63
11	Rings/Neck chains/Bracelet	3.79	3.78	3.84	3.80	3.75	3.88	3.78	3.78	3.85	3.77

The mean value of all eleven variables ranges between 3.57 and 4.60 which indicates that all the variables irrespective of region, category of user and gender had ranges between agree and strongly agree. The preferences were also identical to overall preferences. This indicates the synchronized opinion among users irrespective of region, category of users and gender for the impact on Aesthetics.

Highly preferred variables on clothing among region, designation and gender were identified based on the mean for the variables and the same has been shown in Table 11 and 12.

ISSN 2394 - 7780

Table-11: Impact on Accessories – Preferences

S. No.	Description	Preference		
		Region	Designation	Gender
1	Watch	C>B>H>K	PG>UG>FA	M>F
2	Belt	C>H>B>K	UG>PG>FA	M=F
3	Shoes	C>H>K>B	PG>UG>FA	M>F
4	Socks	C>H>B>K	PG>UG>FA	M>F
5	Wallet	C>H>B>K	PG>UG>FA	M>F
6	Bags/Tote Bags	K>H>C>B	PG>FA>UG	M>F
7	Eyewear	C>H>K>B	PG>FA>UG	F>M
8	Cap/Hat	C>B>H>K	PG>UG>FA	M>F
9	Stoles/Scarves	K>H>B>C	PG>UG>FA	M>F
10	Ties	K>C>H>B	PG>UG>FA	M>F
11	Rings/Neck chains/Bracelet	C>H>B>K	PG>FA>UG	M>F

Table-12: Impact on Accessories – Summary

S. No.	Description	Preference		
		Region	Designation	Gender
1	Watch	Chennai	PG	Male
2	Belt	Chennai	UG	Male and Female
3	Shoes	Chennai	PG	Male
4	Socks	Chennai	PG	Male
5	Wallet	Chennai	PG	Male
6	Bags/Tote Bags	Kannur	PG	Male
7	Eyewear	Chennai	PG	Female
8	Cap/Hat	Chennai	PG	Male
9	Stoles/Scarves	Kannur	PG	Male
10	Ties	Kannur	PG	Male
11	Rings/Neck chains/Bracelet	Chennai	PG	Male

Chennai PG Male has indicated their preference for Accessories like Watch,Shoes,Socks,Wallet,Cap and Rings/Neckchains. Kannur Male PG has indicated Bags,Stoles,Ties as their preference

Impact on Aesthetic Look

Impact on aesthetic look has been ascertained based on six variables such as Ear piercing; Nose piercing; Tattoos; Perfumes; Beauty products and Vehicles-Bike/Scooter. The respondents opinion were obtained in a five point scale such as Strongly Disagree, Disagree, No opinion, Agree and Strongly agree. The mean and standard deviation were calculated and ranks were assigned based on mean and standard deviation. The opinion, mean, standard deviation and rank were shown in Table 13.

Table-13: Impact on Aesthetic Look

S. No.	Description	SDA		DA		NO		A		SA		Mean	Std	Rank
1	Ear piercing	11	1.2%	15	1.6%	419	45.8%	332	36.3%	138	15.1%	3.62	.801	4
2	Nose piercing	11	1.2%	38	4.2%	433	47.3%	264	28.9%	169	18.5%	3.59	.876	5
3	Tattoos	11	1.2%	23	2.5%	362	39.6%	387	42.3%	132	14.4%	3.66	.797	3
4	Perfumes	11	1.2%	0	.0%	169	18.5%	572	62.5%	163	17.8%	3.96	.685	1
5	Beauty products	0	.0%	33	3.6%	256	28.0%	541	59.1%	85	9.3%	3.74	.671	2
6	Vehicles-Bike/Scooter	63	6.9%	35	3.8%	357	39.0%	312	34.1%	148	16.2%	3.49	1.032	6

The mean value ranges between 3.59 and 3.96 which indicates that all the values lean towards agree. The standard deviation ranges between 0.671 and 1.032 which indicates there exist synchronized opinion among the respondents. In terms of aesthetics higher preference is given to Perfumes. It is followed by Beauty products, tattoos and Ear Piercing. The leastpreference ware given to Vehicles, nose piercing and ear piercing.

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The study further extended to Region, category of user and gender. The mean were calculated based on the respondents opinion and the same has been shown in Table 14.

Table-14: Impact on Aesthetic Look Vs Region, Category and Gender – Mean value

S. No.	Description	Overall Rank	Bengaluru	Chennai	Hyderabad	Kannur	PG	UG	Faculty Members	Male	Female
1	Ear piercing	3.62	3.63	3.65	3.63	3.59	3.71	3.61	3.59	3.71	3.59
2	Nose piercing	3.59	3.59	3.62	3.60	3.55	3.66	3.58	3.59	3.70	3.54
3	Tattoos	3.66	3.65	3.65	3.68	3.67	3.70	3.66	3.65	3.74	3.63
4	Perfumes	4.35	4.41	4.31	4.39	4.28	4.44	4.34	4.32	4.46	4.30
5	Beauty products	3.74	3.73	3.77	3.74	3.72	3.78	3.74	3.71	3.78	3.73
6	Vehicles-Bike/Scooter	3.49	3.47	3.49	3.50	3.50	3.50	3.48	3.50	3.62	3.43

The mean value of the variables ranges between 3.55 and 4.44 which indicates that all the variables irrespective of region, category of user and gender had ranges between agree and strongly agree. The preferences were also identical to overall preferences. This indicates the synchronized opinion among users irrespective of region, category of users and gender for the impact on Aesthetics.

Highly preferred variables on Aesthetic look among region, designation and gender were identified based on the mean for the variables and the same has been shown in Table 15 and 16.

Table-15: Impact on Aesthetic Look – Preference

S. No.	Description	Preference		
		Region	Designation	Gender
1	Ear piercing	C>H>B>K	PG>UG>FA	M>F
2	Nose piercing	C>H>B>K	PG>FA>UG	M>F
3	Tattoos	H>K>B>C	PG>UG>FA	M>F
4	Perfumes	C>H>K>B	PG>UG>FA	M>F
5	Beauty products	C>H>B>K	PG>UG>FA	M>F
6	Vehicles-Bike/Scooter	H>K>C>B	PG>UG>FA	M>F

Table-16: Impact on Aesthetic Look – Summary

S. No.	Description	Preference		
		Region	Designation	Gender
1	Ear piercing	Chennai	PG	Male
2	Nose piercing	Chennai	PG	Male
3	Tattoos	Hyderabad	PG	Male
4	Perfumes	Chennai	PG	Male
5	Beauty products	Chennai	PG	Male
6	Vehicles-Bike/Scooter	Hyderabad	PG	Male

In Aesthetic and look, Chennai Male PG has given their preference to Earpiercing,Nose Piercing,Perfumes,Beauty Products whereas Hyderabad PG Male has indicated Tattoos and Vehicles as their preference.

Inferences: This study enable to infer on clothing, accessories and aesthetic look prefer regionwise, designation and gender. The same is shown in Table 17.

Table-17: Inferences on Clothing, Accessories and Aesthetic Look

S. No.	Description	Preference		
		Region	Designation	Gender
1	Clothing	Kannur	UG, FA (FIT)	Male
2	Accessories	Chennai, Kannur (Bags/Tote Bags, Stoles/Scarves and Ties)	PG, UG(Belt)	Male, Male and Female (Belt), Female (Eyewear)
3	Aesthetic Look	Chennai & Hyderabad (Tattoos, Vehicles-Bike/Scooter)	PG	Male

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Male of UG, Male, those who are undergoing UG and faculty members in Kannur region give high order of preference for Fit. However, the same trend persists in other regions. This indicates that the respondents irrespective of age prefers Fit and Style. The respondents least preferred for print and colour. In the case of Accessories, Chennai and Kannur regions prefers all the accessories taken up for the study. However, UG students as well as male and female prefers Belt and Female prefers Eyewear. In the case of Aesthetic look, the PG and Male respondents in Chennai an Hyderabad regions prefer all the items for aesthetic look.

SEM Model

Structural Equation Modeling (SEM) uses various types of models to depict relationships among observed variables, with the same basic goal of providing a quantitative test of a theoretical model hypothesized by the researcher. More specifically, various theoretical models can be tested in SEM that hypothesize how sets of variables define constructs and how these constructs are related to each other. For example, a marketing researcher may hypothesize that consumer trust in a corporation leads to increased product sales for that corporation.

Basic models include regression, path, and confirmatory factor models. The reason for covering these basic models is that they provide a basis for understanding structural equation models. To better understand these basic models, one needs to define a few terms. First, there are two major types of variables: latent variables and observed variables. Latent variables (constructs or factors) are variables that are not directly observable or measured. Latent variables are indirectly observed or measured, and hence are inferred from a set of observed variables that actually measure using tests, surveys, and so on.Structured equation has been adopted previously (Mohanraj and Gopalakrishnan 2015) andKalpana (2018). In this study, the SEM model has been attempted.

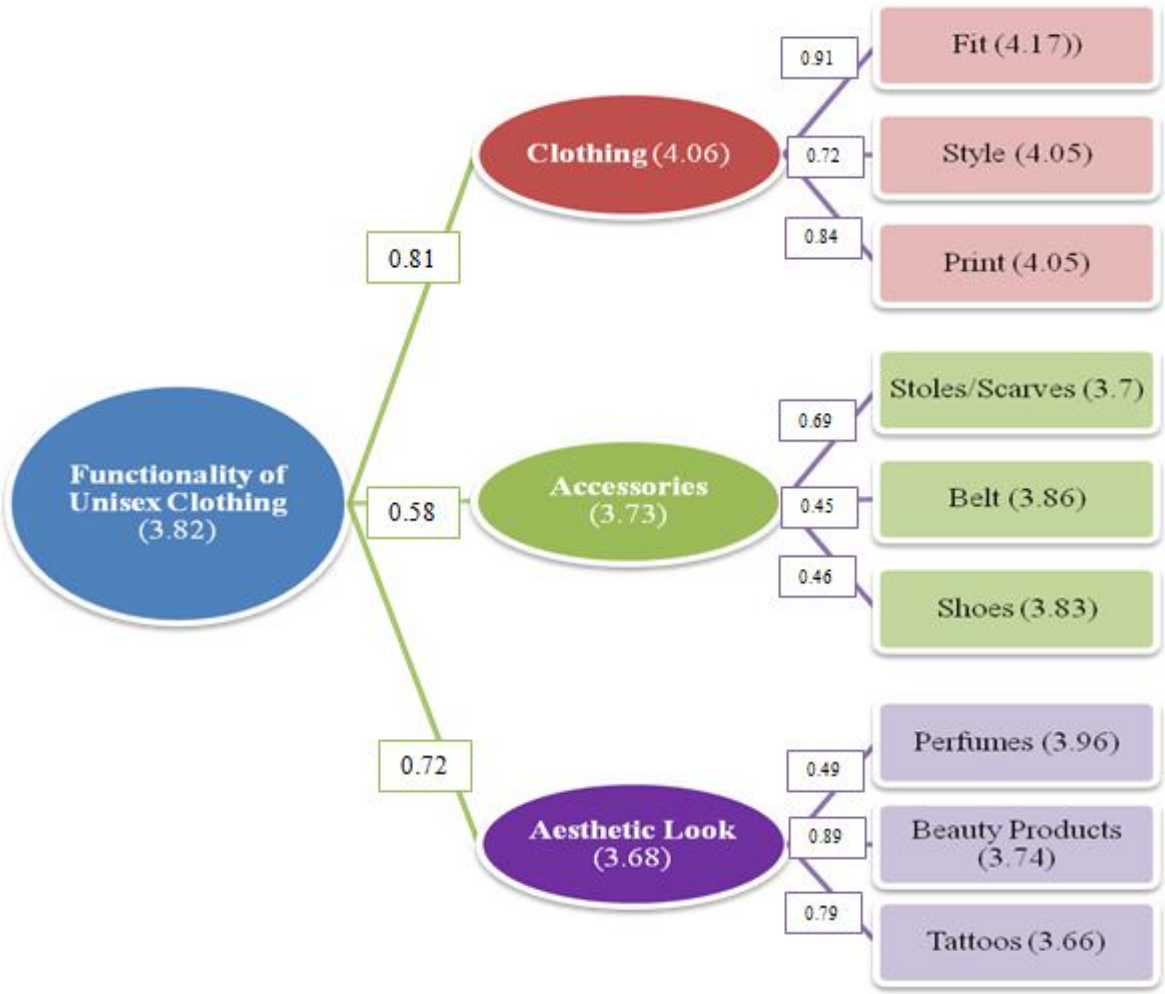

Figure-4: SEM Model on Functionality of Unisex Clothing

It is evident from Figure 4 that all the three categories mean value are almost similar, which are required today and the respondents were of the opinion that the top three preference's will help in functionality of unisex clothing. The equation thus arrived based on SEM model shown below:

$$FUC = \alpha_1 * C_1 + \alpha_2 * A_1 + \alpha_3 * AL_1$$

ISSN 2394 - 7780

Where, FUC = Functionality of Unisex Clothing

C_1 = Clothing

A_1 = Accessories

AL_1 = Aesthetic Look

α_1 = C_1 Constant = 0.81

α_2 = A_1 Constant = 0.58

α_3 = AL_1 Constant = 0.72

CONCLUSION

This study was carried out with the objective to identify the impact of clothing towards functionality of unisex clothing, to know the impact of accessories and to identify the Impact of aesthetic look. This study shows there exist significant differences in clothing towards functionality of unisex clothing, there were no significant differences in the preferences of accessories among respondents of region, gender and category and Aesthetic look has a greater impact among region, gender and category. In the case of unisex clothing, it can be seen in this paper the predominantly used preferences were:

- Clothes - Fit and style
- Accessories – Stoles/Scarves, Belt and Shoes
- Aesthetic look – perfumes, beauty products and Tattoos are predominantly.

Therefore it is suggested, unisex manufacturers can concentrate on the above items.

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ECONOMETRIC MODEL OF PRODUCTION CAPACITY USAGE OF TEXTILE ENTERPRISES IN NAMANGAN REGION

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ABSTRACT
The article reveals the place and importance of the textile industry in the socio-economic development of the country, also shows the trend of its development. In addition, the theoretical foundations of the economic potential of enterprises were analyzed. Also, was analyzed the use of production capacity of textile enterprises and calculated correlations between several factors.
Keywords: capacity, production capacity, economic potential of enterprises, resources, capability.

INTRODUCTION

Today, the textile industry of our country is characterized not only by its high growth rates, but also as a steadily increasing branch of exports, attracting foreign investment, and modernizing the manufacturing processes and radically re-technical and technological renewal. In recent years, the volume of production in the textile industry has grown rapidly and its share in the country's GDP has significantly increased. At the same time, the share of the textile industry in GDP - 5.2%, the share of the total industry - 9.7%, and the share of light industry - 58.4%. The analysis shows that in 2016 the textile industry enterprises produced goods to the amount of 8938.9 billion soums. The volume of produced goods was 112.1 percent to the previous year. Currently, there are 3476 textile factories in Uzbekistan. High growth rates are observed in Tashkent, Namangan, Andijan, Fergana and Samarkand regions. Sustainable growth rates can be explained by the ongoing reforms in the sector, the ongoing reforms in technical and technological renewal and diversification of production.

DEFINITION OF PRODUCTION CAPACITY

In the Big Russian Encyclopedic Dictionary, the following definition of this concept is given: “The production capacity of an industry, enterprise, its division is the calculated maximum possible output of a unit of time with the most complete use of production equipment and areas according to progressive standards, advanced technology and organization of production.” [7] It is easy to see that in this understanding, power is interpreted as productivity, productivity of an economic unit. And the phrase "maximum possible" in relation to power as the volume of release. In the above concept of power, all its logical constructions are conditional: which unit of time is preferable — an hour, a year or another, and so on.

Local economist A. Ortikov defines the production capacity as follows: “Production capacity is the maximum volume of production of a product at a certain time, with full use of existing equipment and production space in a certain quantity and range”. [10]

A number of other domestic scientists - Isaev R., Kosimov S.M., Tillakhodjaev M.A., give their definition as follows: “By production capacity is meant the possibility of maximally producing goods, processing raw materials based on the sum of all equipment, units, areas co-production. [2] Scientists Muratov R.S. and Dzhalilova I.A. consider the production capacity "as a possible volume of production of goods with progressive technology and under progressive conditions." [3]

Professor of the Turkish Social Institute Kahramanmaraş Ö. Güneçıkan gives the following definition regarding production capacity: "It is a certain period of time." [4]

Professor USA Chase RB considers production capacity as a “business category, this concept is most often viewed as the volume of output of products (or services) that an enterprise is able to achieve in a certain period of time”. [5]

Foreign economic literature also lacks a well-established notion of production capacity, despite the fact that in the USA, Germany, Japan, and others, since the 1960s, serious attention has been paid to theoretical research. There are about two dozen definitions. production capacity, the following are more common: working, standard, practical, economic, technical, minimal, normal, preferred, maximum, theoretical, engineering, hypothetical. [6]

Modern economic dictionary B.A. Reisberg, L.Sh. Lozovsky determines the production capacity as the maximum possible volume of output for a certain period (usually a year, a month) with full use of equipment and production space at a given enterprise. [7]

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V.D. Mushrooms, V.P. Georgians under the production capacity of the enterprise understand the maximum possible output (works, services) per unit of time in natural (or conditionally-natural) terms in the nomenclature and assortment established by the production program with full use of production equipment, application of advanced technology, modern production organization and labor, ensuring high quality products. [8] This definition is similar to the interpretation of this concept in the Great Encyclopedic Dictionary.

L.D. Revutsky in his work “Production capacity, productivity and economic activity of an enterprise” offers an approach to understanding the production capacity of an economic unit as a standard amount of work in units of measurement of the cost of normalized or abnormal labor (respectively, norm-hour or man-labor). be performed within a certain calendar period of time (for example, a year) by the main production workers on the existing production and technical base with full load and optimality of its use mode (two-shift - for discontinuous and non-stop - for continuous processes) under normal conditions of production and labor. [9]

ANALYSIS AND RESULTS

The study of the textile industry and its future prospects, which are important in the economy of the Republic of Uzbekistan, are among the pressing issues not only for the economy of the country, but also for the welfare of the population and for the employment of the population. Because the development of the textile industry is primarily due to the adequacy of the existing raw material and labor potential. In this regard, the Decree of the President of the Republic of Uzbekistan "On Strategy of Action for Further Development of the Republic of Uzbekistan" [1]:

- Ensuring balance and stability of the national economy, including the share of industry, services, small business and private entrepreneurship;
- The priorities for further modernization and diversification of industry through the introduction of high-tech industries, first of all, to a qualitatively new level of rapid development of production of high value added products on the basis of deep processing of domestic raw materials, is the most urgent issue.

Among the above-mentioned tasks, the development of this sector is evident in the consistent implementation of decisions and plans. To do this, it is desirable to study the field, to develop scientific conclusions and recommendations from the results of economic and econometric analysis. In this regard, we conduct an econometric analysis using industry data from 2007 to 2017. This, in turn, is the basis for a clear and scientific conclusion about the sector's activities. In our opinion, it is desirable to use Eviews software, which is used in international statistics, to ensure time-saving and reliability of models in econometric analysis.

The volume of production in the textile industry in the republic is a number of factors affecting Y, including labor productivity in the industry - X_1, fixed assets refinancing rate - X_2, depreciation of equity reserves - X_3 and number of listed employees - X_4 selected. As a result of the investigations, the following normalized regression equation was obtained:

$$Y = -34{,}06 + 0{,}9 * X_1 - 0{,}03 * X_2 + 0{,}01 * X_3 + 0{,}03 * X_4 \qquad (1)$$

Of course, the definitive (1) model must be tested on a case-by-case basis and the results are summarized in Table 1.

Table-1: The scale of the production of the textile industry in the Republic (1) - the criterion for the normalized regression equation

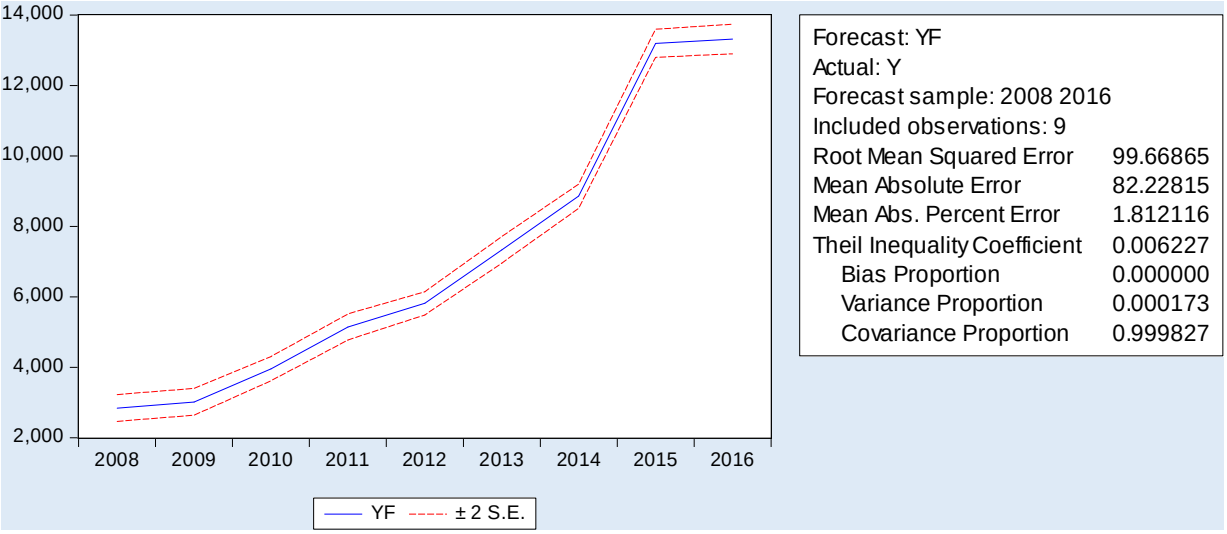
DependentVariable: Y				
Method: Least Squares (Gauss-Newton / Marquardt steps)				
Date: 05/01/18 Time: 16:18				
Sample: 2008 2016				
Includedobservations: 11				
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
C(1)	-3405.925	2469.576	-1.379154	0.2399
C(2)	97.59346	1.792600	54.44240	0.0000
C(3)	-2.946304	16.00966	-0.184033	0.8629
C(4)	0.736061	57.72427	0.012751	0.9904
C(5)	3.045163	2.668000	1.141365	0.3174
R-squared	0.999308	Mean dependent var		7049.944
Adjusted R-squared	0.998615	S.D. dependent var		4017.937
S.E. of regression	149.5030	Akaike info criterion		13.15269

ISSN 2394 - 7780

Sumsquaredresid	89404.55	Schwarz criterion	13.26226
Loglikelihood	-54.18711	Hannan-Quinn criter.	12.91624
F-statistic	144.3564	Durbin-Watson stat	1.855186
Prob(F-statistic)	0.000001		

Source: The author's calculations based on the data from the State Statistics Committee of Uzbekistan

Given the fact that the dimensions are equal to df = 10, the value of the predictive model (Mean absolute percentage error MAPE) and (Theil inquiliti coefficient), based on t_ (x_3), t_ (x_4) and t_ (x_5) -TIC), it is desirable to examine the criterion given by 0≤TIC≤1 (Fig. 2).



Source: Authors elaboration.

Fig-2: Prognostic quality of the normalized regression equation(1)

The quality of the prognosis presented in Figure 2 is excellent and we have MAPE = 1,8121 <10% as well as TIC = 0,0062 in this process, and predictable (1) the normalized regression equation is reliable and adequate. According to the established (1) normalized regression equation, the increase in the selected factors by 10 per cent through the labor force increased by 9 per cent, the worn outness of production funds by 0.1 per cent, and by 0.3 per cent in the same period last year. was detected. The question arises. Why can it increase the recovery coefficients and depreciation of fixed assets by 10%, by 0.3%, and by 0.1%? Of course, this is unclear at first glance, but it is more logical than scientifically. Because, as the introduction of additional products to the saturated market on the first issue has led to a reduction in the price of the product, almost all of the textile industry currently has new techniques and technologies in the modernization of the textile industry. This, in turn, entails the full utilization of the available opportunities. The second issue is the increase in the volume of production due to depreciation, which means that the product is more productive at the expense of amortization. If we approach both issues simultaneously, it is possible to ascertain that the textile industry enterprises are not fully functioning in the country at present. If we change the selection of factors, what changes will be made in the textile industry - Y productivity in Y - X_1, What is the level of utilization of the capacities of X2 and X_3 as the main factors influencing the list of employees in the reporting period? manufacture of long products to the amount of the usual regression equation expressed in the following form:

$$Y = -371,9 + 94,2 * X_1 + 9,3 * X_2 + 0,14 * X_3 \quad (2)$$

Parameters of the definition of the (2) normalized regression equation and the adequacy of the model can be seen from the results of Table 3 below.

Table-3: Measurements of the volume of products manufactured in the textile industry of the republic (2) by the criterion of normalized regression equation

Dependent Variable: Y				
Method: Least Squares (Gauss-Newton / Marquardt steps)				
Date: 05/12/18 Time: 20:09				
Sample: 2008 2016				
Included observations: 9				
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**

ISSN 2394 - 7780

C(1)	-371.8875	323.3384	-1.150149	0.3021
C(2)	94.19162	1.947705	48.36032	0.0000
C(3)	9.274874	3.446103	2.691493	0.2097
C(4)	0.136248	0.049982	2.726050	0.3751
R-squared	0.999317	Mean dependent var		7049.956
Adjusted R-squared	0.998907	S.D. dependent var		4017.943
S.E. of regression	132.8623	Akaike info criterion		12.91761
Sum squared resid	88262.00	Schwarz criterion		13.00526
Log likelihood	-54.12923	Hannan-Quinn criter.		12.72845
F-statistic	243.7112	Durbin-Watson stat		1.952395
Prob(F-statistic)	0.000000			

Source: The author's calculations based on the data from the State Statistics Committee of Uzbekistan

According to the data in Table 3, (2) the normalized regression equation is reliable and adequate. If we look at this model, it is possible to increase the number of selected factors - 94.2 units, production capacity - 9.3 units, and the number of registered employees - 0.14 in the textile industry to increase the capacity. It should be noted that, while labor productivity, in turn, depends on the number of employees, these two factors are dependent on labor force. If production capacities are considered to be the maximum annual (daily, removable) product or raw material processing capacity of the batch and assortment intended for the complete utilization of advanced technologies and equipment, production facilities, production capacity, , it is desirable to consider the impact of factors affecting the full utilization of production capacities.

Table-4: The volume of textile products that are expected to produce in a true and 80% capacity

Years	Average use of production capacity in the textile network	Reality (billion sums)	With an average capacity of 80% (billion Soums)
1	**2**	**3**	**4**
2006	56,7	1153,1	1626,4
2007	57,4	1985,3	2765,0
2008	58,5	2623,4	3587,6
2009	59,3	3499,2	4720,7
2010	60,1	4165,5	5544,8
2011	57,8	5097,8	7055,8
2012	59,9	5672,2	7575,6
2013	64,9	7278,3	8971,7
2014	60,1	8812	11729,8
2015	67,3	13241,7	15740,5
2016	61,3	13335,3	17403,3
2017	64,7	15011,6	18550,0
Overall	**793,5**	**101536.1**	**129335,6**

Source: The author's calculations based on the data from the State Statistics Committee of Uzbekistan

The study found that according to statistical data, the average for 2006-2017 was 61.0%, with a total of 10,1536.1 bn. The volume of production made up UZS. If the output at least 80% of this output was maintained, the volume of production increased by 27.4% from real value to 12,935.3 billion bn. It could have been worth UZS. From this point of view, in order to regulate and ensure the proper management of production capacities, the above two factors are included: Y1.2 investment in fixed capital X1, exports of goods - X2, total inventories - X3 and the impact of productivity on the network - the impact of X4 will help to make conclusions on a concrete scientific basis and to develop recommendations on the subject. We will examine the effect of Factor 1 on the actual output of Y1 - firstly, the factors selected from the factor factor and the correlation between these factors are examined (Table 5).

Table- 5: Correlation between the selected factors

	Reality (billion sums)	Investments into fixed assets, X1	Export of products - X2	Total inventories, X3
Reality (billion sums)	1			
Investments into fixed assets, X1	0,917022497	1		

ISSN 2394 - 7780

Export of products - X2	0,908814521	0,730753135	1	
Total inventories, X3	0,982667915	0,76086793	0,981980973	1

Source: The author's calculations based on the data from the State Statistics Committee of Uzbekistan

According to the results of the table, there is a multicolored nature, because of the link between product exports and commodity stocks $r_{x2,x3} \leq 0{,}981980973$, and we throw away the goods-material reserves. Based on the remaining factors, we create a regression equation using Eviews:

$$Y_1 = -3229{,}9 + 5{,}2 * X_1 + 0{,}01 * X_2 \quad (3)$$

It is necessary to verify that the equation is reliable and adequate. This is evidenced by the Eviews program () and the Akaike info criterion, Schwarz criterion, Hannan-Quinn criterion, and Durbin-Watson and other criteria. The result is shown in Table 6 below.

Table-6: (3)-The results of the adequacy of the regression equation

Dependent Variable: Y				
Method: Least Squares				
Date: 10/25/18 Time: 21:30				
Sample: 2006 2017				
Included observations: 12				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X1	5.228576	1.789665	2.921540	0.0170
X2	0.012347	0.004658	2.650581	0.0265
C	-3229.877	1636.986	-1.973064	0.0499
R-squared	0.910666	Mean dependent var		6822.950
Adjusted R-squared	0.890814	S.D. dependent var		4771.361
S.E. of regression	1576.615	Akaike info criterion		11.77627
Sum squared resid	22371420	Schwarz criterion		11.89749
Log likelihood	-103.6576	Hannan-Quinn criter.		12.73138
F-statistic	45.87281	Durbin-Watson stat		1.954232
Prob(F-statistic)	0.000019			

According to the results (3) - the coefficient is reliable and adequate. If we explain this (3) - equation, it has been found that the total volume of investment currently being invested in the fixed capital will increase by 5.2 times. 2- We determine the regression equation using the selected factors for the fact that the enterprises of the textile industry use at least 80% of the production capacity:

Table-7: Correlation between the selected factors

	With an average capacity of 80% (billion Soums)	**Investments into fixed assets, X1**	**Export of products - X2**	**Total inventories, X3**
With an average capacity of 80% (billion Soums)	1			
Investments into fixed assets, X1	0,934690021	1		
Export of products - X2	0,911343652	0,830753135	1	
Total inventories, X3	0,984905072	0,76086793	0,681980973	1

Source: The author's calculations based on the data from the State Statistics Committee of Uzbekistan

According to the results of the table, due to the multicolored rx2, x3 ≤ 0,830,753,135 between investment in fixed capital and export of goods, we export their export volumes. And with the following regression equation:

$$Y_2 = 1363{,}9 - 1{,}9 * X_1 + 0{,}02 * X_2 \quad (4)$$

The results of this () -buture reliability measure are summarized in the following table.

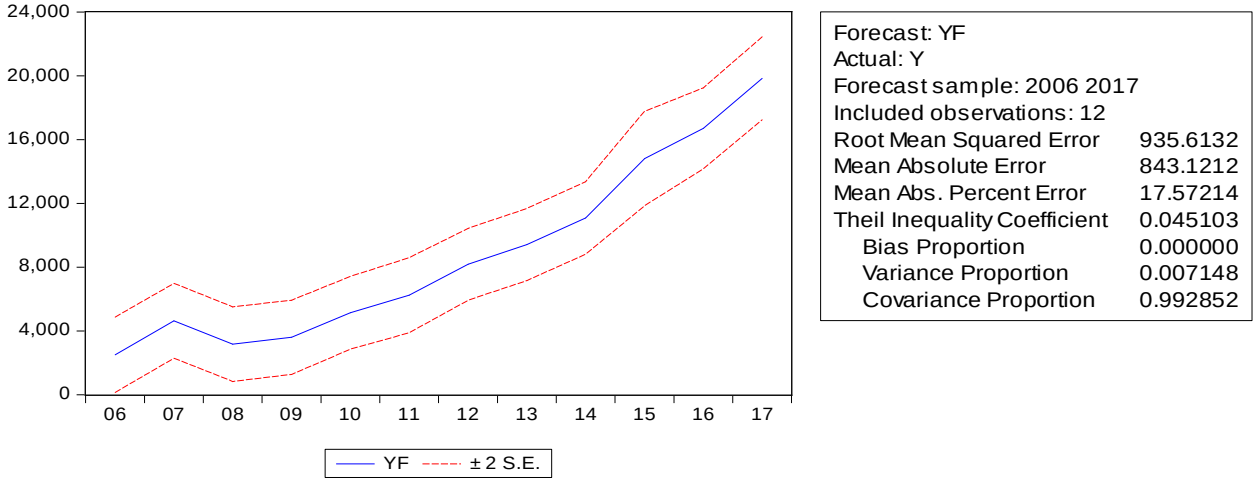
Table-7: The results of the adequacy of the regression equation (4)

Dependent Variable: Y		

ISSN 2394 - 7780

Method: Least Squares				
Date: 10/25/18 Time: 23:05				
Sample: 2006 2017				
Included observations: 12				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X1	-1.855743	2.464316	-0.753046	0.0107
X3	0.015776	0.002818	5.598741	0.0003
C	1363.909	568.3830	2.399631	0.0399
R-squared	0.971814	Mean dependent var		8772.600
Adjusted R-squared	0.965550	S.D. dependent var		5820.679
S.E. of regression	1080.353	Akaike info criterion		17.02028
Sum squared resid	10504465	Schwarz criterion		17.14151
Log likelihood	-99.12169	Hannan-Quinn criter.		16.97540
F-statistic	155.1535	Durbin-Watson stat		1.897198
Prob(F-statistic)	0.000000			

According to the results of the table, it seems that X1 is not significant according to the T-Statistic Indicator, in this sense, it is checked by MAPE and TIC criteria as the benchmark measurements of the forecast for checking the significance of the parammeter (Fig.1).



Based on the data presented in the picture, the predictive accuracy is good and the significance of the X1 () - corresponding to TIC> 1 is dependable and accurate, since 10 <MAPE <20%.

CONCLUSION

The results of the analysis of light industry enterprises in the Namangan region showed that the existing facilities are underused. In order to ensure the efficient operation of regional enterprises of light industry, it is necessary to develop “road maps” in the direction of routine control over the use of production capacity at such enterprises in the provinces, continuous monitoring and improvement. In this regard, first of all, it is necessary to achieve the effectiveness of any type of investment in light industry. In particular, it is necessary to effectively use foreign investment. More and more foreign direct investment should be introduced to light industry enterprises. At the same time, light industry enterprises need to revitalize innovation. That is, the achievement of innovation in each workplace is of great importance. Paying attention to the level of supply of raw materials to light industry leads to increased efficiency.

1. The results of the analysis indicate a low level of capacity utilization in the region.
2. It is necessary to carry out large-scale work to increase the gross regional product in the region.
3. The degree of dependence between changes in investment in the industrial sector and changes in gross domestic product (GDP) is very low and shows that the use of production capacity generated by these investments is small.
4. Attracting foreign investment, especially foreign direct investment, pays little attention to investment.
5. The performed analyzes require the implementation of investment and innovation processes on the basis of a previously prepared program of ready-made software both at the enterprises of the light industry of the

ISSN 2394 - 7780

region, and at the enterprises included in Uztekstilprom JSC. The implementation of these works will lead to the effective use of production capacity in the light industrial enterprises of the region.

6. The process of supplying raw materials to light industry enterprises has a great influence on the use of energy. At the enterprises that we analyze, low raw materials are low, and the use of these facilities is small. Thus, the level of supply of raw materials in all enterprises should be increased. Thus, the use of available energy increases.

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THE IMPACT OF E-COMMERCE ON RETAILING IN THE HANDSET INDUSTRY –AN EMPIRICAL STUDY

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ABSTRACT
A study on "The impact of e-commerce on retailing in the handset industry", This research supports to identify the customer buying behaviour towards the mobile phone and the aspects prompting the customer to acquire the handsets and we can know the customers buying behaviour during the purchase of mobile phone and it helps to know about the various factors influencing the purchase of a new phone and about the customer perception towards mobile phone. I gained a lot of exposure in e-commerce on retailing in the handset industry from this research. The data were analysed with the help of SPSS 20. Statistical tools and technique used for data analysis were percent analysis, Z test, and Annova. This Study shows that Online shopping is helpful for publics especially for constant monitoring and giving a real time feedback about the goods from added consumers who used goods online this leads to brand consciousness which is one of the good step for the get-together information.

Keywords: e-commerce, Consumer buying behaviour, Handset Industry, Key drivers, Parameters for buying

INTRODUCTION
e-commerce is the action of selling or purchasing of goods through online services or through the internet. e-commerce pulls on technologies include m-commerce, EFT-electronic Fund Transfer, SCM-Supply Chain Management, Internet marketing, Online transaction processing, EDI- Electronic data Interchange, Inventory Management systems and automated data collection systems. Contemporary e-commerce uses the WWW (World Wide Web) for at least it might use additional technologies includes e-mail. E-commerce business contain the buying online books i.e Amazon and music purchases (music will be downloaded in the manner of digital distribution includes iTunes Store and to a less extent, personalized/customized Online inventory services. Online retailing, electric markets, and online auctions are the 3 parts of e-commerce. The way of business in India has transformed by e-commerce. The e-commerce in Indian marketplace is predictable to develop to US$200 billion from the US$38.5 billion by 2017. The worth of e-commerce market is predicted to cross us$ 50 billion by 2018. Smart phone and internet has seen significantly development in the e-commerce industry. The digital conversion inside the U.S. is predicted to upward thrust in India's overall internet user ton 829 million via 2021(59 percentage of whole populace), from 373 million (28 percent of whole population) during 2016, and in the U.S. the entire range of networked gadgets.

E-COMMERCE IN INDIA
e-commerce in India over the last period has seen exponential development. This development is due to many related causes which includes the quick implementation of tools by the consumers in India and also there is a huge rise in the amount of the internet user's new technologies, new trade models and additional payment decisions presented by the e-commerce trades. Furthermore the excessive rise in the e-commerce continues unabated, with the division supposing to witness a steep increase in revenues during the upcoming years. The e-commerce business was worth Rs.351 (5.4 billion us$) billion in 2011 raised at a CAGR of 37% to touch RS.1257 in 2015. It was stated that the advanced level of digital engagement experienced yearly income growth of 27% more than that of the offline business due to several aspects includes reduction in the marketing and distribution costs, shorter time lag to the market and reduced inventory costs and it was adopted by MSMEs. In India the leading companies in e-commerce are helping to tackle some of the tasks faced by MSMEs, in adopting the e-commerce technologies like assisting strengths.

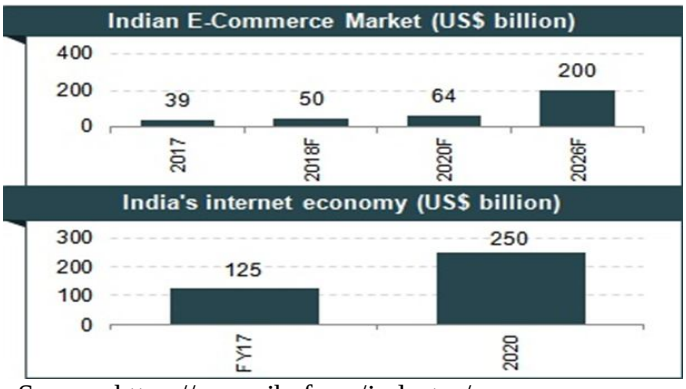
- The key involvement for the Indian economy
- Increase in employment opportunities
- High potential for trade
- Long lasting local brand image
- Low working cost weakness
- Lack of adequate financing
- Low capacity absorption

ISSN 2394 - 7780

- Low Promotion and branding
- Low use of information knowledge
- Low capacity use opportunities
- Positive worldwide image of India
- Bilateral and Multilateral Trade Agreements
- Worldwide Export Promotion Council Marketing Support
- Technology Upgrading Support Govt. Threats
- World Competition
- Local Large Enterprises Competition
- Excellence in the market
- Later Buyer expenditures 3 MSMEs in financing, training and technology adoption and encouraging them to engage with consumers on an actual basis

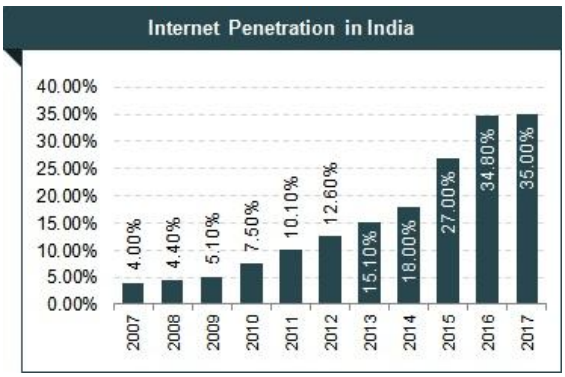
E-COMMERCE SECTORS IN INDIA

India's e-trade commercial enterprise is growing and is predictable to exceed the USA with the aid of 2034 to change into the most important e-commerce market in the global arena. The e-commerce market is anticipated to attain US$ 64 billion from US$ two hundred billion via 2026 with the aid of 2017. With the growing penetration of the net, Net users in India are predicted to increase from 481 million in December 2017 to 829 million via 2021. Increasing internet penetration is estimated to result in e-commerce development. India's net economic system is forecast to double from a hundred and twenty five billion in April 2017 to $250 billion in 2020, in particular supported through e-trade



Source: https://www.ibef.org/industry/ecommerce.aspx

Net penetration in India elevated from handiest 4% in 2007 to 35.03% in 2017, with a CAGR of 24.23% between 2017. As of December 2017, net penetration in urban regions in India elevated by way of 64.84% and in rural areas by 20.26%. Urban India, with an expected 444 million humans consistent with census in 2011, already has 295 million net clients as of December 2017. As of December 2017, Rural India, with an expect populace of 906 million as in line with the 2011 census, has 186 million internet customers, there is consequently plenty of possibility for growing penetration in rural areas. Day-to-Day user analysis shows that both fresh generations in urban and rural India are the biggest creative Internet operators. Increasing internet perceptions are expected to drive India's e-commerce growth.



Source: https://www.ibef.org/industry/ecommerce.aspx

ISSN 2394 - 7780

KEY GROWTH DRIVERS

The following are given key aspects enabling the development of the internet.

1. Increasing values of living in addition to this, house hold income increase annually.
2. Overseas, investors finance the e-commerce sector because of strong development forecasts
3. Costs of falling statement, large population promised broadband and 3G
4. Improved use of smartphones and drugs encourages e-commerce development plus the majority of revenue from mobile campaigns

STRATEGIES ADOPTED

Source: www.ibef.org

CONSUMER BEHAVIOUR ON E-COMMERCE

The Internet has been established rapidly since the last two decades and with the relevant digital economy, which is also widely supported by material knowledge. After a long period of internet development, which has rapidly upgraded web users and extremely fast internet assembly, and some original familiarity has also been recognized and user for web development, administrations can motivate and enhance product and facility

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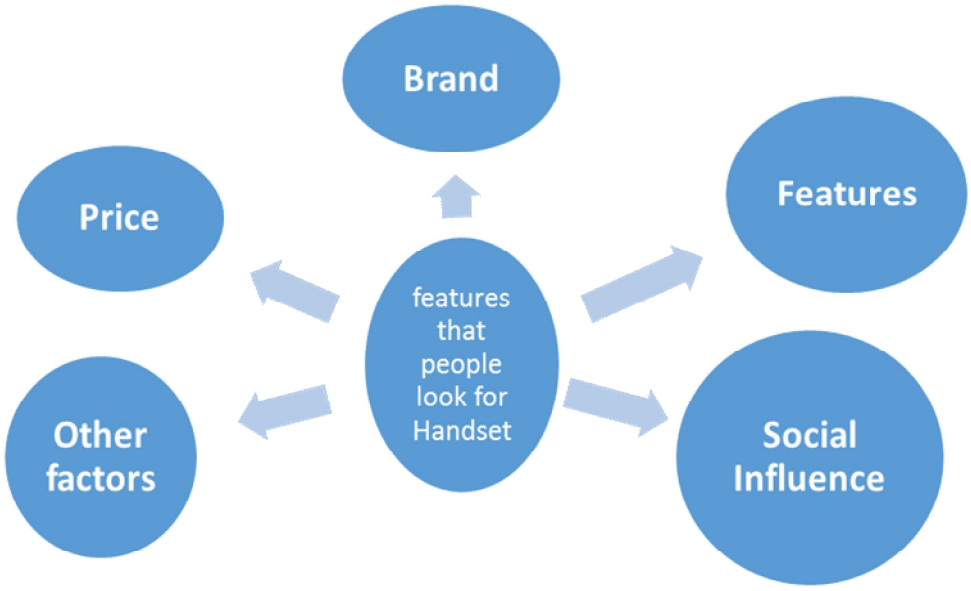
images through website. Therefore, more people improved their customer performance from the traditional way to relay on the internet shop for complete product data and better service charms. On the other hand, additional companies have understood that the change in customer behaviour is an inevitable trend and their sales plan is thus transformed. As the new investigations have shown, internet expenditure mainly in business to customer (B2C) has increased and online expenditure has grown to a more general number of people. There are many reasons for such a rapid development of internet shopping, mainly because of the remuneration provided by the internet. First of all, Internet offers have generously changed the accessibility of customers. Obviously, customers do not have to observe product facts, as the internet can help them to search online sites, and it also helps to estimate the low-cost purchase price between each site. The Internet can also improve customer usage of products more efficiently and efficiently than other networks to meet their needs. In addition, the internet can improve customer usage of products more efficiently and efficiently than other networks. Through more search engines, customers save time to access consumption related information and which facts combine images, sound and very comprehensive text information to help customers know and select the most suitable product. However, internet shopping poses latent risks for consumers, such as security of payment and after-service. Due to developed internet skills, Internet compensation has recently developed a common way to buy from the internet. Internet expenditure increases the efficiency of consumption, while virtual things reduce internet security.



BUYING MOBILE ONLINE

Net makes lifestyles easy and progressive. Human beings do enterprise online and its turn out to be easier and quicker. The internet offers new approaches of selling. The internet site will become an crucial part of the online commercial enterprise in order to expose its service and products. The internet gathers all customers and competition collectively. Web brings new course to improve, sell items and administrations in marketplace. Online consumers are usually looking for new objects, new attractive high-quality and the maximum vital factor being value similarity with their financial plan. The net is maximum best approach to spare time and coins via acquiring on the web inside their scope of spending plan any plan anyplace and each time. On-line client don't have cutoff factors to net based totally buying. They Moreover they use internet at correlation of costs of services and products, information, visit interpersonal organizations and hunt records, and so on.

REVIEW OF LITERATURE

Norazah Mohd Suki(2013) had recognized an study on "Students' dependence on smart phones The influence of social needs, social influences and convenience" in Emerald Group Publishing Limited . A solid connection also occurred among dependency on handset and students' buying behaviour. Social wants have the strongest influence on the students' dependency on handsets, followed by social influences. It is worthy to note that a very strong relationship exists between dependence on smart phones and students' purchase behaviour

Maria Jolanta Welfens, Julia Nordmann *, Alexandra Seibt and Martina Schmitt (2013) carried out a study entitled "Acceptance of Mobile Phone Return Programmes for Increased Resource Efficiency by Young People—Experiences from a German Research Project" in the journal resources. The need for recycling old phones has appreciably extended with their hastily growing international production and distribution but also for non-public records, amusement and private information garage. Mobile phones have become an increasing

ISSN 2394 - 7780

number of a prestige object for this target organization. The young youngsters are plenty more interested in new fashions of mobile phones, with the apps and gadgets that come with every new model; its miles tons much less critical what happens to their vintage phone.

Dr. Kanakaiah Madasi, Ch. Raghupataiah(2014) The purpose of this study, he investigate the "Buying Behaviour towards Mobile Phone : A Comparative Analysis of Rural and Urban Consumers" in Journal of Commerce and Management Thought .The present have a look at shows that there may be no huge difference of charge and stye cognizance for purchase of cellular phone between rural and concrete clients however there is widespread difference of first class, features and logo focus for buy of cellular telephone among rural and concrete customers. The look at specifies that rural patron primarily use friends (45%), tv (17%) and cellular cellphone retailer(12%) as the source of information, the purchase choice is taken by using self-choice(fifty two%), with the assist of own family (29%), and pals(18%) and most of rural clients are satisfied (84%)in Warangal district.

Abdalla Nayef Al-Refai, Nor Azila Bt Mohd Noor (2014) In his study on "The Influence of The Trust on Customer Satisfaction In Mobile Phone Market: An Empirical Investigation of The Mobile Phone Market" in International Journal of Management Research & Review, Trust is found to have a tremendous influence on the client pleasure in cellular smartphone enterprise. Simultaneously, pioneering services and items would help mobile telephones area to guide the innovation fashion observing for the pleasant ways to permit their customers. Mobile smartphone commercial enterprise has to expect the destiny demands of their clients and respond as a consequences.

Garima Malik and Ch. Abhinav Guptha (2014), in his study on "Empirical Study of Consumer Buying Preference towards Established and Emerging Mobile Brands "in **"**Bi-annual Journal of Asian School of Business Management". The cell telephone equipment producers must focus on the person desires of their consumer base with functions like 3G,email/internet, touch display, Battery life(speak Time & Stand by),song, Gaming, ordinary appearance, storage reminiscence, price. This can be achieved through a smart creation line extension and brand extensions of the present brands by adding or removing various features as mentioned above and as per the requirement of the demographic segments and their subsets.

Dr.Abdul Ghafoor Awan and Ms. Arooj Fatima (2014) This research aims to study the "Impact of Marketing Strategies on Youth Purchasing Behavior: A Case Study of Mobile Phone Industry" from British Journal of Marketing Studies .Have originated the gaining knowledge of has absorbed that how these plans used by cell phone businesses in Pakistan impact the acquisition choice of kids in selection in their mobile telephones. Then have a look at blanketed each male and female respondents to show that how advertising and marketing strategies utilized by marketers in terms of service fine, pricing, fee supplied, agree with and switching cost affects the shopping behavior.

A.Mohankumar and U.Dinseshkumar(2015) In their article they explained "customer purchase behaviour towards mobile phones" in " Journal of Business And Management". The present day observe is conducted in Erode city and it is decided to keep in mind distinctive mobile telephones' like Nokia, Micromax, Sony Ericsson, Samsung, HTC. The consumer buying a variability of cell telephones which fulfill his needs and they're continually inspired by using his shopping for sports with the aid of some considerations which lead him to choose a selected emblem or a specific shop in desired to others. Clients regularly desired Nokia cell telephones.

Joshi Sujata, Jog Yatin, Chirputkar Abhijit, Shrivastava Noopur and Doshi Ruchi (2016) in their article they explained "Factors Affecting Smartphone Purchase among Indian Youth: A Descriptive Analysis" in the journal named Indian Journal of Science and Technology. The look at show that the young scholar's preference of smartphone is affected by 5 features namely as era elements, hardware elements, basic factor, brand elements and financial elements. Out of these, generation has the maximum significant influence. OS model and hardware functions have a giant impact on young pupil's desire whilst buying a smartphone.

M. Valli Mayil1, C. Anusuya1, H. Sakthi Vadivel Pandian(2016) This research aims to study the "A Study On Consumer Behavior Towards Cell Phone With Reference To Sivakasi" in International Journal of Management Research & Review. It was strong that as consumer needs more functions so cell smartphone manufactures should growth the number of capabilities. Cutting-edge consumers need to recognize now not handiest about the product features but also to recognize how and why the product will advantage them.

K.PRABHA KUMARI (2017) this aim to study the "A Study on Buying Behavior in Selecting Mobile Phones with Reference to Tirupur City" from International Journal for Innovative Research in Multidisciplinary Field.

ISSN 2394 - 7780

The existing observe is conducted in Tirupur city and it is decide to recollect different cellular telephones' like Microsoft, Sony Ericsson, Samsung, LG and HTC. This observe allows to realize the consumer which led him to choose a selected emblem or a particular save in preferred to others.

STATEMENT OF THE PROBLEM

Several investigation has been done on e-Commerce, The studies done so far have not touched the effect of web based business on retailing in the handset business so the topic of the study is The impact of e-commerce on retailing in the handset industry- an empirical study

OBJECTIVES

- To study the various factors influencing the purchase of a new phone.
- To understand the customers perception towards online shopping.
- To analyse demographic background of the respondents.

RESEARCH METHODOLOGY

Research Methodology is a way to methodically to solve the research problem. Facts and records are accrued from each primary and secondary sources. The primary facts were accrued in the course of the length from September 2018 to October 2018 via based questionnaire. Convenience sampling method was adopted to select 100 respondents in Coimbatore. The data were analyzed with the help of SPSS 20. Statistical tools and technique used for data analysis were percent analysis, z test, and Anova.

PERCENTAGEANALYSIS

Profile variable		**Frequency**	**Percentage**
Gender	Male	59	59
	Female	41	41
Age	up to 30	89	89
	30-40	9	9
	41- 50	2	2
Education	up to UG	38	38
	PG	58	58
	Doctorate	1	1
	Others	3	3
Current status	Student	70	70
	Employee	25	25
	Unemployed	5	5
Main reason for online shopping of smart phone	Price	34	34
	Convenient and time saving	31	31
	Faster Delivery	8	8
	Trust	7	7
	Product available/first available only online	20	20
Main feature of the smart phone	Long lasting battery	13	13
	Crystal clear display	6	6
	Storage capacity	23	23
	Quality	28	28
	Processor Speed	30	30
Main feature for online shopping website	Multiple payment gateways	14	14
	Credibility	18	18
	Safe and secure checkout	27	27
	Design	10	10
	Customer friendly	31	31
Kind of Online web portal prefer	Web sites rated high by customers	11	11
	Web sites which have been recommended by customers	9	9

ISSN 2394 - 7780

	Web sites which have received good reviews	36	36
	Web sites which provide goods at low price	25	25
	Web site which has good reputation amongst customers	19	19

INTERPRETATION

From the above table it is clearly understood 59% are male and 61% are female. Majority of the respondents are male. 89% of people are below are upto the age of 30, 9% of people are between 31- 40. 2% of people are between 41-50.The age level of the majority of the respondents are upto30. 38% of people's educational qualifications are upto UG. 58% of people belongs to PG.1% of Doctorate and 3% of others. Majority of the respondents are belongs to the age PG. The current status of respondents are 70% are students, 25% of respondents are employee, 5% of respondents are unemployed. Majority of the respondents are students. 34% of people are buying mobile phone through online is because of Price,31% respondents buy for convenient and time saving, 8% for Faster Delivery, 7% for trust, 20% for Product available/first available only online. Majority of the respondents are for Convenient and time saving. For 13% of respondents long lasting battery is the main feature of the smart phone, for 6% of respondents it is Crystal clear display, for 23% it is storage capacity, 28% it is quality and for 30% of respondents it is Processor Speed. Majority of the respondents prefer processor speed as the main feature of the smart phone. 14% of the people prefer multiple payment gateways as the main feature for online shopping website. 18% of people prefer for Credibility. 27% for Safe and secure checkout, 10% for Design, 31% for Customer friendly, 11% of respondents prefer Online web as Web sites rated high by customers, 9% for Web sites which have been recommended by customers, 36% for Web sites which have received good reviews, 25% of respondents for Web sites which provide goods at low price, 19% of respondents for Web site which has good reputation amongst customers.

Z-TEST

Gender Construct

Null Hypothesis:

Male and female have on an average same level of performance and important on e-commerce on retailing in the handset industry.

Alternate Hypothesis:

Male and female do not have on an average same level of performance and important on e-commerce on retailing in the handset industry.

Constructs	Gender	Mean	Z	Sig.	Remark
Preference	Male	18.79	0.992	0.324	Not significance
	Female	19.63			
Important	Male	20.03	1.521	0.132	Not significance
	Female	21.85			

From the above table it is understood that for the constructs preferences and important on E-commerce on retailing in the handset industry, the calculated significance value is greater value is greater than 0.05. The null hypothesis is accepted. It is concluded that male and female do not differ significantly.

ONE WAY ANNOVA

Age on Construct:

Null Hypothesis: Respondents belonging to different age group have on an average same level of preference and important on e-commerce on retailing in the handset industry.

Alternative Hypothesis: Respondents belonging to different age group do not have on an average same level of preference and important on e-commerce on retailing in the handset industry.

Constructs	Age	Mean	F	Sig.	Remarks
Preference	Less than 30	18.82	2.64	0.07	Not significance
	31-40	22.11			
	41-50	20.00			
	Less than 30	20.31			

ISSN 2394 - 7780

Important	31-40	24.55	2.57	0.081	Not significance
	41-50	24.50			

From the above table it is understood that different age group have preference and important factor, the calculated significance value is greater than 0.05, the null hypothesis is accepted. It is concluded that opinion between different age group respondents do not differ significantly.

EDUCATION ON CONSTRUCT

Null Hypothesis: Respondents belonging to different educational group have on an average same level of preference and important on e-commerce on retailing in the handset industry.

Alternative Hypothesis: Respondents belonging to different educational group do not have on an average same level of preference and important on e-commerce on retailing in the handset industry.

Constructs	Education	Mean	F	Sig.	Remarks
Preference	up to UG	18.94	0.073	0.97	Not significance
	PG	19.27			
	Doctorate	20.00			
	Others	18.66			
Important	up to UG	21.21	0.182	0.90	Not significance
	PG	20.51			
	Doctorate	23.00			
	Others	19.66			

From the above table it is understood that different educational group have preference and important factor, the calculated significance value is greater than 0.05, the null hypothesis is accepted. It is concluded that opinion between different educational groups respondents do not differ significantly.

OCCUPATION ON CONSTRUCT

Constructs	Occupation	Mean	F	Sig.	Remarks
Preference	Student	18.82	0.96	0.38	Not significance
	Employee	19.6			
	Unemployed	21.2			
Important	Student	20.42	0.41	0.65	Not significance
	Employee	21.52			
	Unemployed	22.00			

From the above table it is understood that different Occupational group have preference and important factor, the calculated significance value is greater than 0.05, the null hypothesis is accepted. It is concluded that opinion between different educational groups respondents do not differ significantly.

FINDINGS

From this Study I came to know that the Majority of the respondents are Male and 89% of the respondents falls under the age group below 30 years. It is found that Male are purchasing higher no. of products through online than female. The Price is considered as the main reason for online shopping of smart phone. Majority of the respondents considered Processor Speed as the main feature of the smart phone. 36 % of the respondents considered Customer friendly is the main feature for online shopping website. Majority of the respondents prefer the Web sites which have received good reviews. Improving the customer experience is the top priority.

CONCLUSION

e-commerce has an influence for building consumer relationship. Study showing that online shopping is helpful for publics especially for constant monitoring and giving a real time feedback about the goods from added consumers who used goods online this leads to brand consciousness which is one of the good step for the get-together information, shopping purpose and it is a worthy stage for association building and also it helps through suggestion about proposals to receive more and redeemed shopping points which will lead trustworthy customers in future. Consumer choose consumer friendly websites for online shopping. The online shops with the cheeriest client tends to be the ones that offer a personal service, worth items and deliver quickly and fittingly. As per the advertising rivalry the cost is a key component of the fascination would need to consider the condition and offer the higher popularity item.

ISSN 2394 - 7780

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ANALYSING OF DEVELOPMENT VERTICAL INTEGRATED TEXTILE ENTERPRISES IN UZBEKISTAN

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ABSTRACT
In this paper was sdudied based on econometric modeling of particular economic objects, founded the factors affecting the object and the econometric model of the question of the effectiveness of the impact, and the work on various options on the computer, make the right decisions in the development of future activities. In order to make good economic analysis and make a decisive decision, it is necessary to choose regression calculations and the best, adequate regression equations and econometric modeling of economic sectors.

Keywords: textile, vertical integration, production, regression, coefficients, rate.

INTRODUCTION
Light industry of Uzbekistan is one of the leading and dynamically developing industries. According to the State Statistics Committee, in 2016 the industry accounted for 26.2% of the total industrial volume of the country, its share in GDP was 3.8%, and in the production of non-food consumer goods - over 44%. The annual growth in the industry's output in recent years has been about 18%, and exports - 10%. The annual capacity of enterprises in the industry is about 480 thousand tons of yarn, 290 million square meters. m of cotton fabrics, 101 thousand tons of knitted fabric, 275 million pieces of garment and knitwear, 53.1 million pairs of hosiery products, 2.1 thousand tons of raw silk. Enterprises also produce medical goods, nonwovens, wadded products, special working and uniforms, and terry products. The total number of light industry enterprises as of 2016 amounted to 6,896, of which almost 50% are represented in the form of a limited liability company (LLC). Uzbek textile products are exported to more than 50 countries of the world. Exports of textile products to the foreign market instead of cotton fiber against the background of a decrease in its demand for the world market would allow increasing export proceeds no less than twice, and export of finished knitwear and garments from 4 to 20 times.

The vertical integration of economic sectors on the basis of structural transformation is crucial not only for the development of network production, but also for the improvement of innovative activity management. In this regard, this article was thoroughly studied in detail in the state of vertical integration processes in the innovation activity of enterprises through the econometric analysis of the enterprises that are part of the Uzbek Light Industry Association "Uztukimachisanoat".

ANALYSIS AND RESULTS
The choice of regression calculations and best regression equations serves as an invaluable and universal weapon in many economic sectors: marketing, trade, medicine, modeling of production enterprises, forecasting business and research. Effective actions of entities operating under a complex market economy depend on their well-coordinated market analysis of the market and the necessary decisions.

At the same time, models and models of modeling, modeling, demonstration of the results obtained from the results of modeling, will make practical use of the solutions in the market economy. Econometric modeling in the case of certain economic objects, studying the factors affecting the object and assessing the effectiveness of the model will help to model the problem and make economic and mathematical studies on various variants of the computer and to make the economical and mathematical interpretation of the results. Analyzed economic and mathematical models and methods allow optimal decision making in market relations. Models should be created after the economic-mathematical modeling is based on real processes and when they are tested for their significance by different criteria.

In the process of creating econometric models using a correlation-regression analysis, the latent yet unobservable, hidden laws of the multilateral economy, which ensures effective decision-making by producers and consumers.

The vertical integration of the economic sectors of the Republic of Uzbekistan on the basis of structural transformation plays an important role not only in the development of the industrial production, but also in improving the management of innovative activities. In this regard, it is possible to scientifically study the state of vertical integration processes in innovative activity of enterprises through the econometric analysis of enterprises, which are members of the Uztoqimachisanoat Association of light industry of Uzbekistan.

ISSN 2394 - 7780

For this purpose, the products of the enterprises included or not included into the structure of the Association "Uztukimachisanoat" of the Republic of Uzbekistan -Y Number of enterprises affected -X_1, prime cost of goods (works, services) -X_2, net proceeds from sale of products (goods, works and services) -X_3, Starting amount of fixed assets -X_4 and depreciation of fixed assets -X_5 economic indicators will be selected based on the definition.

Based on selected factors, their level of interconnection can be determined through the correlation coefficient in the Stata 12.0 program. According to the table data, there is a strong link between the selected factors and the factors that make the relationship between intense and $|r_{x_1,x_2}| < 0{,}8$, it can be determined that there is no multicollearity between the factors and the regression equation can be created. Regression equation shows the functional relationship between the factors selected by the factor and the selected factors. (Table 1).

Table-1: Correlation analysis of economic indicators of enterprises of Uztukimachisanoat Association of the Republic of Uzbekistan

	Y	X_1	X_2	X_3	X_4	X_5
Y	1					
X_1	0,843385	1				
X_2,	0,0136894	0,6587412	1			
X_3	0,0671652	0,6231547	0,3256641	1		
X_4	0,0524892	0,3215412	0,2214470	0,5152140	1	
X_5	0,0803231	0,5236664	0,2123669	0,3332149	0,1322950	1

Source: author's calculations.

It is best to use the most effective Eviews software to create a regression equation. At the same time it is necessary to check the reliability and acceptability of definite regression equations on the basis of certain criteria.

This model is being analyzed "Akaike-$AIC = 11{,}02$", "Schwarz-$BIC = 14{,}25$" and "Hannan-Quinn-$HQ = 13{,}97$" and its first elemental sequence of elements is a statistical test that allows you to test autocorrelation - Durbin-Watson-$DW = 1{,}41$ The equation of regression equations, defined by the equivalence value, is expressed as follows:

$$Y = 94,14 + 0,84 \cdot X_1 - 0,01 \cdot X_2 + 0,06 \cdot X_3 + 0,05 \cdot X_4 - 0,08 \cdot X_5 \quad \textbf{(2)}$$

Here: Y - production capacity of enterprises;

X_1 - number of enterprises;

X_2 - prime cost of goods (works, services);

X_3 - net proceeds from sale of products (goods, works and services);

X_4 - Starting amount of fixed assets;

X_5 - depreciation of fixed assets;

According to the regression equation determined by the current situation, the increase in the number of enterprises created or included in the structure of the Association "Uztukimachisanoat" by 1 units would increase the volume of production by 0,84 units, net sales of products (goods, works and services) – 0,01 units and the starting value of the equipment was 0,06 units more.

The net profit of the enterprises, which are members of the Uztukimachisanoat Association - Y and investment in enterprises as factors affecting it - X_1, profit before tax - X_2, period expenses - X_3 and the starting value of property, plant and equipment - X_4, which allows you to make accurate scientific conclusions on the selected industry. For this purpose, the correlation between the selected parameters is determined in the Stata 12.0 program and the result is expressed in the table-2.

ISSN 2394 - 7780

Table-2: The correlation link between pure benefits and factors affecting it

	Y	X_1	X_2	X_3	X_4
Y	1				
X_1	0,211145	1			
X_2	0,917014	0,108958	1		
X_3	0,532146	0,14475	0,4496288	1	
X_4	0,022364	0,084492	0,742014	0,2264874	1

Source: author's calculations.

According to the results of Table 3, the net profit of the enterprises included in the Association "Uztokimachisanoat" is strong (0.986158078), with the remaining period expenses and the rest $r_{Y,X_3} = 0{,}695$, $r_{Y,X_5} = 0{,}734$ and $r_{Y,X_4} = 0{,}713$ was found to have a denser linkage than average.

Based on the correlation link between these factors, we create a regression equation. According to him, the equation of regression is expressed as follows:

$$Y = 16{,}8 + 0{,}211 \cdot X_1 + 0{,}917 \cdot X_2 - 0{,}53 \cdot X_3 + 0{,}022 \cdot X_4 \qquad \textbf{(2.2)}$$

Here: Y - net profit of enterprises;

X_1 - the volume of investments into enterprises;

X_2 – Benefits of enterprises before they pay profits;

X_3 – operating costs of enterprises;

X_4 - Starting amount of fixed assets.

At the expense of equity (2.2), the increase in the value of investments to enterprises included in the Association of Uztukimachisanoat, profit before tax, and the starting value of fixed assets increased by 10%, net profit of enterprises - 2.1%, 9.2% An increase of 0.22 percent. It should be noted that during the research period, it was determined that the companies included in the association had overdue expenses, while increasing the cost of 10 units would lead to a 5.3-fold decrease in net profit. It is desirable to provide businesses with economical and alternative energy.

Fisher criteria $k_1 = 14$, $k_2 = 6$ and $\alpha = 0{,}05$ when $F_{table} = 2{,}74$ and, according to the condition $F_{av} > F_{table}$ will be. Styudent distribution *t*- on the basis of criteria $\alpha = 0{,}05$ value ratio and $df = 14$ the value of freedom levels by number $t_{crit} = 1{,}145$ equality $t_{av} > t_{crit}$, since x and y are independent of correlation, and for all equations (2.2), the equation equation is reliable.

In order to assess the effectiveness of the vertical integration of innovation process management in the conditions of a diverse market economy, it is necessary to compare the activities of enterprises which have been or are part of the Uztukimachisanoat Association. Therefore, an econometric analysis of the enterprises that are not yet members of the Uztukimachisanoat Association. Net profit of enterprises not included in the "Uztukimachisanoat" Association based on the data of the State Statistics Committee of the Republic of Uzbekistan - Y and investment in enterprises as factors affecting it - X_1, profit before tax - X_2, period expenses - X_3 and the starting value of property, plant and equipment - X_4 indicators were selected.

Using the above-mentioned methods, we conduct an econometric analysis of the enterprises of the Tashkent region, which are members of the Association "Uztukimachisanoat". For this purpose, the volume of production of the enterprises of Uztokimachisanoat Association - Y and number of enterprises as factors affecting it - X_1, the cost of sold goods (goods, works and services) - X_2, net proceeds from sale of products (goods, works and services) - X_3 and the starting value of property, plant and equipment - X_4 and depreciation of fixed assets - X_5 indicators were selected.

According to the results of table 8, the selected factors were strongly correlated with the resultant factor, and multicolleality was not observed among the factors.

ISSN 2394 - 7780

Table-8: Correlation coefficients of the enterprise of Tashkent region

	Y	X_1	X_2	X_3	X_4	X_5
Y	1					
X_1	0,77012	1				
X_2	0,885467	0,336510	1			
X_3	0,774561	0,01456	0,41356	1		
X_4	0,069513	0,400123	0,88111	0,29972	1	
X_5	0,884711	0,554607	0,419711	0,18664	0,39653	1

Source: author's calculations.

On the basis of correlation coefficients $Y = f(x)$ Functional linkage is determined by the regression equation of the volume of production of enterprises, which are a part of the Association "Uztukimachisanoat" in Tashkent region:

$$Y = 33,74 + 0,65 \cdot X_1 - 1,26 \cdot X_2 + 0,51 \cdot X_3 + 0,32 \cdot X_4 - 1,18 \cdot X_5 \quad \textbf{(2.4)}$$

Here: Y - production capacity of enterprises;

X_1 – the number of associations;

X_2 - the cost of sold goods (goods, works and services);

X_3 - net proceeds from sale of products (goods, works and services);

X_4 - Starting amount of fixed assets;

X_5 - depreciation of fixed assets.

According to the 2.4 equation, the volume of output made up 7.7 per cent due to the increase in the number of enterprises included in the association, the initial value of the net sales of the product and the cost of the fixed assets; It was found that an additional increase of 4.3 and 2.5 units would occur. It is desirable now to develop measures to reduce the prime cost of the goods (goods, works and services) sold at these enterprises and the depreciation of fixed assets. This is due to the fact that the increase in the cost of goods sold at a per cent (goods, works and services) will lead to a decrease of 1,85 per cent and 1,3 per cent of the production volume due to depreciation of fixed assets.

(2.4) - The reliability and acceptability of the regression equation is given in the following table.

Table-9: Reliability criteria for the production output of regressive equity enterprises of Tashkent region, "Uztakkimachisanoat" Association

R-squared	0.971362	Mean dependent var	106.4250
Adjusted R-squared	0.966695	S.D. dependent var	46.00613
S.E. of regression	2.11464	Akaike info criterion	8.794668
Sum squared resid	78.01254	Schwarz criterion	9.037121
Log likelihood	-32.24136	Hannan-Quinn criter.	8.704903
F-statistic	231.9651	Durbin-Watson stat	1.947515
Prob(F-statistic)	0.000000		

Source: author's calculations.

According to the table data (2.4), it is possible to see the reliability and equivalence of the equation of the equation. Table t-criterion for the Stylerent distribution $\alpha = 0,05$ value ratio and $df = 11$ the value of freedom levels by number $t_{table} = 2,20$ e, $t_{X_2} = 2,79$ $t_{X_5} = 5,38$ and $t_{X_4} = 2,33$ equality $t_{hisob} > t_{table}$ since x and y are correlated correlated. But this is the place $t_{X_1} = -0,43$ $t_{X_3} = -1,82$ and $t_{X_5} = -3,15$ we use the criteria for determining the quality of the prognostic model of the significance of the equation that is determined by the equation.

According to him, $\mathrm{MAPE} = 1.935465\ \%$ and $\mathrm{TIC} = 0.011549$ because of the t-criterion of the distribution of X_1, X_3 and X_5 the expression in the regression equation will ensure that the enterprises of the Uztukimachisanoat clearly reflect the change in their product size.

ISSN 2394 - 7780

CONCLUSION

According to the results of econometric analysis developed by the author, the enterprises of Tashkent region, which have not been members of the association, have received 3277 billion soums. It was found that the volume of production of the sum amounted to 447 units, while the number of enterprises reached 330. According to the results of the research, the lower and upper limit of the enterprises is in the range 330 <447 <841, which is explained by the low profitability of many enterprises (7.0% for the basic period).

It is also worth noting that the cost of products sold at these enterprises has increased (in fact, 4569 billion soums in 2016) 1950 <4569 <5287 Inequality has shown that the cost of the product has reached a high level, and measures should be taken to reduce production costs in enterprises. To do this, it is desirable to set up enterprises with cost-effective new techniques and technologies and to launch innovative activities.

It is desirable for companies to become members of the Uztoqimachisanoat Association in order to increase the volume of production, first of all it is necessary to involve the existing enterprises in the association, and currently there are 18 enterprises in the association. If you look at the results of the survey, 201.6 billion will be invested in 201.6 billion dollars. It could produce up to 12 products (actually 18 in 2016). It should be noted that, according to the volume of production made in 2016, the number of companies that were members of the association was within the range of 12 <18 <23. In addition, the profitability of the enterprises included into the structure of the association is 11.1%, which is characterized by the 4.1% increase in the profitability of enterprises not affiliated with the Association.

The value of the products sold at the enterprises included in the Association amounted to 167.3% <270.0, the actual value of the product sold in 2016 amounted to 201.6 billion soums. soums. If these indicators were compared to the volume of production compared to those that were members of the association, the bh unit cost of the unit was 0.01 and 0.014 percent respectively.

In sum, modernization of enterprises in the conditions of globalization, improvement of vertical integration with higher organizations will ensure the uninterrupted operation of enterprises and increase the effectiveness of innovation in them.

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ORGANIZATIONAL ASPECTS OF INTERNAL PRODUCTION ACCOUNTING IN THE ENTERPRISE MANAGEMENT SYSTEM

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ABSTRACT
The article is devoted to the basic concepts of the essence of production accounting, tasks and its role in management. The article outlines the organizational aspects of internal accounting in the enterprise management system. The author proposes a segmented report on the enterprise with a single-stage and multi-stage calculation of marginal income.

Keywords: internal accounting, management accounting, enterprise information system, cost centers, accounting policies.

INTRODUCTION

In 2015, a lot of work was done to radically change the principles and approaches in the system of corporate governance, giving it a truly market character. In 2015, investments were attracted and mastered from all sources of financing in the equivalent of 15.8 billion US dollars, or with an increase of 9.5 percent compared to 2014. At the same time, over $ 3.3 billion, or over 21 percent of all investments, is foreign investment, of which 73 percent is foreign direct investment. 67.1 percent of all investments were directed to industrial construction. This allowed in 2015 to complete construction and ensure the commissioning of 158 large production facilities with a total value of $ 7.4 billion. As noted in the World Bank report, Uzbekistan is now among the top ten countries in the world, which over the last year achieved the best results in improving the business environment for business activities. Thanks to the measures taken, the share of small business and private entrepreneurship in gross domestic product has increased percent in 2000 to 56.7 percent now, or 1.8 times. In this area today one third of all industrial and 98 percent of agricultural products are produced. It employs more than 77 percent of the total employed population [1]. In this regard, in the conditions of modernization, technical and technological equipment of the enterprise and its industries, special attention is paid to the management of its units. This is due to the fact that it is here that the main material, labor and financial resources of the enterprise are concentrated. Therefore, the task is to study the problems of the internal management of an enterprise of a theoretical, organizational, methodical, practical nature in the system of internal accounting and analysis.

ANALYSIS AND RESULTS

Organization of accounting for internal production units (segments) of enterprises is often identified with cost accounting, but it does not pay due attention to income accounting. Another important principle of enterprise internal accounting and analysis is the principle of accounting decentralization. o-analytical work. The organization and methodology for the formation of intra-production information requires the development of its methodological foundations. We agree with the opinion of Edgulov M.R. in terms of separation organizational and methodological procedures for internal information support and consider it to be edited as follows:

- Segmentation of internal divisions;
- The introduction of clarifications in the organizational structure of the enterprise with the purpose of their division into segments;
- Classification of direct costs of internal production units i.e. segments, the choice of base allocation of indirect costs;
- Development and approval of accounting policies, working chart of accounts and correspondence of these accounts [2].

From our point of view, the segmentation of the enterprise activity is feasible in two directions: the business and reporting segments. With such a separation, segmentation as a database of management information support will create prerequisites for the implementation of the two most important functions of system accounting - analytical and control. The allocation of business segments allows you to organize the process of accounting and monitoring the implementation of the plan, to analyze the deviations that occur, which means an analytical function, and the preparation of segmental reports - the control.

In contrast to Edgulov M.R. another scientist Vakhrushin MA classifies the segmentation by technological process, by market and sales channels. Internal business segmentation into business and reporting solves the

ISSN 2394 - 7780

issue of management information support and creates a motivation mechanism that has a positive effect on the organizational behavior of executive managers. Such an approach to business segmentation is caused by the diversity of requirements imposed by management on the information base used by them in the management process.

Internal accounting provides the management of the enterprise with qualitatively other information that is necessary for the planning processes, accounting, control and evaluation of activities both for the enterprise as a whole and for its structural divisions.

Many domestic scientists identify internal accounting with management accounting. The scientific points of view of domestic scientists and practitioners in generalized form can be represented, in our opinion, as follows:

Management accounting is the same accounting for the cost of production and costing of production in the accounting system. The term "management accounting" should be understood as "accounting management" enterprise. This view is held by –P.S. Bezru.

From the point of view of A. Ibragimov, I. Ochilov, I. Kuziev, N. Rizayev: “The main task of management accounting and reporting in the system of corporate governance is to ensure the collection, analysis and provision of information to enterprise management for making the most rational decisions” [5].

R.D.Dusmuratov and D.U.Mamadiyarov believe that “Managerial Accounting is a new interpretation of internal accounting adapted to the requirements of a market economy in the context of deepening economic reforms and liberalizing the economy” [6]. According to A.Kh. Pardaev: “The goal of management accounting is to provide the necessary information for company management and managers to make informed decisions” [7]. The essence of modern management accounting can be defined as an integrated management system for planning and accounting for costs and revenues, rationing, monitoring and analysis, which provides for the systematization of information for operational management decisions and coordination of solving problems of a modern enterprise. This position is occupied by F.B. Klichev [8].

Summarizing the above opinions, in relation to the current conditions of the national accounting methodology and accounting enterprise, internal accounting, in our opinion, should be considered as an independent function of the enterprise management system as a whole by its departments using forecasting, planning, budgeting, accounting and analysis of the enterprise.

It should be noted that the information base on the activities of an economic entity used in the systems of financial, tax and internal management types of accounting is based on a single financial accounting. To solve the tasks, the source data should be processed using three different algorithms, which provide the principles, rules and methods of conducting each of the specified types of accounting.

Universal regulation and systematization of this process is carried out using the accounting policies of the enterprise. In particular, at the initial stage, factors affecting the formation of accounting policies for internal accounting are analyzed. They are conventionally divided into internal and external factors. One of the most important stages in the formation of accounting policies for internal accounting is the isolation of elements of internal accounting, the implementation of which should be facilitated by internal accounting policies.

In a market environment, cost and profit management is the most important strategy for the survival of an enterprise. One of the effective tools for such management is segmental analysis. Segmental analysis is a combination of classical economic analysis, the basic principle of which is the consistent decomposition, decomposition of the object under study and factors affecting it, and the marginal approach, which involves dividing costs into variable and permanent and deriving marginal income. Such an analysis is based on segmented reporting, tons . reporting, compiled for those activities, information about the costs and income which are of interest to managers.

As such items can be structural units, types of products, production lines, customers, sales territories. At the same time, a high degree of analyticity is achieved in the case when information about costs, sales and, accordingly, revenues is gradually concretized as it moves to more detailed segments of the economic and financial activity of the enterprise. For example, first of all, a report is analyzed in which the segments are the workshops that are part of an enterprise, then for each workshop, the manufactured products are considered as segments. For each type of product, in turn, a detailed elaboration is carried out in the context of sales territories, etc. In compiling segmented statements, the amount of marginal revenue (amount of coverage) brought by each segment, i.e. its contribution to the formation of profit marginal income (amount of coverage) brought by each segment, i.e. its contribution to the formation of the profit segment of a higher level or the enterprise as a whole. There are two possible approaches to the compilation and analysis of segmented reporting.

ISSN 2394 - 7780

In the first case, the so-called simple (single-stage) calculation of marginal income is used, when for each segment such income is defined as the difference between its sales and variable costs. At the same time, fixed segment costs do not apply, i.e. are treated as unallocated and deducted from the amount of marginal income received by all segments. So, a report to an enterprise, in which its workshops are considered as segments, looks as follows (Table 1).

Analysis of the presented segmented report shows that the marginal income provided by shop No. 1 significantly exceeds the similar income received by shop No. 2 (2500 thousand units versus 1500 thousand units, that is, more than 66%), and forms over 62% of the marginal income to the enterprise (2500 thousand in. from 4000 thousand in.). The ratio of marginal revenue to sales revenue, i.e. gross profit margin, which characterizes the level of profitability of the products manufactured and sold, at shop No. 1 exceeds the corresponding figure of another shop by 29% (47.2 against 36.6%).

As can be seen from the above example, segmented reporting already with a simple (one-step) calculation of marginal income represents a certain information base for analysis. However, since it is necessary to cover (recover) fixed costs for profit, it is of interest for the analyst to what extent each segment is involved in the formation and, most importantly, in covering these costs. In this connection, it is preferable to use a two-step calculation of marginal income, in which special (direct) and general ones are allocated (indirect) fixed costs.

Table-1: Segmented report on the enterprise with an increase in (one-step) calculation of marginal income

Indicators	workshop №1		workshop №1		Total enterprise	
	Thousands of dollars USA	%	Thousands of dollars USA		Thousands of dollars USA	%
Sales revenue	5300	100,0	4100	100,0	9400	100,0
Variable costs	2800	52,8	2600	63,4	5400	57,4
Marginal income	2500	47,2	1500	36,6	4000	42,6
Fixed costs	-	-	-	-	3370	35,9
Operating profit	-	-	-	-	630	6,7

Special (direct) fixed costs can be directly attributed to specific segments, and the total - are considered as costs that arise at a higher level of segmentation or at the enterprise level as a whole, and do not apply to segments. In this case, reporting, in which the workshops are segments, will have the following form (Table 2).

Analysis of the information contained in the table. 2, allows us to draw conclusions that are significantly different from previous ones. So, although marginal income 1 for workshop No. 1 exceeds the revenue of workshop No. 2 by 1 million CU, however, the direct fixed costs in the first case significantly higher both in absolute terms (1870 thousand units of AD against 930 thousand of units) and in relative terms (35.3% against 22.7%). As a result, marginal income 2, which is formed after the distribution of special (direct) fixed costs and which is also called segmented profit, in shop No. 1 is insignificant compared with marginal income 1 exceeds the similar indicator in shop No. 2 (630 thousand decks against 570 thousand de, ie 10.5%). Moreover, if the gross profit ratio for shop No. 1 exceeds that for shop No. 2 (47.2% versus 36.6%), then the segmented profit factor. The segmented earnings ratio is determined by the ratio of marginal income 2 (segmented profit) to sales revenue.

Table-2: Segmented report on the company with a two-step calculation of marginal income

Indicators	workshop №1		workshop №1		Total enterprise	
	Thousands of dollars USA	%	Thousands of dollars USA	%	Thousands of dollars USA	%
Sales revenue	5300	100,0	4100	100,0	9400	100,0
5Variable costs	2800	52,8	2600	63,4	5400	57,4
Marginal income 1	2500	47,2	1500	36,6	4000	42,6
Direct fixed costs	1870	35,3	930	22,7	2800	29,8
Marginal income 2	630	11,9	570	13,9	1200	12,8
Total fixed costs	-	-	-	-	570	6,1
Operating profit (sales profit)	-	-	-	-	630	6,7

Above, in shop No. 2 (13.9% vs. 11.9%), i.e. The production of shop No. 2 is more profitable. Thus, the use of single-stage calculation of marginal income that does not take into account fixed costs that are caused by the functioning (production) of the segment and should be covered by them, can lead to incorrect conclusions.

ISSN 2394 - 7780

Recognizing that the use of two-step calculation of marginal income provides greater information opportunities, we will analyze more detailed segments . Reporting on the shop number 1 in the context of individual types of products is presented in Table. 3. Analysis table. 3. shows that the level of profitability of products A and B is quite high, despite the fact that the first of them has a gross profit margin slightly higher than the similar indicator of product B (62.5% against 60.9%).

Table-3: Segmented workshop report №1

Indicators	Products A		Products B		Products C		Total workshop	
	Thousands of dollars USA	%	Thousands of dollars USA	%	Thousands of dollars USA	%	Thousands of dollars USA	%
Sales revenue	1200	100	2300	100	1800	100	5300	100
5Variable costs	450	37,5	900	39,1	1450	80,6	200	52,8
Marginal income 1	750	62,5	1400	60,9	350	19,4	2500	47,2
Direct fixed costs	320	26,7	480	20,9	430	23,9	1230	23,2
Marginal income 2	430	35,8	920	40,0	80	4,5	1270	24,0
Total fixed costs	-	-	-	-	-	-	640	12,1
Operating profit (sales profit)	-	-	-	-	-	-	630	11,9

However, the segmented profit ratio of product A is lower than that of product B (35.8% vs. 40%). This situation is a result of the fact that the share of direct fixed costs in the revenue from sales of product A is higher than that of product B (26.7% versus 20.9%). Particular attention should be paid to product B, the share of variable production costs and the implementation of which in sales revenue is very high (80.6%), and more than 2 times higher than the values for products A and B. As a result, the gross profit ratio for this product is 3 times lower than other products (19.4% against 62.5% and 60.9% for products A and B, respectively). Since the share of direct fixed costs for item B is significant, in Ultimately, its production results in a segmented loss of 80 kUe, and a segmented loss ratio of 4.5%. It can be concluded that since the sum of costs (both variable and fixed) for product B is less than sales revenue, its production is impractical, and termination of output will lead to an increase in operating profit of the enterprise No. 1 to 710 thousand de by 12.7% (80 thousand: 630 thousand). However, such a conclusion may be premature without considering the level of more detailed segments that form costs and revenues for product B as a whole - sales territories, customers, etc. For example, some buyers may be much farther than others, their purchases may be much smaller, their requirements for product quality, including packaging, are higher. Due to the high competition, certain market segments are forced to make discounts to the price. These and other factors can significantly affect the level of profitability of the segments. Consider the reporting on products B in the context of its segments such as sales in the domestic market and for export (Table 4.)

Table-4: Segmented workshop report №1

Indicators	Domestic Market		Exports		Total B Products	
	Thousands of dollars USA	%	Thousands of dollars USA	%	Thousands of dollars USA	%
Sales revenue	880	100	920	100	1800	100
5Variable costs	500	56,8	950	103,3	1450	80,6
Marginal income 1	380	43,2	30	3,3	350	19,4
Direct fixed costs	120	13,6	170	18,5	290	16,1
Marginal income 2	260	29,6	200	21,8	60	3,3
Total fixed costs	-	-	-	-	140	7,8
Operating profit (sales profit)	-	-	-	-	80	4,5

The data in the table indicate that more than 50% of sales (920 thousand units from 1,800 CU) of product B are accounted for export, i.e. an attempt is being made to conquer (or retain an already conquered) certain export niche. However, the export policy is ineffective, since export sales bring a marginal and segmented loss of 30 thousand. and 200 thousand DE respectively (gross and segmented loss ratios are 3.3% and 21.8%). At the same time, sales in the domestic market provide a significant marginal income of 1 in the amount of 380 thousand DE. (the coefficient of marginal income is quite high and is 43.2%), as well as segmented profit in the amount of 260 thousand. (The segmented profit ratio is almost 30%.) It can be assumed that such significant differences in the levels of profitability of sales in the domestic market and for export are caused by the additional costs of performing any functions of production and sales of export products.

ISSN 2394 - 7780

CONCLUSIONS

From the above we can conclude that the organization of internal accounting will allow the presentation of information in the context of segments of the enterprise. Such a detailed presentation of information allows users of financial statements to make more informed decisions regarding the enterprise as a whole. Profitability levels, growth opportunities, future prospects and investment risks can be completely different in different operating and geographical segments. Therefore, having information on the segments of activity, users can more accurately assess all the risks and prospects of the enterprise, which is difficult for such an analysis based on aggregated data.

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BACKGROUND OF THE ORIGIN AND FORMATION OF THE SYSTEM QUALITY MANAGEMENT

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ABSTRACT
The well-being of any enterprise depends on the successful work of management. The study and analysis of scientific knowledge can not be effective if you do not consider the history of development. A step-by-step analysis of the evolution of quality management science and practice can demonstrate the positive and negative aspects of previous experience, present approaches to solving problems today, and understand development prospects. The main problems in quality management are insufficient knowledge of theory and the formation of quality. Therefore, it is very important to study the research of scientists in this field of science and understand the evolution of the origin of the Quality Management System. So you can prevent undesirable results in the management system in the organization. In the process of studying and writing the article, various materials of leading experts in the field of quality were used. Studies have shown that the study of the practice and theory of quality management is the most important method of scientific knowledge as a prerequisite for the formation of rational and optimal ways to solve possible problems.

Keywords: quality management, Quality Management System (hereinafter QMS), process, timekeeping, defect-free work, quality assurance, universal quality control (TQC), total quality management (TQM).

INTRODUCTION
The management system was originally a direction of development, stability and growth of the enterprise and the economy as a whole. Management and management as a scientific discipline that originated in the United States, began to develop almost a century and a half ago. The management system deals with universal administrative tasks, such as financial management, economics, production management, commerce, logistics, personnel management, technology, organizational structures, general and informational functional problems of corporate management. Despite the rapid development of quality activities, In recent years, the introduction and operation of QMS in domestic industrial enterprises is not perfect and needs constant development. Today it is necessary to take into account the needs of an unstable market and conduct extensive research to significantly improve the effectiveness of the QMS. It should be noted that the QMS has a great potential for development and achievement of organizational excellence. Undoubtedly, it is very important to establish a link between research and production and economic activities, expressed in the search for opportunities to use theoretical developments in the field of system quality management in practice. For this purpose, it is advisable to study the prerequisites of the origin and occurrence of the QMS for understanding all the stages quality development. This can help to deal with the existing barriers for the development of the QMS in the enterprise. This article serves to implement the tasks defined in the resolutions adopted by the Cabinet of the Minister of the Republic of Uzbekistan No. 173 "On additional measures to expand the implementation of quality management systems conforming to international standards at enterprises of the republic", October 3, 2002 by the Cabinet of the Minister of the Republic of Uzbekistan No. 342 "On measures to improve the system of standardization, metrology and certification of products and services" and the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated 28 Prel 2011 №122 "On additional measures to improve the procedures for the certification and implementation of quality management systems."

LITERATURE REVIEW
At present, worldwide, research is being conducted in the following priority areas: improving the scientific-theoretical, methodological and practical base for determining the effectiveness and efficiency of the QMS. The USA, Japan and the countries of Western Europe made a great contribution to the scientific and theoretical development of the quality management system by studying the basic concepts and principles of the QMS. Among foreign specialists who have deeply studied the field of quality, including the evolution of the QMS, one can single out such leading researchers as E. Deming, J. Juran, K. Ishikawa, F. Crosby, J. Sting, A. Feigenbaum, J. Harrington, V. Schuhart, E. Kondo, G. Niv, V. Lapidus, L. Sachs, H. Kume, D. Murdoch, F. Taylor, G. Emerson, A. Fayol, V. Max, F. Ford and others. Among Russian scientists one can mention the names of such researchers as Y. Adler, V.A. Matyushina, N.K. Rozova, Azgal'dov GG, Bentsman B.L., Boytsov V.V., Versan V.G., Vinokurov V.A.,Voitolovsky.The forefather of management as a science can be considered an American scientist F. Taylor, who used measurements, observations, timing and analysis of operational work to create the most effective and rational model of the labor process and production operations. His scientific results are reflected in the books “Enterprise Management” (1903) and "Principles of scientific management" (1911). The

ISSN 2394 - 7780

concept of organization of machine production, developed by F. Taylor, G. Leland, G. Ford, became the foundation for the world's leading manufacturing companies. It can be argued that the development of Taylor, which significantly increased labor productivity, was aimed at managing product quality and improving the efficiency of the company as a whole.

RESEARCH METHODOLOGY

The theoretical and methodological basis of the study are the fundamental theories and hypotheses of foreign scientists and specialists concerning the origin and formation of the QMS. The work is exploratory in nature and provides the stages of development and evolution of quality in organizations and the logical chain of development of the management system. In the process of studying this issue and writing the article, various materials of leading experts in the field of quality were used. Its information and empirical base was the materials of monographs, articles; the results of scientific and practical conferences. Statistical data was obtained from a source agency Uzstandart of the Republic of Uzbekistan.

ANALYSIS AND RESULTS

The doctrine of "human relations" played a large role in the production process in enterprises. In the 30-50 years. A significant contribution to the development of the concept of quality management from this angle was made by scientists G. Münsberg, A. Maslow, D. McGregor, W. Dickson. The doctrine of "human relations" led to the recognition of the characteristics of each employee, the study of behavior, ways of involving each employee in increasing the welfare of the organization using effective methods of motivation. In the 1950s, they began to intensively pay attention to improving the quality of products, since in production, of course, there are marriage and defects, and after the Taylor system, marriage statistics are significantly reduced. The achievements of scientific and technological progress and the evolution of production technologies have increased the quality of products. This was facilitated by the introduction of new production methods. At the same time in the 50s, the general management system appeared new quality management concept. On this occasion, R. Fatfutdinov put it this way: “The system has the property of the primacy of the whole. This means that systems exist as a whole, which can then be divided into components that exist only by virtue of the existence of the whole. Not components make up a whole, but on the contrary, the whole generates with its separation the components of the system ”(Fatfutdinov RA, 2007). Also in the mid-50s, the Saratov system of defect-free production and delivery from the first presentation appeared in the former Soviet Union. This helped set up the entire staff of the enterprise to improve the quality of products. During the same period, different and quite interesting forms of quality self-control appeared in Western Europe and the USA. We can distinguish such forms of self-control as “zero defects” or “defect-free labor”, the basis of which is the adoption of organizational measures based on the introduction of material and moral incentives. The main goal of these mechanisms was to ensure quality work without defects and errors. Closer to the 60s, product quality was ensured by means of production control and rejection of defective products. In practice, this process was carried out in different ways, and products were improved under the influence of scientific and technological progress. Organizationally, the quality control system met the structure of the production process and the established requirements. Input control purchased raw material or product was also an essential part of monitoring. The basic principle of the control system worked according to the principle: the detection of a defect and the removal of a defective product from the production process should be detected as early as possible, since the subsequent processing of the defective goods involved large losses and increased costs for production. Obviously, in order to fulfill these requirements, many qualified and competent supervisors were needed. According to E. Deming (2014), the defects were costly, onsidering that the correction of defects takes as much money as it does to produce quality products. A. Feigenbaum (1951), making the calculations, revealed that 15 to 40% of the production costs for the production of a product are hidden losses - spent machine time, human effort, inefficient use of the corresponding overhead costs. Feigenbaum also proposed to consider and analyze each stage in the process of creating products, and not just its final result. This approach allowed us not to limit ourselves to the statement of a marriage or defect, but to analyze and identify the causes of its occurrence and to develop measures to achieve an appropriate level of quality. This allowed for the holistic management of the quality of the organization (S.1998).

These practical conclusions and observations created the basis for new methods of control. It should be noted that a large contribution to product quality was made by mathematical statistics, which, using a selective method, made it possible with a given probability to evaluate product quality. Statistical methods of quality control began to be popular in the industry of developed capitalist countries. This helped to reduce the time spent on control operations and to increase the efficiency of control. To reduce defects and errors, statistical methods of control began to be applied, such as control charts proposed by V. Schuhart. Control charts made it possible with a given probability to study and evaluate the quality of products, thus creating the foundation of

ISSN 2394 - 7780

statistical quality management. As a result, new production conditions necessitated the search for adequate and highly effective quality assurance methods (N.V.Bojevolnaya, 2006).

Already in the 1980s, there was a transition from total quality control (TQC) to total quality management (TQM). TQC was a quality control and management system designed to meet established requirements. TQM is requirements management, i.e. any actions aimed at long-term quality and excellence in general. In the process of evolution of the system, total quality management has accumulated the best elements and management practices, and on this basis several TQM models have been developed. Thus, in the 1980s, the essence of quality management and general management was merged under the influence of various world schools. As a result, there was a merger of general management with its component, quality management. Consequently, it was possible to believe that quality management is not a separate science, but one of the areas of the general management system that arose under the influence of the best management schools. Quality management has evolved and evolved, changing over time the approaches and principles for creating the best version of the management system.This process continues to this day, making the quality management system more perfect. The quality management system is a system that integrates the overall management of an organization based on the quality ideology as the highest strategic goal. In the Quality Management System, the word “quality” means not only the quality of products or services, but also the quality of management and management of the organization as a whole. The quality management system not only provides a process approach and product quality, it is aimed at settling relationships at all stages of the organization’s activities. Efficient and effective organization management processes and well-established quality assurance mechanisms can take the enterprise to a whole new level.

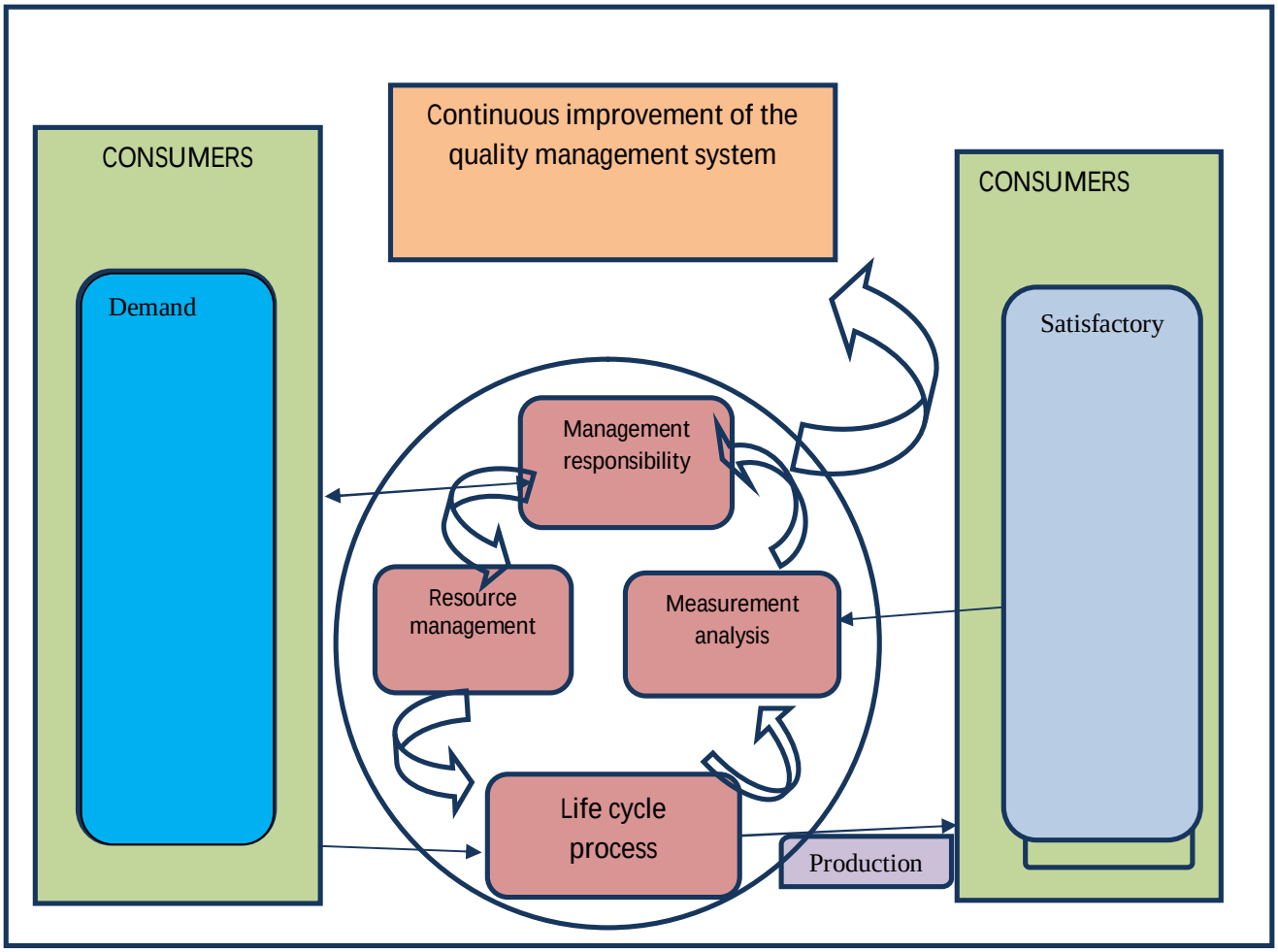

Fig-1: Model of the quality management system based on the process approach.

The process approach continues to be an important and necessary concept of QMS and general management, it is one of the links in the overall quality assurance system. The main goal of the process approach is to ensure the required level of quality in all processes and maintain it throughout the entire production period.

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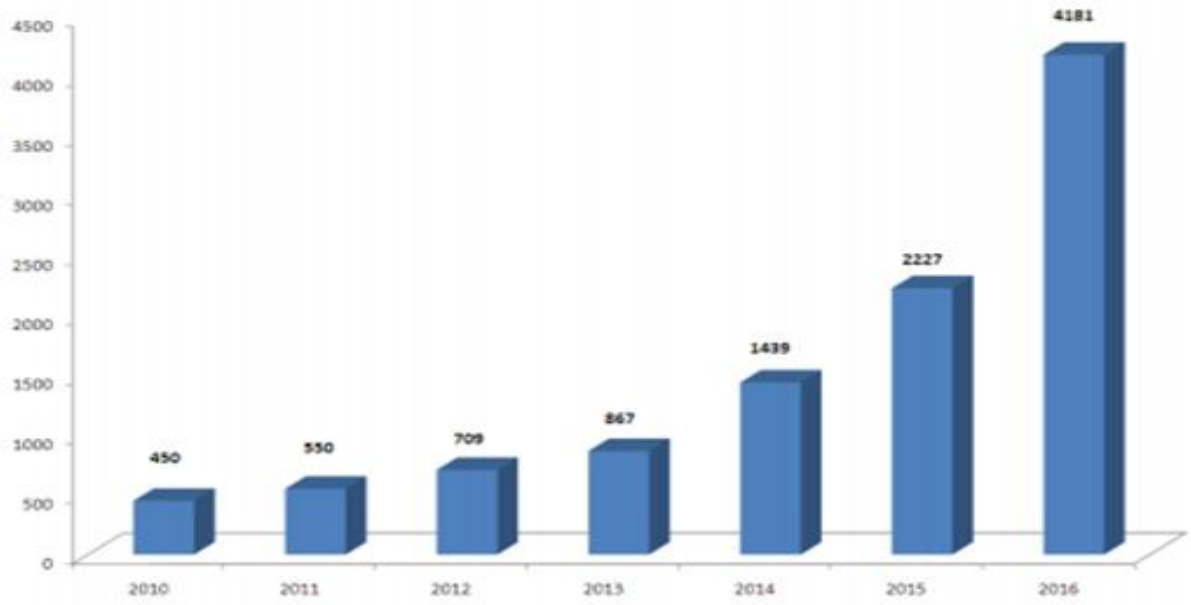

Fig-2: Growth in the number of enterprises certified by QMS in accordance with international standards for the period from 2010-2016.

Today, in the Republic of Uzbekistan, great importance is attached to the certification of enterprises in accordance with the requirements of the international standard ISO-9001. The introduction of quality standards is the basis of the competitiveness of enterprises in both domestic and foreign markets. Below is the growth in the number of enterprises that certified QMS for the period from 2010-2016. It should be noted that the number of companies that have implemented a QMS is steadily growing. In addition, you can submit a fund of standardization documents to the Republic of Uzbekistan. The main directions of long-term development in the country is the harmonization of internal standards with international standards and the active implementation of industry and international standards.

CONCLUSIONS AND SUGGESTIONS

The evolution of the quality management system had a phased development with the help of industrial experience and leading scientific ideas. Various fields of science have had a significant influence on the formation of management as a whole and to this day: management, standardization, general systems theory, sociology, psychology and statistics. It should be noted that each stage of evolution inherited some practices from previous experience, creating new approaches to management. According to the results of the analysis of the evolution of quality management, we can safely assume that the development process of quality management does not stop today. According to the forecast of the Quality Assurance Institute of Great Britain for 2020, in the future we can expect new theoretical approaches to quality assurance. TO surprisingly, the next stage of development can be aimed at the transition from quality management to quality management of an organization (Kozitsina N.V., 2005). On the basis of the above, it can be concluded that the prerequisites for the emergence of a quality management system are:

1) Quality control,
2) Technical quality management,
3) Quality assurance
4) Organization quality management based on principles total quality management,
5) Statistical quality control (Zlobina N.V., 2012).

It is obvious that competition, being an integral part of a market economy, makes manufacturers pay great attention to quality problems. We can safely say that the quality of products and services in the modern economy is the level of socio-economic development of society in the activities of any organization. The quality of products and services will be an important factor in the competitiveness of enterprises of different ownership forms.

Most importantly, it is necessary to understand the prerequisites for the generation and formation of quality. Deeply studying all stages of the evolution of quality management, you can create a more perfect and refined quality management system in the enterprise.

ISSN 2394 - 7780

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EFFECTIVE MANAGEMENT METHODOLOGY OF INTEGRATED TRANSPORT - LOGISTICS SYSTEM

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ANNOTATION
This article introduces modern methods of integrated transport and logistics management, algorithm for efficient management of transport and logistics systems, existing problems in the integrated transport and logistics system, and management approaches in the management of transport and logistics.

Keywords: Integrated transport system, rail transport, transport and logistics, transit transportation, management efficiency, modern management approaches.

INTRODUCTION

Growth of globalization and integration processes in the world has led to the expansion of trade between the countries. This process, first of all, requires the development of the transport communications system, as well as the creation of new cheap and short transcontinental transit corridors, and, secondly, the coordination of the transport systems linking the global transport system of the countries of the region. According to the World Bank Group, global transport services account for 4.2 trln. (US $ 6.8%), which is equivalent to US $ 110 bn. tons of cargo and 1 trln. the number of people employed in the transport infrastructure exceeds $ 100 million[1].

Special research centers have been set up to provide a scientific solution to a number of issues in effective management of transport and logistics processes in the world practice, including integrated approach to issues of further development of integrated transport and logistics activities, acceleration of material flows based on the application of modern logistics technologies, integrated with modern methods of management. is a cost-effective way to ensure effective management of transport and logistics systems ashuvlar and integrated transport and logistics system, special attention is paid to improving the efficiency of management. According to foreign experience, the use of modern logistics technologies in the railway network will save time by 25%, save up to 30% to 60%, as well as transport and logistics costs of railway transport enterprises, By 30-35%. Consequently, carrying out research on effective management of the integrated transport and logistics system will provide a scientific solution to many of the challenges facing the sector.

Determining the existing problems in the process of studying and integrating transport and logistics elements as an integrated system, identifying the factors that affect them and elaborating scientifically grounded proposals to improve the efficiency of integrated transport and logistics system management and theoretical-methodological study on its practical application defines.

ANALYSIS OF SUBJECT MATTERS

A number of scientists have learned about the effective management of the integrated transport and logistics infrastructure, their content and their impact on other sectors of the economy, and expressed their view on increasing the efficiency of the management of the transport and logistics system.

In the opinion of I.V.Covrijnich, particular attention was paid to raising the efficiency of the transport system management, including the advantages and cost-effectiveness of the use of modern management methods. Recognizes that the results of the audit efficiency management are identified by comparing the resources spent on the management process [2].

L.G. Aganbegyan has a vision of productivity and asserted that productivity is, first of all, a description of the processes and impacts of governance, reflecting the extent to which the achievement of targets is achievable, and hence[3].

P. M. Rezer also touched upon the models and problems of regional transport systems management in the context of changing conditions. A comprehensive analysis of the principles of interaction of transport types in the country's production and transport system, the methodology for forecasting the transport market and the planning of road haulage operations [4].

Taking into account the above points, it is possible to consider the economic and technological capabilities of the integrated transport and logistics system, and to develop the infrastructure through the use of modern management techniques to enhance theoretical aspects of traffic management and management efficiency.

RESEARCH METHODOLOGY

ISSN 2394 - 7780

In order to effectively manage the integrated transport and logistics system in our country, to address the challenges of this process, we have analyzed the index of logistics efficiency of the developed countries, modern methods in the management of transport infrastructure, the directions of their activity through comparisons, analysis, synthesis.

ANALYSIS AND RESULTS

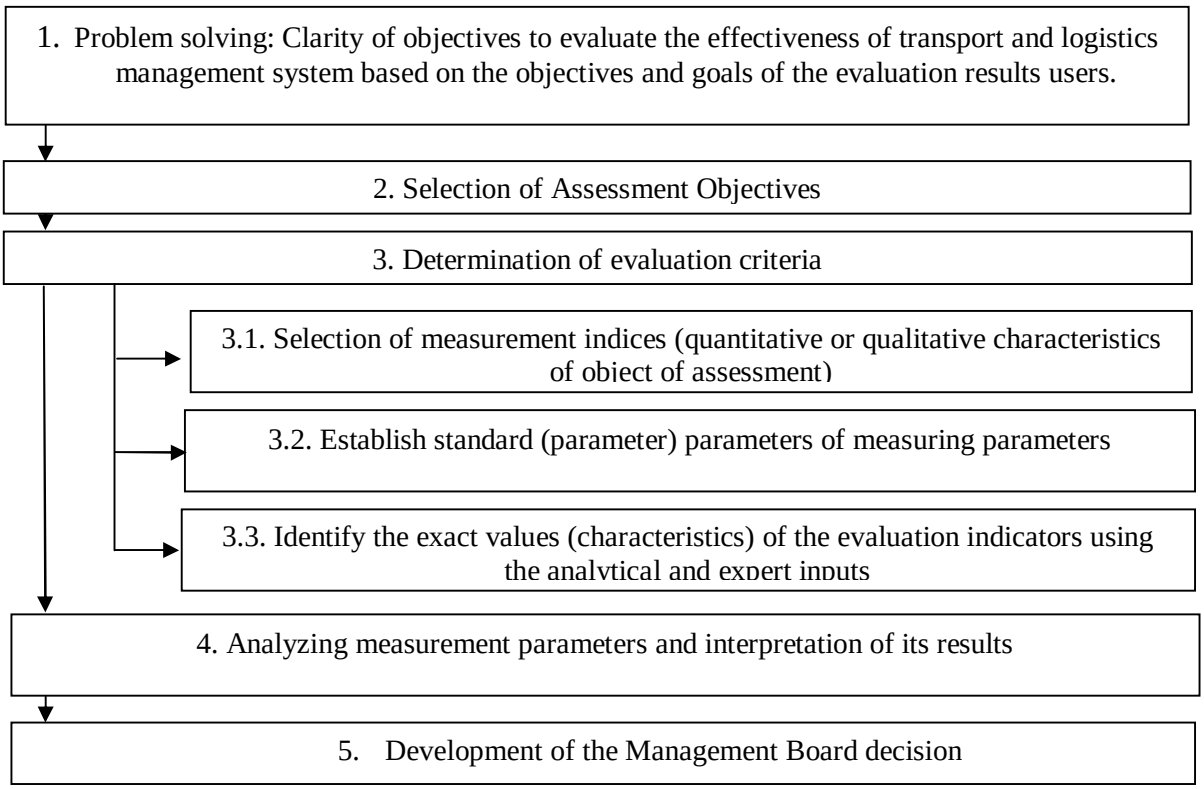
The economic reforms carried out in the railway sector, the process of reorganization of the economic system and the changes in the socio-economic situation radically changed the governance priorities and methods. Therefore, conducting a systematic analysis of the integrated transport and logistics system, defining its direction and developing its tools for the benefit of society are among the pressing issues of the present day. We believe that a systematic study should be made, taking into account the factors that affect the efficiency of the integrated transport and logistics system management.

Now, the new approach to the transport problem, which is a component of a larger system, seeks to cover all aspects of the transportation process, including the flow of information from the sender to the consignee, the processing, packaging, storage, delivery and delivery of the cargo. This necessitates the creation of a transport and logistics infrastructure as an integral part of the transport and logistics system. Unlike the transport system, which involves the complex transportation of different types of transport, associated with the transportation, and the combination of "logistics", minimizes the time and costs.

The efficiency of the integrated transport and logistics system management is characterized by the ability to achieve its tactical and strategic goals, clearly defined and quantitative, of its functioning and development. The effectiveness of managerial activity is achieved only by knowing the management mechanism of the transport logistics system, the well-being of economic and social support and mobilizers employed in the mobilization of the labor force, with their sophisticated and competent support.

According to the targeted approach, the effectiveness of management of transport and logistics system is characterized by the ability to achieve tactical and strategic goals, expressed in terms of quantitative and qualitative aspects of its functioning and development.

Figure 1 illustrates the integrated transport and logistics system management efficiency algorithm whose content is characterized by the complexity and sequence of functions to be adequately complied with. In turn, it is about the choice of the objects of evaluation of efficiency of the management of transport-logistics system and the results for whom it is intended and for what purpose.



ISSN 2394 - 7780

Picture-1: The main stages of the evaluation of the efficiency of management of the integrated transport and logistics system[1]

In the evaluation of the effectiveness of integrated transport and logistics system management, it is important to note that efficiency indicators should be grouped into three groups:

- A set of indicators that describe the effectiveness of the management system, which is illustrated through the final results of the transport and logistics system and the management costs;
- The nature of management activities and the group of indicators that characterize organization, including direct results and expenditures of management. It includes performance management features such as performance, economy, flexibility, efficiency, reliability;
- A set of indicators that describes the organizational structure's rationality and its technical and organizational level. Structural characteristics include the integrity of the management system, the centralization of management functions, the accepted governance standards, the equilibrium of rights and responsibilities.

Theoretical and methodological approaches to the assessment of the effectiveness of management and the realistic analytical capacity of transport enterprises were proposed to be the coefficient of efficiency of management as a simple but at the same time a universal tool for evaluating the effectiveness of governance, reflecting the change in the results of the integrated trunk-logistics system, is determined by the following formula:

$$k_{бс} = \frac{\uparrow P}{\updownarrow УЗ} \quad (1)$$

where $k_{бс}$ – is the coefficient of management efficiency. If $k_{бс} > 1$ then the management of the transport and logistics system can generally be considered as effective;

$\uparrow$ P – the positive dynamics of the results of the transport-logistics system (profit and (or) net profit) are characterized by the growth rate, growth rate or growth rate of the relevant indicator;

$\updownarrow$ УЗ – dynamics of total expenditure on management, characterized by the growth rate, growth rate or growth rate of the company's administrative costs.

It is desirable to point out the following steps to develop a methodology for evaluating the effectiveness of the integrated transport and logistics system management on the basis of a systematic approach.

Table-1: Methodology for evaluating the effectiveness of integrated transport and logistics system management[2]

Stage 1	Identifying the Tasks System Objectives:
Stage 2	Setting requirements that must meet the performance-based analysis system:
Stage 3	Separating small systems and bringing them into a single system:
Stage 4	Clarify the financial performance of the main types of services (transport and logistics) in the income structure of transport system and transport and logistics system.
Stage 5	Costs for organizing transport and logistics system:
Stage 6	Development of a series of evaluations of efficiency of management of transport and logistics system: $\sum_{i=1}^{n} T$ $C_{т.л т} = \sum_{i=1}^{n} T + \sum_{i=1}^{n} Л + \sum_{i=1}^{n} С$
Stage 7	Calculate the effectiveness of the transport and logistics system based on the proposed methodology:
Stage 8	The ability to identify the highest margins (the highest possible probability) of specific data and indicators (based on experience and forecasts of some countries) in order to identify the potential for enhancing the efficiency of management of transport and logistics systems through the development and implementation of consistent measures.

[1] As a result of the research conducted by the author.
[2] Олиб борилган тадқиқотлар натижасида муаллиф томонидан ишлаб чиқилган.

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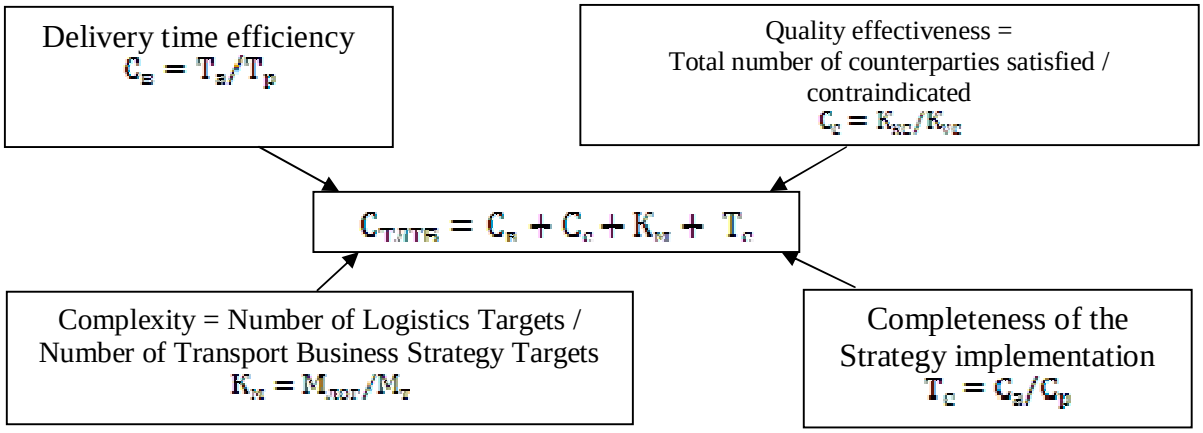
There are a number of problems with the transport and logistics system that provides a wide range of services, as well as the elimination of interruptions on issues that are part of a particular service complex. Therefore, it is recommended that this methodology be grouped into separate transport (T) and logistic (L) services for each type of transport.

The proposed evaluation methodology is based on an analysis of the private criteria (inputs from all types of logistics services) and the generalized accounting database, which makes it possible to make a clear analysis of the transport logistics system, including evaluating the profitability of the transport and logistics system. In the logistics system, the operational planning of all phases of transport provides a significant increase in efficiency and reliability and provides additional effectiveness. The method of valuation allows not only traditional transport services of all types of vehicles, but also the possibility of evaluating the efficiency of logistics services. At the same time, this methodology also assesses the synergistic effect of the transport-logistics system.

It is desirable to distinguish among the parameters of efficiency in improving the logistics system management:

- Achieving time goals (ratio of actual time to scheduled time);
- Achieving the quality of the strategy implementation (the degree of satisfaction with the quality of intermediary and consumer services - in the scoring system);
- The complexity of the strategy - compliance with the logistics strategy objectives of the marketing strategy and overall strategic plan for the development of railway transport is calculated as the ratio of non-contingent targeted functions.

Thus, it is possible to provide a technique for determining the efficiency of management of the transport and logistics system (Figure 2).



Picture-2: Methodology for evaluating the effectiveness of logistics system management

As can be seen from the presented formula, the assessment of the effectiveness of the management of transport and logistics system should be based on the combination of four main indicators and their total should be set to "1" or 100% expressed in percent.

CONCLUSIONS AND SUGGESTIONS

In short, the analysis of the integration of the integrated transport and logistics system in this research has revealed that efficient management of stock and other material flows in the economy is closely linked to increasing the efficiency of management in the transport and logistics system and solving organizational-economic problems. We consider it necessary to make clear that the integration of the integrated management system in the transport and logistics system should be avoided. In sum, the developed methodologies for the integrated transport and logistics system management, as well as the resulting conclusions and recommendations, are aimed at elaborating short-term and long-term development strategies for integrated transport and logistics systems, and systematization of the system, coordination and integration with business partners to improve customer service, and to improve the competitiveness of logistics service providers along with that integrated transport system to increase the efficiency of the management.

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FORMATION OF ASSORTMENT STRATEGIES FOR LIGHT INDUSTRY ENTERPRISES: IN CASE OF NAMANGAN REGION

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ABSTRACT
The article focuses on formulating the assortment strategies of light industry enterprises, selected as textile factories in Namangan region. The model of forming the range of light industry enterprises on the market of light industry goods on the market has been thoroughly analyzed and the problem of dynamism has been discussed.

Keywords: light industry, marketing, marketing strategies, market, textile factories.

INTRODUCTION
Light industry is one of the most important sectors of the economy in Uzbekistan and its marketplace has a unique marketing environment. About 10,000 large and small enterprises, as well as more than 400 joint ventures operate in the country in the fields of textile, spinning, sewing, knitwear, footwear and silk. The inadequacy of the formation of national brands, which has a stable advantage of the production and export of light industry products, the production of finished goods with high value added value and competitive in world markets, does not allow the competitiveness of enterprises. These circumstances call for the need to upgrade the competitiveness of businesses operating on the market in line with marketing strategies. The Strategy of Action for the Development of the Republic of Uzbekistan in five priority areas for 2017-2021 sets out key tasks for the "development of new types of products and technologies on the principal basis, thus ensuring the competitiveness of national commodities in domestic and foreign markets" [1]. Efficient fulfillment of these tasks requires acceleration of work on increasing the competitiveness of light industry enterprises in line with marketing strategies.

LITERATURE REVIEW
Scientifically-theoretical aspects of the study of the competitiveness of light industry enterprises are the research direction of many foreign scientists. The works of Mboya J.[2], Nordas H. K. [3], Verma S. [4], Xiajun.A [5], Dorothee H., Mayukh D. have become classic works. Although the aforementioned researchers have made a significant contribution to the field of economics, they do not take into account the peculiarities of choosing appropriate marketing strategies for enterprise competitiveness, as well as the use of innovative marketing strategies.

In the countries of the Commonwealth of Independent States, scientists such as E. Evgenivech, Yu.Filyukov [6], I.Prazyan, S.Genova conducted researches. The scientific findings of these scientists provide scientific recommendations on the use of various methods of assessing the competitiveness of light industry enterprises and the application of marketing strategies. The systematic analyzes of raising competitiveness based on marketing strategies and the identification of strategies to protect the domestic market have not been sufficiently studied.

ANALYSIS AND RESULTS
The practical role of marketing in the modern market of clothing can be seen in two approaches. The first direction consists of the results of the theory of assortment planning and practice when it comes to the scientific approach to knowing the characteristics of design of ready-made garments (public, elite, classical and others) and predictability of accessories. This theory forms a set of assortment changes and a set of research methods in this area.

The second is to regularly inspect, analyze, and cater to fashion trends, as well as define trends after one or two seasons. The practice of this route is extremely complex and multifaceted and has a cultural and social communication character. However, the study of fashion trends for marketers and forecasting is a crucial issue in assortment strategies. Therefore, traditional methods of fashion trends by marketers do not sufficiently work in perfect competition conditions. One of the marketing trends in clothing fashion can be described as "a sample of a sample from a group of people", and the main idea of the marketing of clothing is to find out how to find that group. The lack of attention of all garment manufacturers in Namangan region is that there are no suitable methods for studying the characteristics of change in the range of clothing within the country and region and consumer segment.

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The main goal is to develop recommendations for strategies for assortment competitiveness of garment manufacturers on the basis of the study of changes in the assortment of consumers' ready-made garments in the domestic market and the study of appropriate fashion trends, their interrelated traits, factors that shape the consumer-to-consumer relationships.

The global competition in the global market and the development of international communication systems, the accelerated growth of information flows, the higher the growth of consumer demand over domestic production have led to the unstable transference of the goods movement. In this case, national producers have proven that competitiveness can be achieved by formulating effective marketing strategies in domestic and foreign markets. This process determines the need for manufacturers to continuously and consistently study changes in the consumption of ready-made clothing and to formulate specific research models and strategies. Traditional methods of conducting assortment surveys in the garment market are based on the study of consumer purchasing processes, surveys, assortment changes in enterprises, assessment of viability and many other factors, in many studies, the changes in purchasing power of different segments of the consumer, .Ansoff, P. Druker, J.Trauta, A.J.Striklend, D.Aaker, D.Kravents, E.Rays, F.Kotler, JJLamben, E.M.Korotko c, A.Filyurin, A.Gradov, etc.) [7], and other groups of scientists have studied the variations in the retail trade and the location, type, and size of its retail outlets.

Summary of strategic and tactical approaches to assortment survey and optimization approaches can be summarized as follows:

Methods of assortment management and planning in enterprises:

Strategic methods of assortment management are as follows:

Market valuation method: SWOT analysis, Concept of life cycle concept, Concept of slackness, M.Porter's five concept concepts.

The method of formulating assortment management strategies: A.Ansoff's "commodity-market" matrix, D. Abel's matrix, M. Porter's genetic matrix. Methods for optimization of assortment management strategies: BCG matrix, Hofer / Schendel matrix, GE / McKinsey matrix. Tactical Methods for Assortment Management: Demand Methods, Consumer Survey Methods, Expert Survey Method, Statistical Method. Economic Analysis of Assortment: ABS, XYZ Analysis, Markon Model [8], Dibba-Simkin Method. Methods of sales plan development: linear economic analysis, linear programming, dynamic programming, stochastic optimization. Market research analyzes the range of men's, women's and children's products: sales volume, sales volumes of each assortment group, share of sales of individual assortment groups in total assortment groups, their production capacity, sales profitability of a separate assortment, profitability, the breadth and depth of the brand's nomenclature. Another important aspect of planning for assortment is that each ready-made garment model needs to change market volumes and evaluate the seasonal impact of it.

The main strategy of the world's leading brand, Zara, is the fact that the seasonal features of the assortment are highly organized, and its principle is "fast fashion". Analysis of Zara's brand competitiveness and the extent to which the process of creating samples in the scientific research on this issue has identified its main competitiveness.

Table-1: Benchmarking of retail trade in clothing [9]

Indicators	Market Time	Before the Seasonal Production (Percent)	Changing Product During the Year	Sales of product at reduced prices, percent
Overall enterprises	6-9 months	0-20	2-4	30
Zara	2-5 week	85	... -11	15

In scientific research, the rate of change in fashion is acknowledged as the key factor in the increase in the rate of development of the garment assortment. The development of clothing model (model) was 6 months in 1970, and in 2000 it took 6 weeks to complete the process. Nowadays, this process takes about 6 hours. The main features of clothing retail benchmarking have become a major issue that should be adapted to fashion trends in adapting clothes.

Quickly determining the strategy for the slogan for the new season requires the following key factors: the market-specific clothing sample should be entered into the market for the time being. Accordingly, it is desirable to describe the operation of this process in accordance with Figure 1.

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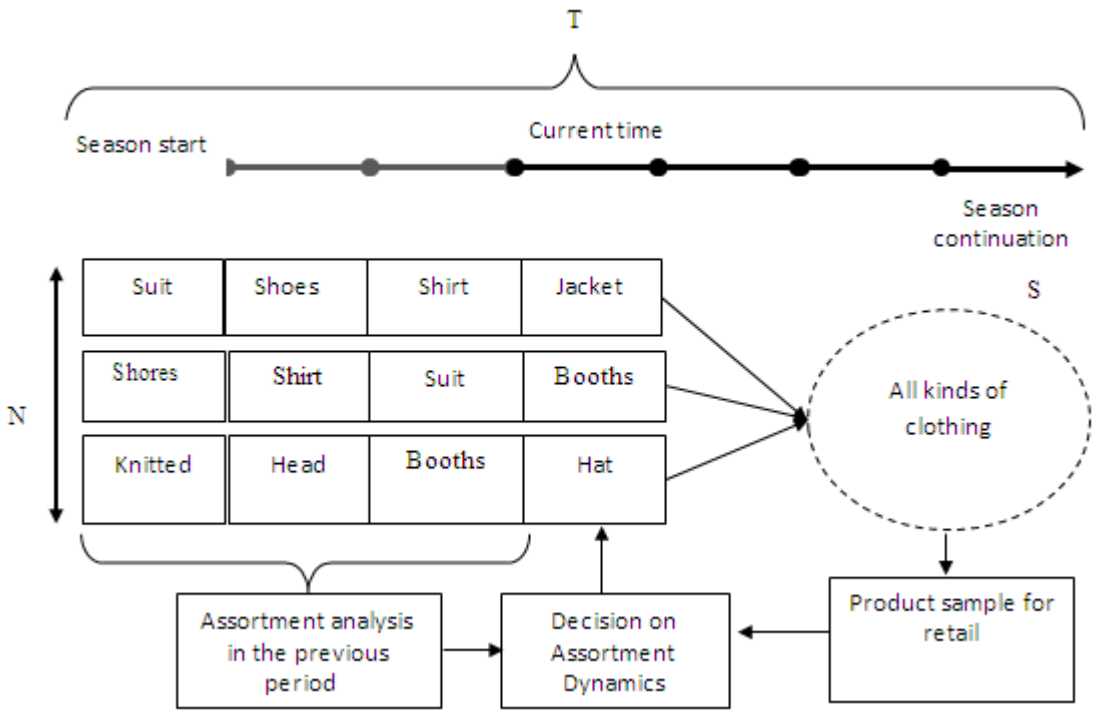

Fig-1: Dynamics of the content of light industry goods market assortment

T - season 1 according to Figure 1, N - assortment available at retail, S - all assortment offered in the future. By analyzing the season beginning and the current variation of assortment changes, the formation of a complete set of clothing assumes a major problem and is determined by the analysis of the compositional or seasonal variations of the range. Numerous studies have been undertaken to investigate the seasonal variation of the assortment, with insufficient research on the development of marketing strategies according to the structural changeal features. In its turn, the development of research methods on the formulation of marketing strategies on the basis of the composition of consumer clothing and its changes has not lost relevance. The formation of ready-wear wardrobe consumers is closely linked to the activities of enterprises operating in this market. In the course of the research, the focus was on the issue of developing wardrobe varieties with close relationships with the assortment policy of light industry and developing guidelines for increasing competitiveness. Accordingly, it was considered as an important task to assess the share of national products in the consumer garments wardrobe in the Namangan region. The main competitors for the enterprises of Uzbekistan are the goods of China, Turkey, Korea and other countries. It is desirable to use the "panel" research method as the main research method for calculating the share of clothing and footwear in the consumer demand and the countries it produces.

In the garment wardrobe of the Namangan region, it is recommended to define options for assortment strategies based on the marketing research data for China, Turkey, Korea and other major competitors for Uzbekistan's enterprises. The assortment of the family wardrobe must be constantly identified on the basis of a "panel" study. In marketing researches, repeated method of questioning is panel [10]. Data collection from select respondents in households, repeated in clearly defined intervals in the duration of time, is a panel discussion method [11]. Through the panel survey, we find that the study of changes in family outreach is the most reliable and accurate market-based methodology that is most cost-conscious and cost-consuming. "Panel survey" should be considered as the main method of assessing the composition of consumer-family wardrobe and its changes, determining the exact percentage of competitors, and assortment of assortment for different segments. As a result of the wardrobe survey, it is possible to continuously evaluate the composition and the changes in the composition of the family members, men's and children's wardrobe. Depending on the segment characteristics of the consumer, a map of assortment is created and relevant strategies are set.

Future assortment strategies of the producing companies will be formed by changing the composition of their family members' ready-made garments and analyzing the share of competitive countries. According to the results of the panel discussions jointly organized by "Oriental Clothing Design Center" LLC and Namangan Engineering and Technology Institute, the share of competitors in each wardrobe group has been determined. In the study, the composition of the assortment is grouped by women, men, students and educators. Bearing in mind that the variations in the range of garments belonging to their respective segments were identified for two years, the BCG matrix was compiled based on the proportion of manufacturers in Uzbekistan.

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The selection of appropriate clothing strategies for the internal market based on the competitive edge map of enterprises operating on the market. In determining the marketing strategies of operating enterprises in Namangan region, the strategy for maintaining the appropriate assortment according to the BCG matrix should be oriented towards efforts to squeeze imported products from the domestic market (China, Turkey). Based on the market share of the products manufactured in Uzbekistan, the BCG matrix is recommended to use strategies for assortment of enterprises in the domestic market on the domestic market, based on the assortment and wardrobe formed in the wardrobe of the Namangan region population. In the first area of the matrix, the market of the enterprises with the assortment is slowly growing and has a large share. Such companies are innovators. The main source of production and sales revenues of innovation companies entering the market with such assortment is the main source. Thus, the implementation of such measures as expansion of technical and economic capacities of enterprises, working out new clothes models, paying more attention to innovations, formation of modernization programs, product diversification, consumer impact and incentives, selection of effective advertising tools, enhancing brand attractiveness, The focus is on main task. At the top left of the matrix, it is known that the market-oriented enterprises are patient (resistant) enterprises and demand for their products is stable. In order to ensure their competitiveness in the domestic market, in the long term they need to increase marketing costs, actively promoting advertising, enhancing the brand's attractiveness, and mastering international markets.

At the top right of the matrix, the assortment of ready-made garments manufactured in the market is hummingbird. High demand for cemeteries, their effective functioning. The assortment in this region requires an enterprise operating in the domestic market to increase its marketing costs, actively looking for new channels of sales, and improving its product descriptions. The most important tasks of the switchgear are the following: maintaining market share with the assortment, bringing all the manufacturers into a single cluster (cluster) and effectively using differentiation strategies, increasing access to external markets, and designing product quality and design.

Finally, the bottom line of the enterprise is vialent (market leaders). With this austerity, the regional market has almost been acquired and has attracted sufficient number of consumers in the domestic market. It is important to take into account that there is limited capacity to operate in the domestic market with the appropriate assortment of enterprises, as well as the active movement of new competitors. Each area of the matrix can also be used to propose strategically oriented solutions.

At the appropriate levels of development strategies, the company offers each assortment a set of goals for the company to locate and enter into the domestic market. In order to work effectively in the domestic market, it is important to emphasize the following: on the market of cotton garments, cloaks, duvillas, suits, trousers, pants and dubsticks, as well as children's coats assortment, expanding economic opportunities, creating new models, paying more attention to innovation, shaping modernization programs, diving product sertification. The range of jackets, coats, skirts, jackets, and jackets of women's assortment will be used more efficiently by expanding the technical and economic capabilities, applying the methods of stimulating and stimulating consumers, and the diversification strategy.

The main focus should be on women's shirts, men's jackets and shirts, and pillows and skirts for children's jackets that are out of the domestic market. Therefore, it is desirable to focus on the use of effective methods of communication with consumers.

Men's cats and jackets are able to provide competitive advantages through efficient use of marketing communications. Men's garments, as well as enterprises with a range of ready-to-wear garments, will be able to compete with the import of goods, while maintaining the existing market share. The main strategic task is to diversify men's shirts and costumes, diversify marketing, concentrate, increase marketing costs, and bring fashion-design to international fashion.

Men's coat jackets and trousers' range offer full coverage of the domestic market, focusing on: Increasing the efficiency of communication channels with consumers to maintain the existing market, increasing advertising costs, consolidating all manufacturers on the basis of a single chain, attracting the attractiveness of the brand development of strategic goals in international markets, and full utilization of domestic opportunities for its implementation, x lqaro organizations, trading houses, brokerage houses, the choir centers of fashion and design, consulting, engineering services, the effective use of international quality certificates, foreign markets and has organized the basis of the marketing research funds should be spent. It is also important to consider the impact of changes in the income of the population in the formation of assortment policy in light industry enterprises and their impact on changes in the structure of the ready-made wardrobe cover. In assessing the

ISSN 2394 - 7780

changes in the composition of the Consumer Assessment, it would be expedient to take into account the total income of the family and the formed wardrobe. Because each family's income generation does not affect family members, and their attire and their tendency toward imports depend on the family budget.

CONCLUSIONS

In summary, the study of the wardrobe of consumers on a panel based basis allows to identify the following:

1. Studying the dependence of the population on light industry goods on the improvement of living standards and income growth;
2. distribution of incomes of population and their formation and change in demand of consumer goods;
3. Determining the consumption and consumption of clothing in the population; improving the living standards of the population, purchasing clothes and assortment of clothes based on demand changes;
4. Development of scientific and methodological framework for market research and forecast marketability of finished garments and footwear production based on the dynamics of changes in the range of goods purchased by the population (wardrobe);
5. Based on the results, the competitiveness of enterprises producing light industry products and their future scientific assortment will be scientifically justified. In Namangan region, it is desirable to create models of ready-made garments of ready-made garments on the basis of innovative marketing technologies at industrial enterprises producing garments. There is a need to take a two-way approach to the formation of model-design packages of the prestige ready-to-wear industry:
6. Taking into consideration the change in the demand of consumers for ready-made clothing and working according to the following factors - the wishes of the population, fashion changes, the competitive environment, the increased wardrobe of ready-made clothing, increasing the cultural groups of the population;
7. evaluating the economic and technological capacities of enterprises and operating on the basis of the following factors - capacity, capacity, economic and technological capabilities of the enterprise, raw materials and resources;

The formation of an industrial assortment will depend on the state of the consumer market and its dependence on changes based on its justification and development of consumer-friendly marketing strategies. In Namangan region, a number of practical works have been done to create a modeling collection of ready-made garments industry assortment. Regional governor's 2015 year.

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DEVELOPMENT OF THE COTTON INDUSTRY IN THE CONDITIONS OF INTRODUCTION OF INNOVATIONS IN UZBEKISTAN

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ABSTRACT
The article examines the issues of sustainable development of cotton industry enterprises based on the implementation of innovations. In particular, the statistical indicators of the achieved results in this area are analyzed. The paper also identifies problems in the sphere of innovative development and methods of cluster introduction into cotton production and gives some recommendations for the rational organization of production and processing of cotton products.

Keywords: cotton, cotton processing, industry, cotton fiber, innovative development, clusters.

INTRODUCTION

As it is widely considered, textile industry is one of the important components that contribute to the GDP of the country. And the main sector of this industrycotton production is one of the fastest growing in the world. The industry supports entities and people with necessary items, such as various materials like raw cotton, fiber, seeds and ready-made goods. Also to cotton processing as a major mechanized sphere is given a prior role in the national economy. Therefore, the sustainable innovative development of the sector is a key priority of any development strategy directed at economic progress and rising living conditions. In recent years sector underwent serious reforms and achieved success. Efficient organization of well-maintained modern technologies, scientifically systematic approach to technical planning and seed growing, strong governmental support for farmers were the base for achieving best results.

Uzbekistan has its own schools and traditions in peasantry, a country of experts in field able to grow gold on its soil. According to historical sources cotton growing was introduced in country in 2000 B.C. and the means of processing cotton also appeared approximately at that time. Cotton processing - cleaning, separating from its seed, receiving fiber and fur have also began at the time of cultivating cotton plantations and during several centuries approximately up to the 19th - 20lh centuries [1]

It best seen that the system of cotton growing and processing it in our country has a long history. But only in the years of Independence, as was in all other spheres of our life, cotton growing and cotton fiber producing fields began to develop considerably.

For the years of instantaneous economic growth Uzbekistan`s policy aimed at improving the quality of cotton products, increase of domestic processing as well as maintaining the volume of production and promotion of breeding of cotton varieties. In one way, the works were performed to increase the efficiency of production of industrial enterprises through their modernization with modern machines and high technology, in other, to advance the quality and raise the competitiveness of manufactured cotton products, upgrading of the seeds and so on.

ANALYSIS AND RESULTS

The production of cotton products and the cotton industry occupies an important place in the economy of Uzbekistan, as a result of which a number of decrees and higher-level decisions on the cardinal transformation of this sphere of the economy have been adopted lately. The country is striving to rebuild its economy with the production of deep processing of cotton, bringing raw cotton to finished products. Therefore, scientific research aimed at improving the quantitative and qualitative indicators of cotton products for the country is of great importance.

Nowadays, common technical policy in the field of organization and implementation of the whole complex of work related to acceptance from farms and processing of the country's raw cotton, the production of high quality cotton fiber which is competitive on the international market, the implementation of storage in accordance with international requirements and standards in Uzbekistan is carrying out by "Uzpakhtasanoat" joint stock company [3]. The company represents a single complex for reception and processing of raw cotton, export of cotton fiber.

One of the political priorities of Uzbekistan, the world’s fifth-largest cotton exporter, is further innovative development of its textile industry. Annually, the country grows about 3.5 million tons of raw cotton, produces

ISSN 2394 - 7780

1.1 million tons of cotton fiber. Due to introduction of new classification of Uzbek cotton fiber proportion of the first grade fiber has increased from 35-40% to 70-75% [2].

Currently, Uzbekistan is the world's sixth-largest cotton producer among 90 cotton-growing countries. The country exports cotton mainly to China, Bangladesh, Korea and Russia [1].

Additionally, country is expected to achieve full processing of cotton fiber in 2021. By 2020, the capacity of local enterprises will ensure full processing of cotton produced in Uzbekistan, which can lead to a significant decrease in the export supplies of this crop. Only in 2017, the country intends to bring internal processing of cotton fiber to 70 %. [2].

At the same time, by 2021 the production of textile and clothing and knitted products will increase by 2.2 times compared to 2016, including ready-made fabrics - 2.7 times, knitted fabrics - 3 times, knitted goods – 3.4 times, hosiery – 3.7 times. It is planned to increase the export of products by 2 times [4].

Uzbekistan takes consistent steps to increase the volume of cotton fiber processing. In particular, it is planned to create 112 modern, high-tech industrial factories, expand, modernize and technologically upgrade 20 operating capacities. All this will increase the export potential of the industry up to $2.5 billion a year and create more than 25,000 jobs.

Despite these efforts, identified some kind of problems in the sphere [5]:

- 55 cotton processing enterprises from 98 of the system have not been well maintained during 10 years. As a result of it, equipment in the factories does not meet the essential technic requirements. Since the economic efficiency and labour-intensity of current means do not satisfy accepted standards and demands more energy and metal consumption, the period of re-processing of raw cotton is delaying. Hence the expenses on transportation are highly increasing.
- Because of lack of automatic control and production indicators perfect calculating system, detected repetitive stealing in the sector.
- Moreover measuring facilities and instruments of cotton dirtiness and humidity are updated physically and rationally. Similarly there`s a high level of personal factor. So this feature greatly causes to a low productivity and intensity in the sector.
- Cotton-textile system becomes not more economically beneficial for participants in the cotton market, especially have been indicated decrease in the volume of production in "Uzpakhtasanoat" JSC`s cotton processing enterprises.
- The current system of management of the industry did not meet the present-day trends in the innovative development of the textile industry and is not capable of supporting producers.

For the purpose of sorting out such kind of problems appearing in the sphere it would be necessary to create a right stable structure which controls the whole production system in all process phases.

At the present stage, the actual task of the strengthening of relations in the agro-industrial complex is the formation of right system. In cotton production, this problem is especially important because of the lack of effective links between science, production, processing and marketing.

RECOMMENDATIONS

Currently, innovation and research is a key factor in achieving new goals and creating healthy competition in all areas. In particular, the reforming of the agricultural sector on the basis of the effective application of modern methods and technologies gives significant results. Indeed, the growth of national competitiveness, increasing the efficiency of domestic enterprises in the global and domestic markets is the goal of economic policy of any state. Foreign experience shows that the cluster approach is recognized globally as a policy of improving the competitiveness of both the national and regional economies.

In his speech at the official meeting on the occasion of the Day of Agricultural Workers, the President of country emphasized that Uzbekistan sees the future of cotton growing in a cluster method by covering all processes: from cotton cultivation to the production of finished products. He also noted that in order to widely introduce this promising method, over 400 thousand hectares of cotton plantations will be allocated to more than 30 enterprises of light industry in our country.[6]

An important feature of the cluster is the combination of competition and cooperation between the participating companies. Close cooperation between companies in a cluster leads to positive synergistic effects, so the

ISSN 2394 - 7780

success of one firm is inseparable from the overall success of the cluster. The clustering process is based on the exchange of information between industries - customers, suppliers and related industries. Competition between cluster enterprises may adversely affect the exchange of information, since each of them wants to use it independently. However, the idea of a cluster is precisely to ensure that the exchange of information between its participants is mutually beneficial. The emergence of clusters is due to the transfer of technological goods with high consumer value, as well as other advantages of high competitiveness from the company - the founder of the cluster to related companies. Mutual exchange can be achieved only in the case of mutual economic interests, which forces the adjacent industries to cooperate in one technological chain. Cluster enterprises are forced to raise the quality of the semi-finished products they supply, and thus force their suppliers to increase their competitiveness.

The implementation of actions to create a cluster mechanism in the industry should be carried out in particular stages.

At the first stage, the following measures should be implemented: analysis and diagnosis of the cluster mechanism, the disclosure of the incentive motives for the innovative development of the textile industry through the creation of a cluster; development of a cluster management structure; formation of the mechanism of interaction of the cluster with the administration of the regions; the formation of a cluster, i.e. a system of financial and credit relations with potential investors; legal framework; determination of the evaluation of the effectiveness of the functioning and strategic progress of the cluster.

Secondly, the necessary support base should be formed and the effective activity of financial and innovative development institutions should be established.

Next stage will be based on the expansion of capacities and the increase of value chains in related industries - mechanical engineering, chemical industry, as well as agriculture, transport infrastructure; integration of the textile industry of Uzbekistan into the world market, the creation and promotion of the Uzbek Textile brand [7].

World experience shows that the implementation of cluster method leads to an increase in the competitiveness of territories and industrial complexes of the country. To renovate the cotton-textile segment of the industry, it is necessary to innovatively develop the industries for the production of yarn and fabric, which are the most competitive in comparison with other segments of the textile industry. This segment of textile production accounts for about 80% of value added, while for the production of cotton fiber - about 10%, ready-made clothes -1-3%. The creation of a competitive textile segment will allow processing cotton produced in Uzbekistan, in that way increasing the value added and producing the products required for further processing at sewing enterprises.

In this regard, it is necessary to determine the advantages of cluster industrial development and the possibility of introducing cluster policy in the economy of Uzbekistan.

Finally, the introduction of the model will ensure sustainable innovative development and increase the competitiveness of textile production. The clustering of the textile industry is an objective necessity for strengthening its competitiveness, since it is the clusters that represent the optimal combination of market opportunities for self-regulation of the economy with the possibilities of state regulation. Such a synergistic effect can reveal new and make stronger traditional “points of growth” of the textile industry, which ultimately will enhance its competitiveness in the national economy both in the domestic and foreign markets.

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A REVIEW OF POTENTIAL USE OF NANO-TECHNOLOGY IN PAVEMENT ENGINEERING

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ABSTRACT
Nano-technology is the understanding and use of materials scaling in nano-scale of dimension between 10 to 100 nm. This paper focuses on the review of potential use of nano-technology in pavement engineering where the unique properties of nano-materials may be used to deliver a better environment to society, based on identified needs and challenges in pavement engineering. The main objective of current review is to study the potential use of nano-materials to improve the performance of pavements. Adding nano-particles like nanoclay, nanosilica, and nanotubes normally increase the viscosity and improves the rutting and fatigue resistance of asphalt mixtures. X-ray diffraction (XRD) and Atomic Force Microscopy (AFM) experiments can be conducted over modified asphalt binders to analyse the nano-scale structures of nano-asphalts. The reasonable selection of nano-materials used in asphalt, nano-modified asphalt can offer many benefits in cold regions. Studies showed that when carbon nanotubes (CNTs) are added in sufficient percentage to base bitumen, they can significantly affect and enhance the rheological properties of bitumen. CNTs provide resistance to rutting and thermal cracking. It is also found that nanosilica tends to decrease the penetration value and increase the softening point temperature in binders whereas nanoclay increases the penetration value and decrease the softening point temperature. Overall the additional mix of nanomaterials in pavement material has a positive influence on the properties of binders and can be used in the construction of durable pavements thereby increasing the life-cycle of the pavements and reduces their life-cycle costs.

Keywords: Nano-Technology, Nanoclay, Nanosilica, Nan tubes, AFM, XRD, CNTs.

INTRODUCTION
The condition of highways and bridges has deteriorated as traffic on the Nation's highways has. The increase in traffic volume has increased the need for high-performance, durable construction materials for roadway pavements. To fulfil the need of a durable pavements the next generation of materials are being researched and developed. As a next generation construction material for pavements nanotechnology has been explored by the researchers to address the problems in design, construction, and utilization of functional structures. It was specified by the U.S. National Nanotechnology Initiative that Nanotechnology indulges with technology development at a length scale of approximately 10 to 100 nm (nanometer) range that provide a fundamental understanding of materials at nano-scale and to use structures, and systems that have novel properties and functions because of their small and/ or intermediate size. Nanotechnology helps in the design of systems having high functional density, high sensitivity, special surface effects, large surface area, high strain resistance, and catalytic effects. All attributes are directly or indirectly the result of the small dimensions of nano-particles.

NANO-PARTICLES THAT ARE USED IN PAVEMENT CONSTRUCTION
A nano-particle is a miniaturized particle that is measured in nanometers (nm) and is often defined as a particle with at least one dimension that is less than 100 nm. Adding nano-particles like nanoclay, nanosilica, and nanotubes normally increase the viscosity and improves the rutting and fatigue resistance of asphalt mixtures. Based on a literature review of nano particles and nano materials the clay nano particles are the primary materials that could have application in asphalt construction. Carbon nano tubes (CNT), silica, alumina, magnesium, calcium, and titanium dioxide (TiO2) nano particles can also have a significant effect on asphalt performance.

NANO-CLAY
Nanoclay is clay that can be modified to make the clay compatible with organic monomers and polymers. These nano-composites consist of a blend of one or more polymers with layered silicates that have a layer thickness in the order of one nm and a very high aspect ratio. Common clays are naturally occurring minerals and subject to natural variation in their formation. Separation of clay discs from each other results in a nano-clay with a large active surface area (up to 700-800 m2/g). This results in an intensive interaction between the nanoclay and the bitumen (Jun Yanga et. al)[2]. Polymeric nano composites are one of the most exciting materials discovered recently and the physical properties are successfully enhanced when a polymer is modified with small amounts of nanoclay (Jahromi and Khodii 2009; Mittal et al. 2012)[10]. It is essential to have a proper selection of modified clay so as to ensure effective penetration of the polymer into the interlayer spacing of the clay which results in the desired exfoliated product. In an intercalate structure, the organic component is inserted between the clay layers in a way that the interlayer spacing is expanded but the layers still bear a well-defined spatial

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relationship to each other. Fig.1 shows that the layers of the clay have been completely separated and the individual layers are distributed throughout the organic matrix (Polacco et al. 2008) [11] in the exfoliated structure.

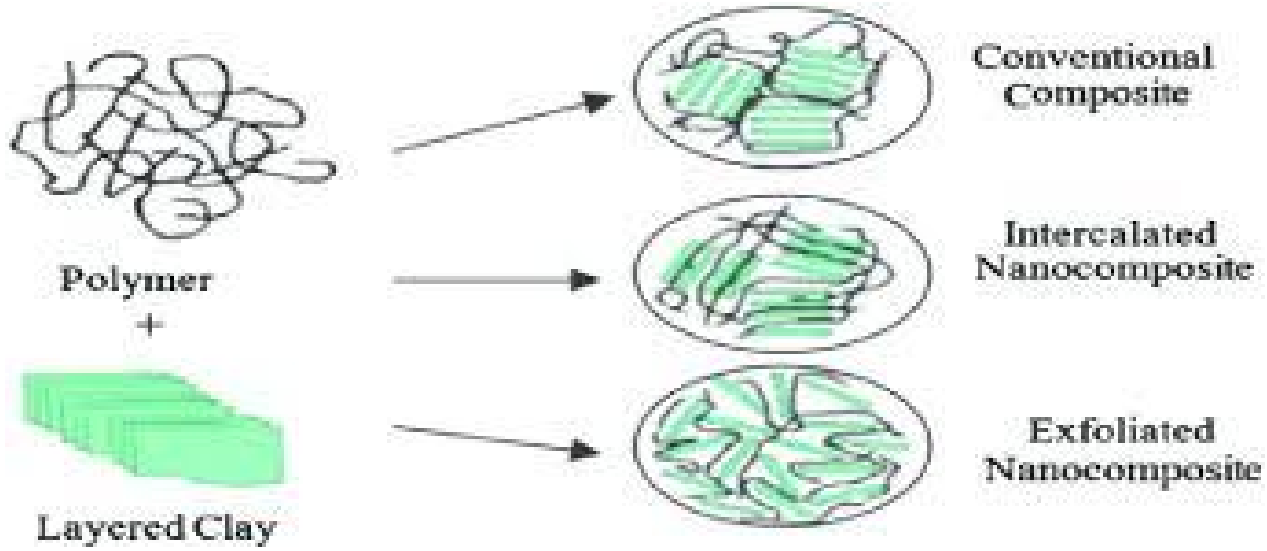

FIG.1: Schematic of structures of polymer nanocomposites (Golestani et al. 2012)

CARBON NANOTUBES

A carbon nanotubes is a one-atom thick sheet of graphite rolled up into a seamless hollow cylinder with a diameter of the order of one nanometer. Laser ablation, chemical vapour deposition, electric arc processes are some of the methodologies employed for production of NT's (nanotubes) that exist as metals or semiconductors (B. B. Das et al)[12]. Table1 shows some of the properties that CNT's provide due to their structure and topology i.e. high conductivity (being more than copper), elastic deformability, strength (being stronger than steel), surface chemistry, high stability(B. B. Das et al)[12]. A small change, in the nanometer diameter and that in the chiral and achiral nature brings different properties in that of SWCNT's (single walled carbon nanotubes), which comprises of single cylinder whereas that of MWCNT's (multi walled carbon nanotubes) comprises of multiple cylinders. When CNT's are mixed with asphalt and concrete it increases the strength of the structure for a longer duration of time and prolonging life along with giving boost to the compressive strength and contributing to the tensile strength by improving the flexural strength is reported from earlier research work(B. B. Das et al)[12].

TABLE I: THE PROPERTIES OF CNT'S

Name of the property	**Characteristics**
Length to diameter ratio	60 (SWCNT's)
Surface area	~300 m2/gm (SWNT's)
Density	Less (2.60g/cm3 for MWNT's)
Thermal conductivity	350K-8K (SWCNT's)
Elongation	100% (CNT based interconnects which are stretchable)
Young's Modulus	1.25 TPa (SWCNT's), 0.9 TPa (MWCNT's)
Poission's Ratio	0.06-0.55 (SWCNT's)
Tensile strength	75 GPa (SWCNT's) <60 GPa (MWCNT's)
Compressive strength	100-150 a (MWCNT's)

NANOSILICA

Silica is an abundant compound over the earth that is largely employed in industries to produce silica gels, colloidal silica, fumed silica and so on. Nanosilica particles have been used in the industry as reinforcement in the elastomers as a rheological solute and cement concrete mixtures (Chrissafis et al. 2008)[15]. The advantage of these nanomaterials is the low cost production and the high performance features (Lazzara et al. 2010)[16]. The viscosity values of nano modified asphalt binder decreased slightly with the addition of nanosilica in the base asphalt binder. Lower viscosity of the binder indicates the lower compaction temperature or lower energy consumption of the construction process. Nanosilica mixed with the control asphalt improves the recovery ability of asphalt binders. It enhances the fatigue cracking and anti-aging performance of nanosilica modified asphalt binder and mixture and the rutting resistance and anti-stripping property of nanosilica modified asphalt(Lazzara et al. 2010)[16]. Besides having a low cost (each gram of nanosilica costs 60 paise) budget, high

ISSN 2394 - 7780

compressive strength (3801 psi), tensile strength (117.7 MPa), high surface area (750 m2/gm), ability to prevent silicosis, reducing percentage of CO2, nanosilica (particle size = 4-100 nm, colloidal solid percentage = 30%) also helps in checking solid waste pollution when mixed with recycled concrete aggregates (O. H. Lin et. al)[13] & (R. Elansezhian et. al)[14]

USE OF NANO-ASPHALT IN COLD REGIONS

Ghile's research (2006) stated that the addition of nanoclay modifiers to bitumen has increased the stiffness of the asphalt, which has improved the rutting resistance. Due to the input of nanoclay modifiers the indirect tensile strength has also increased, which has improved the aging resistance. The dissipation of energy decreased and the elasticity of the modified bitumen increased in high temperatures, because the clay is dispersed at the nanoscopic level (Jahromi and Khodaii 2009)10. These improvements have increased the durability and the lifespan of the asphalt pavements, hence saving money for maintenance and repairs, and also making the bitumen easy to work with in hot areas, since the viscosity has increased. However, there are possibly some disadvantages of nano material modified pavement under low temperatures. Researches showed that at low temperatures the fatigue resistance of nanoclay modified bitumen is lower than the unmodified bitumen (Ghile, 2006).

Apart from the disadvantage of having a low resistance to fatigue, bitumen modified with nano materials have many advantages in low temperatures as well as in high temperatures. Previous studies showed that bitumen modified with nano CaCO3 has an increased anti-deformability and anti-aging properties under low temperature (NPCC-701 For Modified Asphalt, 2010). Another most important advantage of nanoclay modified asphalt is that it reduces the susceptibility to water and deicers and improves the tensile strength (Goh et al, 2010). This is important in cold region because, where most asphalt paved roads are susceptible to snow, deicers used on roads usually erode and damage the pavements (Goh et al, 2010)17.

ADVANTAGES OF NANOTECHNOLOGY IN ASPHALT MIXTURE

In general, Nanotechnology will produce benefits in two ways – by making existing products and processes more cost effective, durable and efficient and by creating entirely new products. In particular to asphalt and asphalt mixture properties, Nanotechnology has the following known benefits:

- Improve the storage stability in polymer modified asphalt.
- Increase the resistance to UV aging.
- Reduce the moisture susceptibility under water, snow and deicers.
- Improve the properties of asphalt mixtures at low temperature.
- Improve the durability of asphalt pavements.
- Save energy and cost.
- Decrease maintenance requirements.

CONCLUSION

- Nanotechnology indulges with technology development at a length scale of approximately 1 to 100 nm (nanometer) range that provide a fundamental understanding of materials at nano-scale and to use structures, and systems that have novel properties and functions because of their small and/ or intermediate size..
- Adding nano-particles like nanoclay, nanosilica, and nanotubes normally increase the viscosity and improves the rutting and fatigue resistance of asphalt mixtures. CNTs provide an enhancement of rutting resistance potential and of resistance to thermal cracking.
- Nanoclay is clay that can be modified to make the clay compatible with organic monomers and polymers. These nano-composites consist of a blend of one or more polymers with layered silicates that have a layer thickness in the order of one nm and a very high aspect ratio.
- Polymeric nano composites are one of the most exciting materials discovered recently and the physical properties are successfully enhanced when a polymer is modified with small amounts of nanoclay.
- Nanoclay is essential to have a proper selection of modified clay so as to ensure effective penetration of the polymer into the interlayer spacing of the clay which results in the desired exfoliated product.
- A carbon nanotube is a one-atom thick sheet of graphite rolled up into a seamless hollow cylinder with a diameter of the order of one nanometer.

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- CNT's provide due to their structure and topology i.e. high conductivity (being more than copper), elastic deformability, strength (being stronger than steel), surface chemistry, high stability.
- The advantage of silica nanomaterials is the low cost production and the high performance features. The viscosity values of nanomodified asphalt binder decreased slightly with the addition of nanosilica in the base asphalt binder.
- Most important advantage of nanoclay modified asphalt is that it reduces the susceptibility to water and deicers and improves the tensile strength (Goh et al, 2010). This is important in cold region because, where most asphalt paved roads are susceptible to snow, deicers used on roads usually erode and damage the pavements.

TRENDS TO FUTURE

An extensive review has been made into the applications and properties of nanomaterials that helps to improve the pavements. With the current review, we may conclude that nanotechnology can be applied to pavements to provide a better performance. Some of the potential future directions are listed below:

- Maximum use of locally available materials can be made using nanotechnology and avoid unnecessary transport.
- Ductile, flexible, breathable, permeable or impermeable concrete properties may be designed in future.
- Specialty products such as products with blast resistant, conductive properties as well as temperature, moisture, and stress-sensing abilities can be developed.

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INSTITUTIONAL BASIS OF SMALL BUSINESS DEVELOPMENT: PROBLEMS AND SOLUTIONS

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ABSTRACT
In the paper have been studied the relationships with organizational management of the development of small businesses focuses on the issues of institutional basis and rational organization of the mechanism of governance, the institutional development of effective institutional mechanisms of mutually beneficial relationships with government and society structures and their organization on the basis of alternative organizational structures to learn the basics.

Keywords: small business, management, organizational management mechanism, institutional framework, institutionalism, institutional mechanism, institutional mechanism, transaction costs.

INTRODUCTION
Today, identifying the factors affecting the development of small business and its theoretical learning of its institutional framework, and the development of the concept of systematization and development become one of the priorities of the economy. It is well known that in transition period from the centralized system of economy to the market relations a number of laws and legal acts on the management of small business, its cooperative, mutually beneficial activities were adopted. During this period, the gradual transformation of the country's economy into market relations has led to the reorganization of rational, institutional basis of its business activity from the point of view of modern management in the business of multidimensional changeable intensifying relations between small business entities and its institutions, the fundamental theoretical and methodological basis of its business environment there was a need for a re-formulation.

LITERATURE REVIEW
The problems of entrepreneurship, the ways of its effective market organization are actively investigated and widely discussed in the economic literature, both foreign and domestic. Economic thought, describing the development of both national economies and the general civilizational economic process at all stages of its evolution, has always singled out entrepreneurship as one of the most important aspects. For the first time, this problem was most clearly formulated, as evidenced by most scientific sources, at the beginning of the 18th century. R. Kan-Tillon. The ability to trace the more than two centuries of evolution of various methodological approaches to the study and substantiation of the entrepreneurial function is given by the well-known works of many foreign scientists, among them - J. Thünen, F. Quesnay, A. Smith, J. Turgot, J. B. This, J.S. Mille, A. Marshall, JL Walras, C. Menger, F. Vizer, I. Schumpeter, P. Druker, F. Knight, R. Coase [1], O. Williamson, S. N. Ubaydullaev [2], L. Mises, F. Hayek, Billetoff J.[3], Dike E. [4], Goss D. [5], Lu Ding. [6], Thompson A., Strickland A. [7], Sisken D.S. [8], Stanworth J., Bolton G.C. [9]. The results of these studies are reflected in the well-known concepts of macro-and microeconomics.

ANALYSIS AND RESULTS
Small business in the economy is dynamic, dynamic, dynamic, innovative, active in market economy, forming a fast-paced business and creating new jobs, and its effective organization ensures social and economic stability in the country. During the years of independence, along with the development of small business, multidisciplinary market relations have been created with a competitive environment. The main attention was paid to the development of the legal framework for the activities of small businesses and the improvement of market infrastructure and the development of entrepreneurship protection institutions.

The development of small businesses in the Republic of Uzbekistan is one of the priorities of state policy. After a nation-wide industrial policy, consumer intentions and desires, and globalization of markets in line with this process, require the study of relationships with the organizational management of small businesses. Today, as in all spheres, the institutional framework of small business organizational management and the rational organization of its management mechanism become a demand of the times.

Forming effective institutional mechanisms for the engagement of small businesses with government and society, and organizing them on the basis of alternative organizational structures, is one of the key conditions for the country's institutional economy. Institutional arrangements can help small businesses to engage in mutually beneficial relationships, formulate effective institutional mechanisms for managing them and organize alternative organizational structures, and increase the effectiveness of local reforms and eliminate existing issues and increase the Gross Domestic Product of the Republic of Uzbekistan. effect. As it is well known, the

ISSN 2394 - 7780

institutional basis for small businesses involves minimizing transaction costs [1] in its integration relationships with other subjects, increasing the speed and mobility of capital, and improving the business and government, and business and society-organizational relationships based on innovation approaches. Small businesses will benefit from a positive institutional environment, resulting in lower transaction costs and overall cost savings. This, in turn, creates opportunities for small businesses to more effectively adapt to the changing demand for legal services and market convergence. If we analyze the dynamics of the share of small businesses in the structure of the sector in the Republic of Uzbekistan (Figure 1), which has a high level of agricultural, forestry and fisheries, 98.2 in 2016 has not changed compared to 2015. In 2016 (45%) compared to the rest of the industry, the industry has changed dramatically over 2015 (40.6%), with 50,021 trillion won in industrial production. The volume of production was 16.2% higher than in the previous year, though the overall share was low despite the potential for development in this sector.

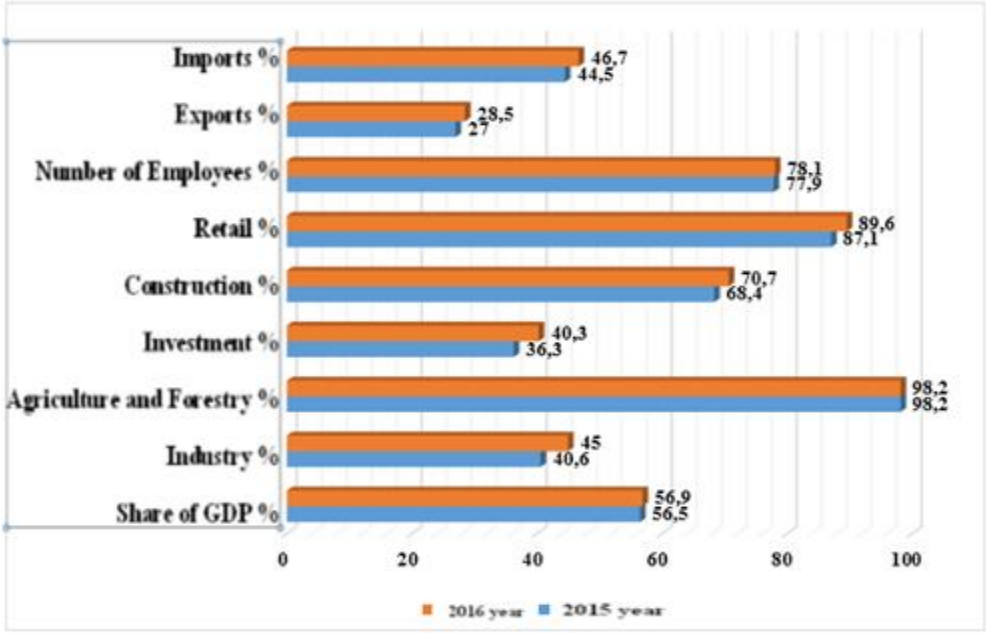

Fig-1: Analysis of the dynamics of small business entities in the Republic of Uzbekistan,%.

Particularly S. N. Ubaydullaev [2] argues that the lack of adequate public institutions in the society requires the development of entrepreneurship in the field of monopolization and the prevention of industrialization in the industry. In 2016, 31.8 thousand new small businesses were created in Uzbekistan. This figure is 18.1% more than in 2015. The share of GDP in GDP is 56.9% in 2016, reaching growth by 2015. In 2016, 19.96 trln. Investments in the total volume of investments made up 40.3% of the country's total investment. In comparison with 2015, the growth of investments made up 22.9%. Small businesses rendered 20.677 trln. Soum construction works were completed, which is 15.6% more than in 2015. In 2016, small businesses rendered 55,057 trillion soums of services. This figure was 60.5% of the total number of services rendered, and its growth compared to 2015 was 15.7%. The total retail turnover of the republic made up 89.6% to 78.867 trillion soums. and its growth made up 17.7%. Exports of goods and services with small enterprises totaled $ 3.588 billion and accounted for 28.6% of total exports. Imports amounted to $ 5.656 billion and total imports amounted to 46.7%. The share of small business in total employment was 78.1% and amounted to 10.392 million USD. one person. Of these, the private sector accounts for 8.212 million. and in small enterprises and microfirms - $ 2.18 million. was equal. In the small business sector of the private sector, 9.573 mln. 92.1% of those employed in this sphere. The study of the institutional basis of small businesses and their effective organizational management in order to minimize transaction costs and the development of institutional environment based on integrated innovation is one of the topical issues of today's scientific-theoretical and methodological basis.

In recent years, small business, its formation and development, as well as theoretical and scientific and methodological basis of its institutional foundations in this field have not been adequately studied and the existing controversial concepts of neo-institutionalist views on the basis of a systematic approach to this field and theoretical and methodological it wants to rebuild its foundation. However, effective organizational management of the institutional base of small business in Uzbekistan, the lack of research and development of its theoretical basis and organizational methodology has led to the increase in transacted business relations in the society.

ISSN 2394 - 7780

CONCLUSION AND SUGGESTIONS

It is necessary to develop scientific, methodological recommendations and recommendations on the organization and management of the institutional basis for the development of small business entities on the basis of innovation-based management. The activities of small businesses in Uzbekistan are characterized by their specific institutional features, which include:

- Small business entities can not combine multiple activities within a single small business and, in most cases, fail to develop on a productive production model;
- In overseas, a large part of small businesses are members of associations, such as Konstantia (Italy), Kayretsu (Japan), sub-podrada, franchise and so on, in our country these types of organizations are targeted at organizing such organizations will be appropriate;
- In spite of high innovation potential, most small businesses are equipped with low technical equipment and technology, which should be promoted by technology parks and business incubators;
- Taking into account the high level of human resources due to the transition from the public sector to the small business, it is necessary to create innovative technological chain manufacturing associations that support them immediately and support large projects;
- Low level of knowledge in the field of entrepreneurship and small business, lack of culture in the field of business ethics, familiarization with the regulatory bodies of the state, and the cessation of the census, the tenders should include the regional monitoring and propaganda of transboundary access to all small business entities need to organize;
- Changes in the structure of public administration bodies should result in increased pressure on small businesses and strengthening public oversight capacities and strengthening local capacities on coercion and guardianship;
- Taking into account the lack of activity of small business support organizations and insufficient development of their infrastructure in the places, the regional small business support centers are actively involved in promoting and facilitating the active involvement of small businesses from the local market into foreign countries through mass media and must do;
- In the case of small business and its lack of information on the production and trade of goods and services, it is necessary to develop the activity of regional and district centers in the field of online business, to avoid the lack of services in the area of consultation and retraining. In the abovementioned cases, the elimination of deficiencies and the creation of a robust institutional framework create a radical change in the activities of small businesses in the country.

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BIOENERGY POTENTIAL OF *SIMAROUBA GLAUCA* WOOD MATERIAL FOR POWER GENERATION

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ABSTRACT
Bioenergy potential of Simarouba glauca wood material for power generation is described. The particle size of the material is 24.3 nm from the data obtained from PXRD analysis and surface of the particle also analyzed by employing SEM. The combustion profiles of the wood like proximate analysis (moisture, volatile matter, fixed carbon, and ash contents), ultimate analysis (C, H, N, S and O composition) and thermal analysis (TGA, DTA and DSC) were fully studied using appropriate analytical techniques. From the proximate analysis calorific value is 3839 kcal/kg. Functional group present in the wood material were also determined using FT-IR spectrum.

Keywords: Simarouba glauca, Calorific Value, Power Generation, Proximate Analysis, Woody Biomass

INTRODUCTION
Biomass offers a potentially ideal source of fuel for cleaner power generation and also support of sustainable development in developing countries. It is the fourth largest source of primary energy in the world and the largest source of renewable energy, supplying about ten percent of 2004 total primary energy supply [1]. Biomass could account for in excess of thirty percent of the world's primary energy by the year 2050 [2]. Biomass power generation technology is mature, yet deployment of this technology on a wide scale faces significant institutional barriers related to the difficulty associated with sourcing a reliable and affordable supply of biomass. Biomass power production at a large scale also poses significant water and food security issues if not managed properly.

In our country, biomass is used as the primary source of energy for home heating and cooking in rural areas [3]. However, the burning of biomass, which typically occurs in enclosed areas, poses threats to human health, and is a primary cause of respiratory diseases in developing countries. Biomass electricity generation can provide household energy without the adverse health impacts of using biomass directly in homes. Further, biomass power generation can significantly reduce sulfur dioxide and nitrous oxides, mercury, particulate emissions, and Green House Gas ("GHG") emissions compared to coal power plants [4]. Biomass power generation can also help reduce the use of chemical fertilizers in agricultural production and promote the development of organic agriculture. For India, biomass has long been the main energy source for cooking and heating. India produces approximately 500 million tons of biomass per year [5]. Biomass has emerged as an increasingly attractive option for power generation due to the growing demand for power, recurrent power shortages throughout the country, a projected shortage of coal for power generation, and the high cost of diesel and other fossil fuels.

In the present investigation, we have described how the woody part of *Simarouba glauca* is utilized as a feedstock for power generation.

Simarouba glauca belongs to family Simarubaceae, commonly known as "The Paradise Tree" or "King Oil Seed Tree" or Laxmitaru tree is a multipurpose evergreen tree having a height of 8-15 m with tap root system. It is mainly found in coastal hammocks throughout South Florida. In India, it is mainly observed in Andhra Pradesh, Karnataka and Tamil Nadu etc. It can adapt a wide range of temperature, has the potentiality to produce 2000-2500 kg seed/ha/year. However, in the present context the seeds are economically very important as they contain 60-75% of oil, and can grow well in marginal lands/wastelands with degraded soils and therefore considered as a major forest tree. The oil produced by each Simarouba tree accounts per 1–2 t oil per year grown under wide range of temperatures (10–45 °C) [6].

Simarouba glauca oil biodiesel blends with diesel were used as a fuel [7]. The *Simarouba* biodiesel blends at CR 16.5:1 is having good performance with low emission than at CR of 14.3:1 and 15.6:1, except for emissions of oxides of Nitrogen. The oxygen contained in the *Simarouba glauca* oil biodiesel takes part in the complete combustion, which in turn enhances the combustion process, hence resulting in higher brake thermal efficiency [7]. The fuel qualities and characteristics of the *Simarouba glauca* biodiesel were tested and found to be the standards required for fuel designation. However, this research suggests that for *Simarouba glauca* to be widely accepted as a biodiesel feedstock [8]. Very importantly *Simarouba glauca* oil has not been recognized as edible

ISSN 2394 - 7780

oil by local populations in India and is not currently used by any industrial process [9]. Biodiesel produced from the *Simarouba glauca* oil can be utilized as alternative fuel for compression ignition engine [10]. The ability of sequestrating the carbon by this species is maximum in drier region with medium rainfall regime [11]. The lignocellulose contained in the huge amount of biomass produced (about 15 tonnes/ha/year) can be used as feedstock for manufacturing second generation biofuels [12].

MATERIALS AND METHODS

Biomass collection and sample preparation

The study material *Simarouba glauca* wood was collected from Agricultural College and Research Institute, Killikulam, Vallanadu, Thoothukudi District, Tamil Nadu, located at 8°46 N latitude and 77°42 E longitude and lies in south India. The collected wood material dried over sunlight until completely dried (around 20-25 days). Dried materials were chopped in a household blender used without any pretreatment for proximate analysis. Powdered form of dried materials was used for Ultimate, PXRD, FT-IR, SEM, EDAX and thermal analysis (TGA, DTA and DSC).

Characterization

Powder X-Ray Diffraction (PXRD) of C*assia fistula* wood powder was done by using X-ray Diffractometer (PANALYTICAL, NETHERLAND& X'PERT POWDER) with CuKα radiations. Scanning Electron Microscope (SEM) measurements were carried out using SEM (Vega 3 Tescan) equipped with Energy Dispersive X-Ray Analysis (EDAX, Bruker). The proximate analysis to analyze moisture, volatile, fixed carbon and ash content were done by ordinary oven and muffle furnace (GUNA model TC141P) respectively. The calorific value of the woody material was determined by Bomb calorimeter (RICO). Elemental analysis was carried out in a Thermo Finnigan Flash EA 1112 analyzer. IR spectrum was recorded on a JASCO FT/IR-5300 instrument. Thermal behavior of the wood material was studied using thermal analyzer (NETZSCH STA 449F3).

RESULT AND DISCUSSION

The PXRD analysis shown is in figure 1. The particle size of the material is found to be 24.3 nm. Irregularly cylindrical shaped particles are determined in SEM image shown in figure 2. A uniform particle size improves the trouble free gasifier operation [13]. EDAX spectrum of the *Simarouba glauca* is shown in fig.3 and presented in table 1. The EDAX spectrum reveals the main elements are Carbon and Oxygen; N, K and S are in small quantity of 2.82, 0.77, 0.34 wt% respectively. The presence of the strong signal from carbon atoms also clear indication that carbon is the major constituent in the material. The higher in carbon percentage, compared with other elements oxygen and hydrogen, increases in energy value of feed stock because of higher energy of C-C bonds [14]. The CHN spectrum (Fig.4) showed 68.32 % of carbon 12.56 % of hydrogen and very small amount of nitrogen 0.05% suggested that this material is full of hydrocarbons, hence it would be the opt material for the application of power generation [15]. It should be noted that negligible percentage of nitrogen, pottasium and sulphur, which suggest that this woody material might generate power without producing the environmentally hazardous gases NO_x, SO_x etc.,[16]. The functional groups present in the wood material are analyzed with the help of FT-IR spectrum is shown in figure 5. The band at 3335 cm^{-1} is a –OH stretching vibration, the band is broad in nature that clearly indicates the presence of hydrogen bonding, might be attributed to adsorbed water. The presence of hydrogen-bonding in that woody material confirms that it has high volatility and flammability [17]. Sp^2 hybridized carbon's stretching vibration is found to be at 2918 cm^{-1}. The characteristic band of carbonyl group found in the IR spectrum at 1735 cm^{-1}.

Proximate analysis of *S.glauca* wood material is shown in table 3. The volatile content of 73.8 %, fixed carbon (18.7 %), calorific value (3839 kcal/kg) favours the gasification can be utilized for plasma gasification process [18]. Though the upper acceptable limit of moisture content in biomass is 40 per cent on dry basis for gasification process [19]. The selected woody material has less moisture content (5.2 %), which leads to the good high calorific value. Volatile content is also highly favors the gasification efficiency [20]. The amounts of volatiles and fixed carbon directly affect the heating value of the fuel, the flame temperature, and the process by which combustion is achieved. Ash content is an important proximate composition in agro residues. Ash content less than 6% is very significant in thermo chemical conversion process [21]. *S.glauca* woody material has low ash content (2.3 %).

Thermal analysis of *Simarouba glauca* wood is depicted in the figure 6, 7 and 8. Thermo gravimetric analysis of wood material (fig.6) shows the amount and rate of change in the weight of the material as a function of temperature in a controlled atmosphere. The initial weight loss around the temperature of 50-85 °C, due to moisture evaporation from the wood. The lesser amount of this peak area means lesser moisture content in the material [22]. The other deviation in TGA around 180- 560 °C is a major weight loss, this is attributed to

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biomass volatilization and char oxidation processes which accounted about 68 per cent of total mass. (Fig.6 and 7). At temperature 600 °C, almost all the volatile compounds are combusted from wood material and the weight loss is stabilized. From DSC analysis (Fig-8), a small peak around 550 °C corresponds to cellulose present in the wood material [23]. The selected wood material with stand upto 875°C temperature. The thermo gravimetric analyses of wood *Simarouba glauca* clearly indicate that biomass is highly reactive due to the fast pyrolysis.

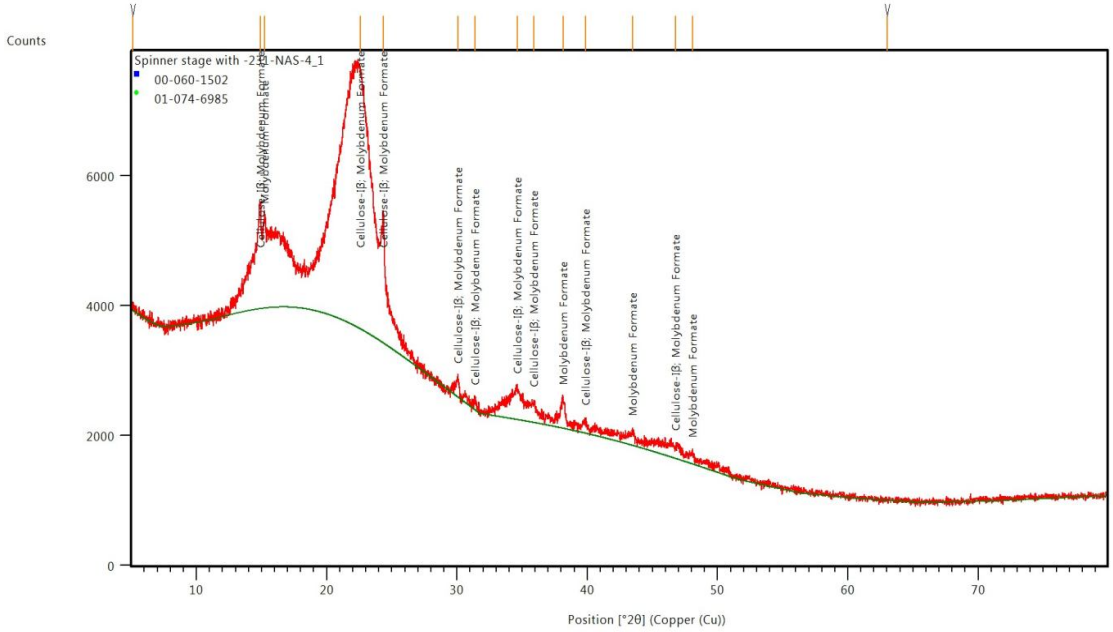

Fig-1: PXRD Analysis of *S.glauca* woody biomass

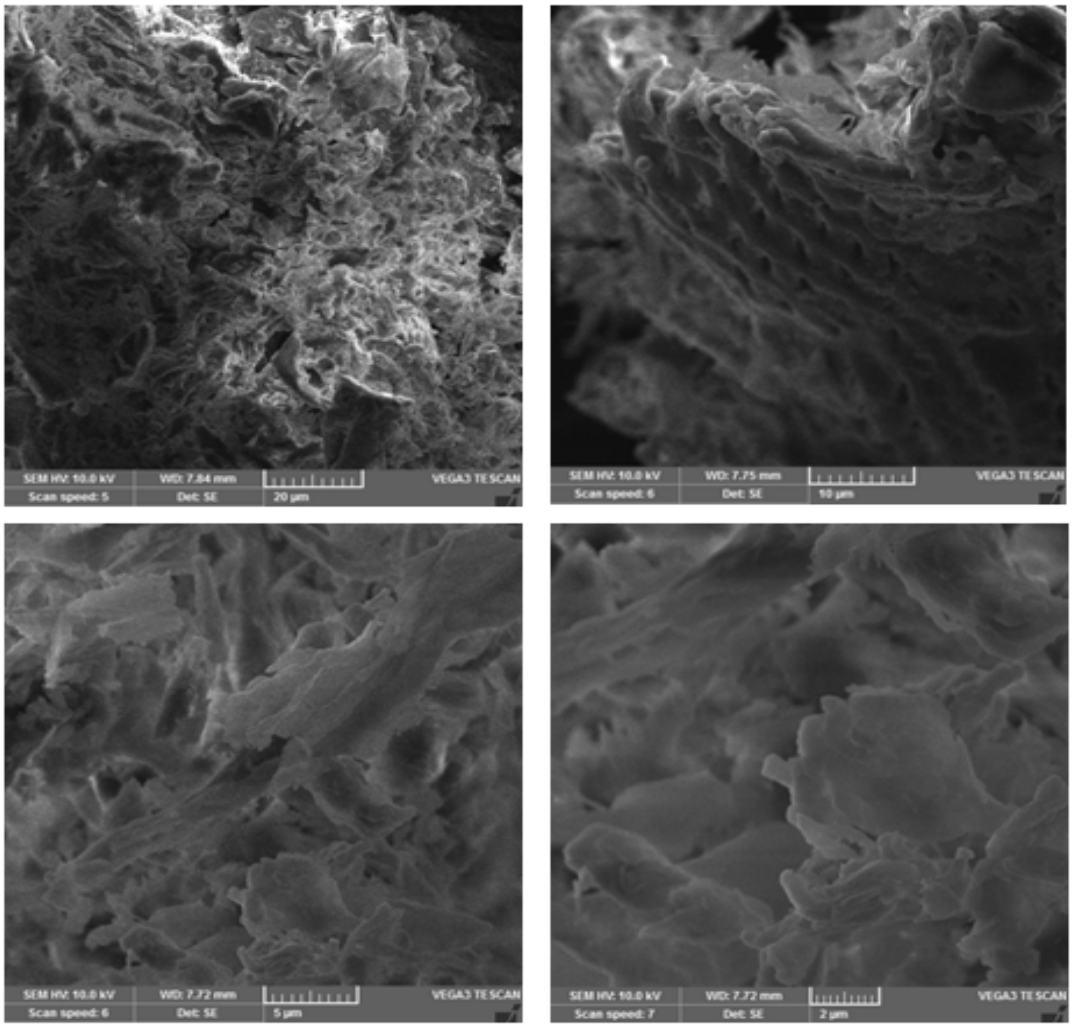

Fig-2: SEM Images of *S.glauca* woody biomass

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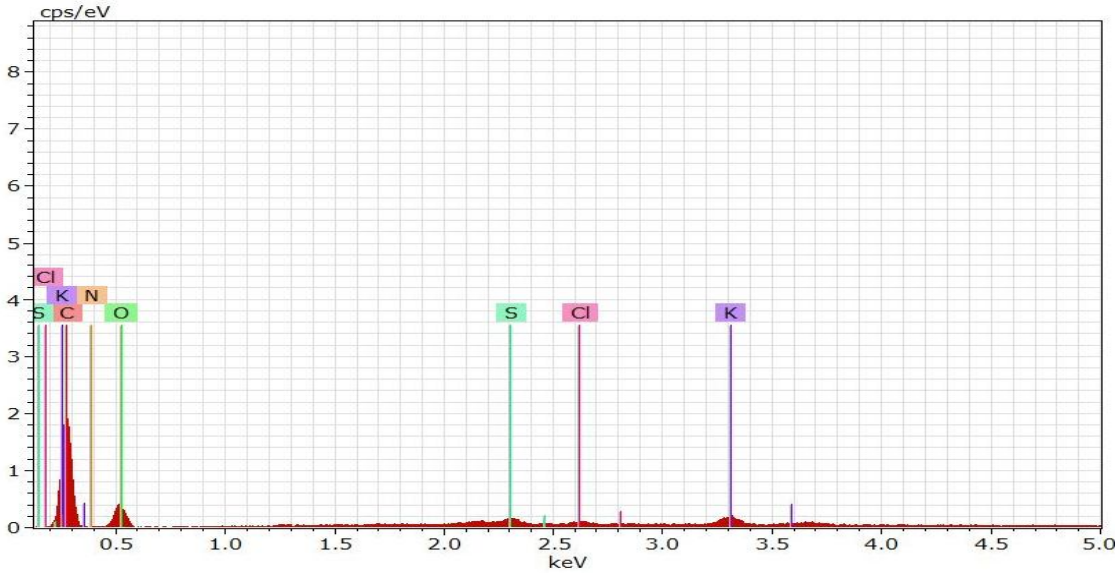

Fig-3: EDAX Spectrum of *S.glauca* woody biomass

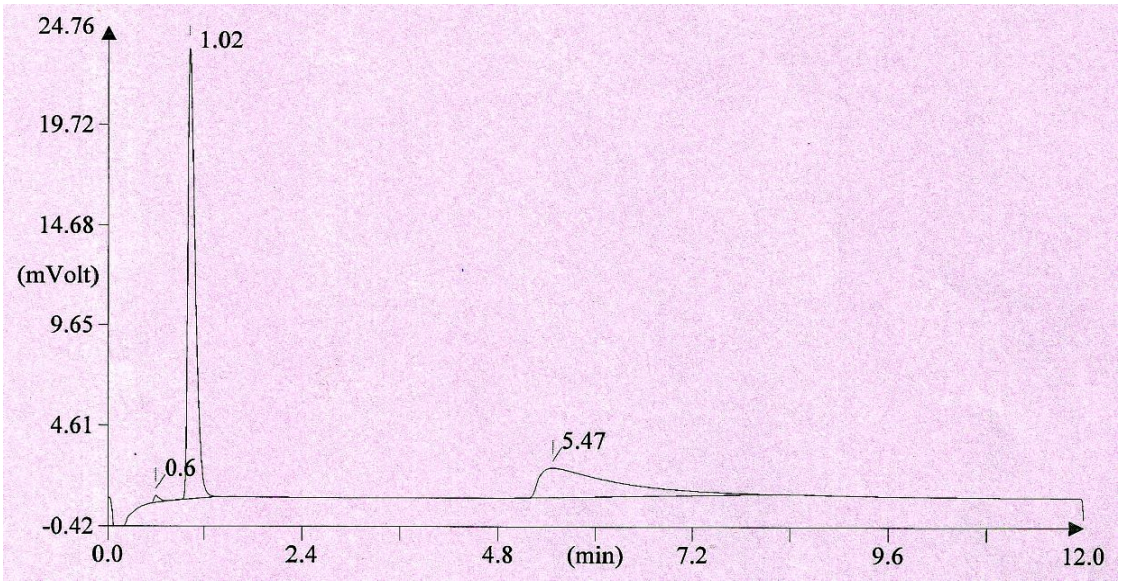

Fig-4: CHN Spectrum of S.glauca woody biomass

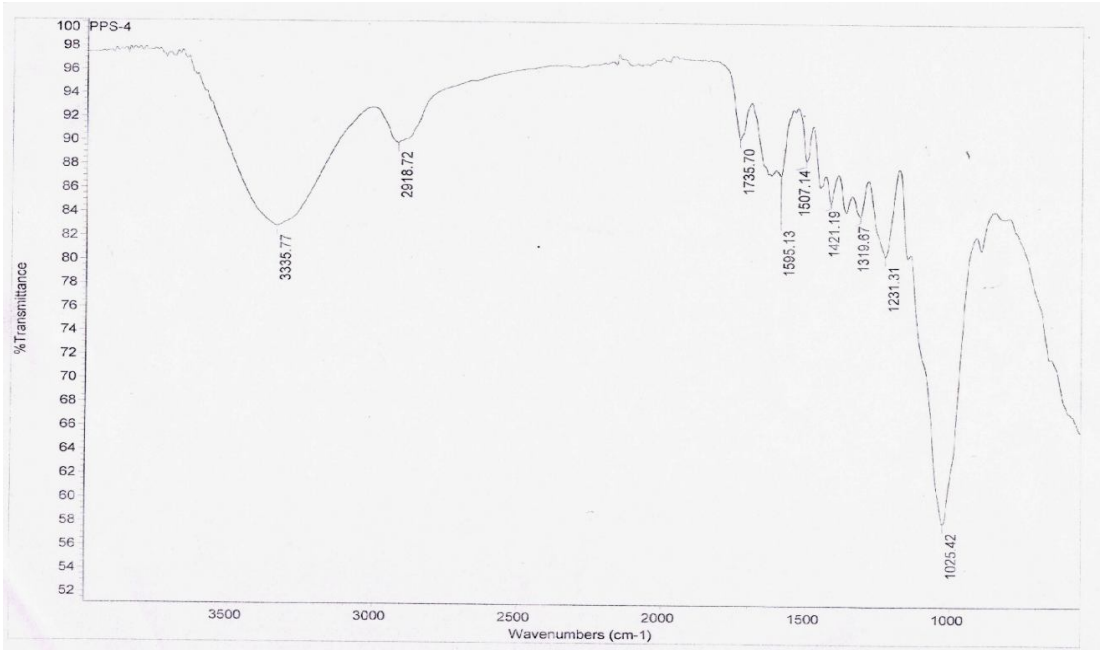

Fig-5: FTIR Spectrum of *S.glauca* woody biomass

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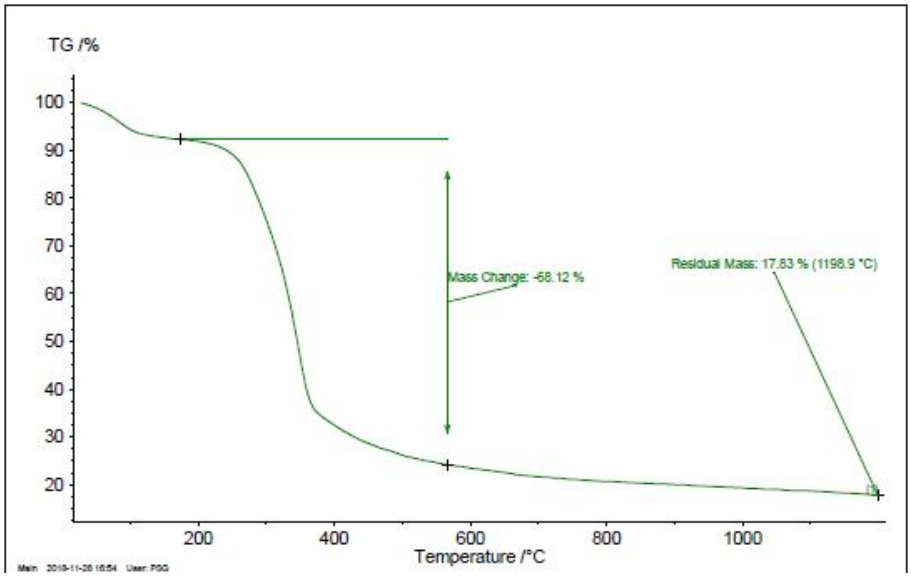

Fig-6: TGA Spectrum of *S.glauca* woody biomass

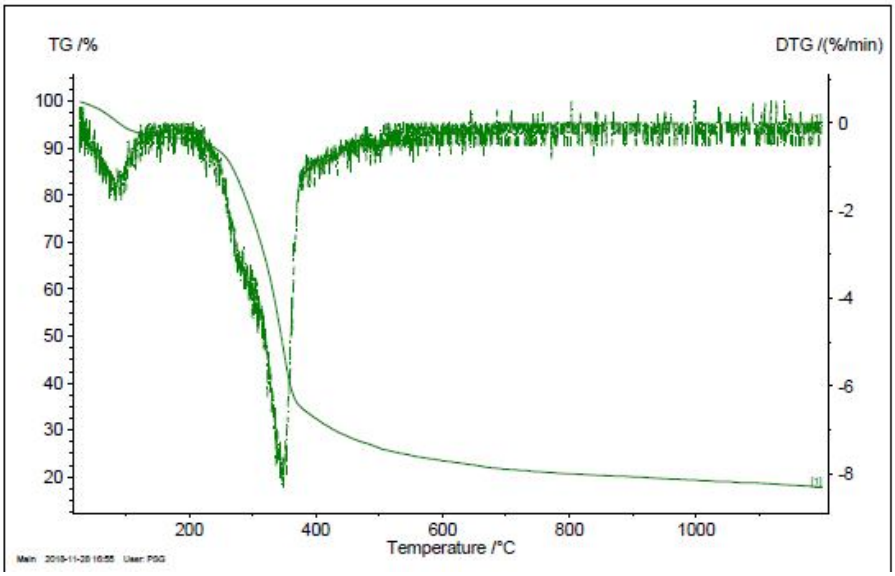

Fig-7: TGA- DTG Spectrum of *S.glauca* woody biomass

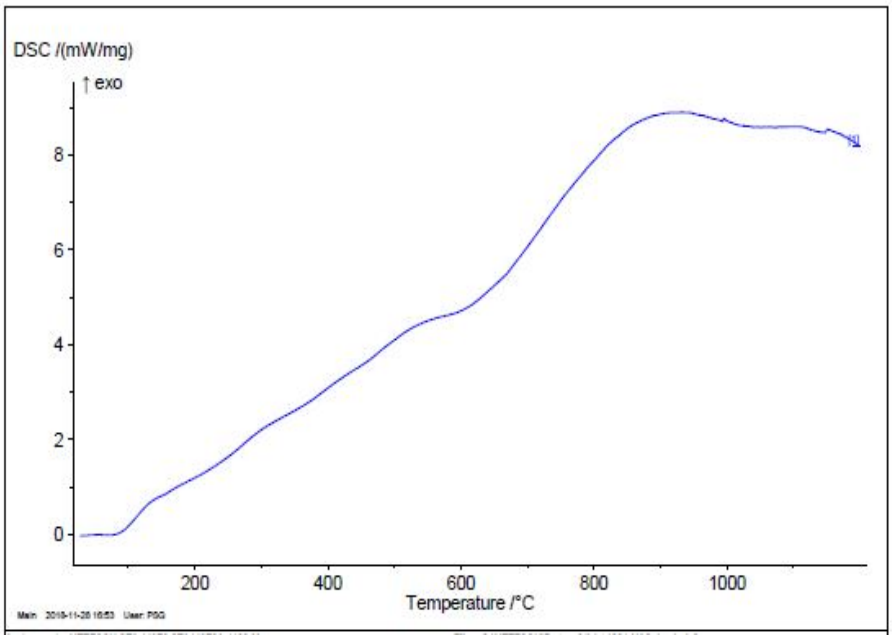

Fig-7: DSC Spectrum of *S.glauca* woody biomass

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Table-1: EDAX micro analysis of *S.glauca* woody biomass

Sl.No.	Elements	Weight %	Atom %
1	C	61.52	68.23
2	O	34.37	28.62
3	N	2.82	2.68
4	K	0.77	0.26
5	S	0.34	0.14

Table-2: CHN Data of *S.glauca* woody biomass

Sl.No.	Elements	Element %
1	C	68.32
2	H	12.56
3	N	0.05

Table-3: Proximate analysis of *S.glauca* wood

Moisture (%)	Ash (%)	Volatile matter (%)	Fixed Carbon (%)	Calorific value kcal/kg
5.2	2.3	73.8	18.7	3839

CONCLUSION

The wood material of *Simarouba glauca* is found to be a suitable material for the application of power generation. The particle size of wood material is found to be 24.3 nm and in irregular shape. The proximate analysis showed the fewer amounts of ash content (2.3 %) and moisture content (5.2 %). The ultimate analysis showed very less content of nitrogen, pottasium and sulphur. This suggests that the wood material have more benefits for utilizing the study material with high potential and pollutant free. The calorific value is found to be 3839 kcal/kg. Thermal analysis of wood *Simarouba glauca* showed that the biomass is highly reactive. All the information strongly suggests that the selected wood material would be highly potential in the aspect of power generation.

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GROWTH AND OTHER CHARACTERIZATION OF BIS-GLYCINIUM OXALATE (BGLO) AND THIOUREA DOPED BGLO CRYSTALS

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ABSTRACT
Bis-Glycinium Oxalate (BGLO) is an organic crystal which belongs to the monoclinic crystal system with space group P21/n . In this work, nonlinear optical pure and thiourea doped BGLO crystals have been successfully grown from aqueous solution using slow evaporation technique. Single crystal XRD analysis has been carried out to determine the lattice parameters of the pure and doped BGLO crystals. Crystalline nature has been studied by powder X-ray diffraction. The fundamental modes of pure and doped crystals have been qualitatively assigned by FTIR analysis. Microhardness measurements were made to understand the mechanical properties of both pure and doped BGLO crystals. The results were interpreted. The second harmonic generation (SHG) efficiency was estimated by Kurtz and Perry powder technique.

Keywords: crystal growth, nonlinear optical materials, X-ray diffraction, FTIR studies.

1. INTRODUCTION
Nonlinear optical (NLO) materials have been playing a vital role in industrial applications. These materials show a significant impact on laser technology, optical communications and optical data storage etc.[1]. Especially, NLO crystal materials exhibit excellent applications such as laser frequency conversion, optical computing, optical information processing, optical disk data storage, laser remote sensing, laser-driven fusion, color displays and medical diagnostics [2]. Considerable work has been done in order to understand the microscopic origin of nonlinear behavior of organic materials [3–5]. Thus the search for new nonlinear optical (NLO) materials has been the subject of intense research. Materials with large second-order nonlinearities, large optical transmission window, and stable physicochemical performance are needed for various applications [6]. The organic NLO materials have large nonlinear optical coefficients compared to the inorganic materials. The organic NLO materials with small organic molecules have a large dipole moment and a chiral structure. Usually these molecules are linked through the hydrogen bonds for better mechanical properties. They are mostly preferred for their chemical stability, laser damage threshold, nonlinear optical property, scope of altering the properties by functional substitutions[7,8].Organic single crystals possess unique opto-electronic properties and its molecules have delocalized electrons, namely, conjugated electron systems exhibit various photo responses such as photoconductive, photovoltaic, photo catalytic behavior [9,10].To possess NLO property, organic materials should contain highly conjugated - electron system affected by electron donor and acceptor groups. The NLO properties of large organic molecules and polymers have been the subject of extensive theoretical and experimental investigations during the past two decades and they have been investigated widely due to their high nonlinear optical proper-ties, rapid response in electrooptic effect and large second or third order hyperpolarizabilities compared to inorganic NLO materials [11]. Bis glycinium oxalate is a novel NLO crystal which crystallizes in the monoclinic system with space group $P2_{1/}n$. The presence of impurity molecules, even at lower concentrations in the solution, may have considerable effect on NLO properties (Mahadevan et al., 2008). The thiourea is simple organic molecule with large dipole moment and has the ability to form an extensive network of hydrogen bonds. The addition of thiourea as a dopant considerably change the properties of the pure crystals. If added as dopant, it is expected to occupy the interstitial positions of the lattice and in turn this may lead to various changes in the physical properties. An attempt has been made to synthesize pure and thiourea doped BGLO crystal. Hence, an attempt has been made to introduce thiourea into bisglycinium oxalate crystal to alter its various properties. The aim of this present work is to grow pure and thiourea doped bisglycinium oxalate single crystals by slow evaporation technique at room temperature and to characterize the grown crystals by powder X-ray diffraction (PXRD), Fourier transform infrared (FTIR), UV-Vis spectroscopy studies and Hardness studies.

ISSN 2394 - 7780

2. EXPERIMENTAL PROCEDURE

2.1. Synthesis, solubility and growth

Single crystals of Bis glycinium oxalate (BGLO) grown from aqueous solution by slow evaporation technique. The starting materials were analytical grade reagents glycine and oxalic acid. The solution was prepared by dissolving glycine and oxalic acid in deionized water in the ratio 2:1. The solution was stirred continuously for an hour using a magnetic stirrer to obtain a homogenous solution. Then it was filtered and transferred to a borosil glass beaker which was porously sealed and placed in a dust free atmosphere for slow evaporation. Good quality single crystals of Bis glycinium oxalate (BGLO) were grown in a few weeks by the slow evaporation technique at room temperature from the saturated solution. For the growth of thiourea doped Bis glycinium oxalate BGLO crystal, 1 mol% of thiourea was added to the solution of Bis glycinium oxalate . Single crystals of Bis glycinium oxalate doped with thiourea were harvested after a growth period of about 20 to 25 days depending on the temperature of the surroundings. The photographs of the grown pure and 1 mol% thiourea doped Bis glycinium oxalate BGLO crystals are shown in figures 1.a and 1.b.

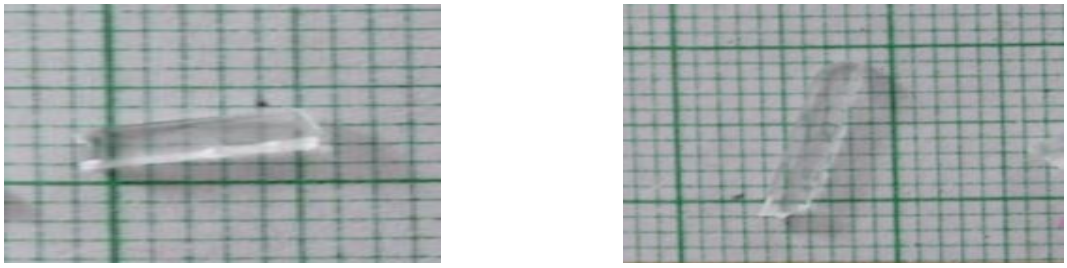

Figure-1: Photographs of (a) pure and (b) 1mol% thiourea doped BGLO crystals

The solubility of pure BGLO and Thiourea doped BGLO in double distilled water were determined by gravimetrical method [12] as a function of temperature in the range 30° - 50° C. The figure 2 shows the solubility curve. From the graph it is observed that the solubility increases with the temperature and decreases with the addition of dopant.

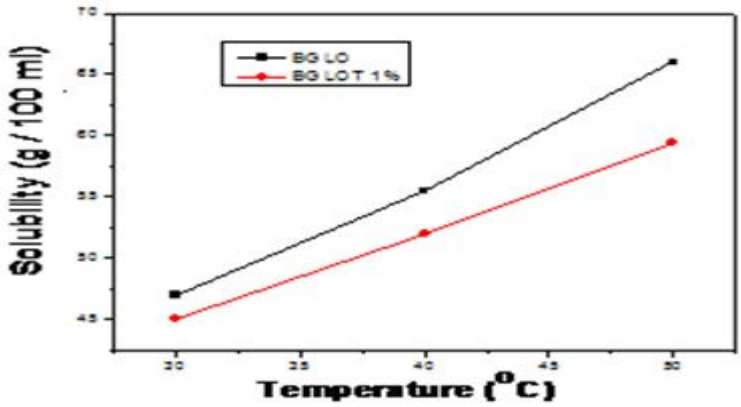

Figure-2: Solubility curve of BGLO and Thiourea doped BGLO samples

3. RESULTS AND DISCUSSION

3.1 Single crystal XRD analysis

The grown crystal has been subjected to X-ray diffraction studies using Enraf Nonius Cad -4 X-ray diffractometer equipped with MoKα radiation (λ = 0.7170 Á) to determine the unit cell dimensions. The observed lattice parameters for BGLO crystal are found to be in good agreement with reported values [13]. The single crystal X-ray diffraction reveals that the crystals belong to monoclinic system. The cell parameters of BGLO and Thiourea doped BGLO single crystals are tabulated in Table 1. From the obtained data it can be seen that the lattice parameters of the thiourea doped crystal is slightly changed .This may be due to the incorporation of Thiourea into the crystal lattice.

Table-1: Single Crystal XRD data

	BGLO crystal	Thiourea doped BGLO crystal
a	4.941 (3) Å	4.923(3) Å
b	9.996(3) Å	9.934(2) Å
c	10.932 (2) Å	10.846(4) Å
α	90.00^0	90.00^0

ISSN 2394 - 7780

β	97.46^0	97.62^0
γ	90.00^0	90.00^0
V	535.83 $Å^3$	525.26 $Å^3$
Crystal system	Monoclinic	Monoclinic

3.2. Powder X-ray Diffraction Analysis

The powder X-ray diffraction analysis is useful for confirming the identity of a crystal and determining the cystallinity and phase purity. The grown pure and 1mol% thiourea doped bisglycinium oxalate crystals were subjected to powder X-ray diffraction studies using XPERT-PRO diffractometer with CuK radiation of wavelength 1.54056 Å. Figure 3 a and 3 b shows the PXRD patterns of pure bisglycinium oxalate and 1 mol% thiourea doped bisglycinium oxalate crystals respectively. The sharp peaks obtained in the XRD pattern of pure and thiourea doped bisglycinium oxalate show that the grown crystals have good crystalline nature. Table 1 shows the shift in diffraction angle 2θ and the variation in peak intensity between pure and 1mol% thiourea doped bisglycinium oxalate crystals. The XRD patterns of the doped crystals show slight shift in the peaks and change in the peak intensity compared to the XRD pattern of pure bisglycinium oxalate crystals. Also a considerable shift in d-spacing and diffraction angle 2θ is observed between pure and 1 mol% thiourea doped bisglycinium oxalate crystal. From these observed results of the powder XRD pattern we can infer that the dopant thiourea has entered the crystal lattice of the bisglycinium oxalate crystal.

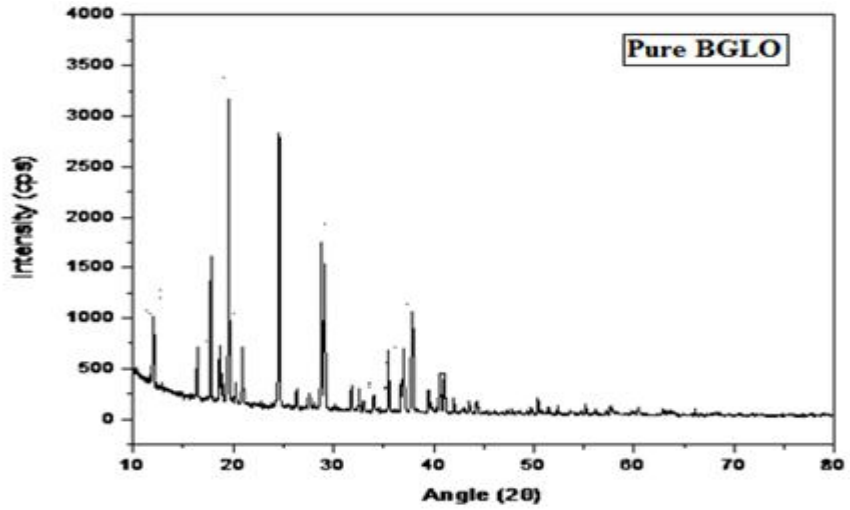

Figure-3 a: Powder XRD pattern of BGLO crystal

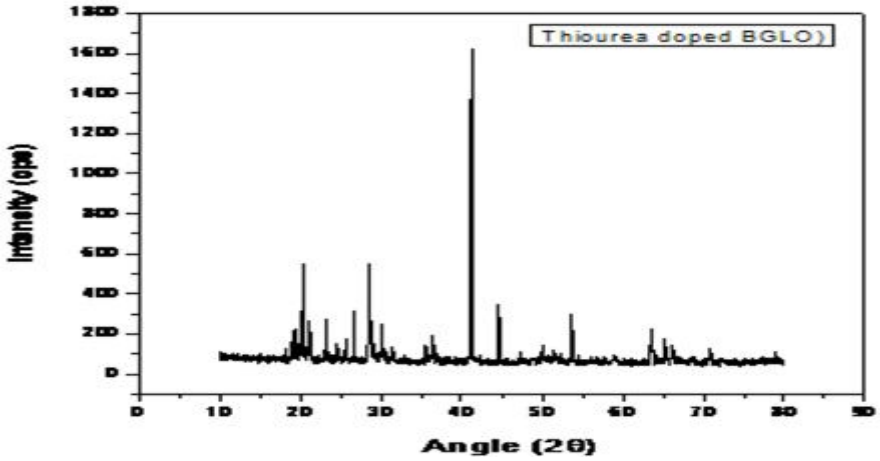

Figure-3 b: Powder XRD pattern of Thiourea doped BGLO crystal

3.3. Fourier Transform Infrared Analysis

In order to qualitatively analyze the presence of the functional groups in the grown crystals, Fourier transform infrared (FTIR) spectra were recorded for the pure and 1 mol% thiourea doped bisglycinium oxalate crystals in the frequency range of 400 - 4000 cm^{-1} using Perkin Elmer Fourier transform infrared spectrometer by KBr pellet technique. Figure 4a and 4b represents the obtained FTIR spectra for pure BGLO and 1 mol% thiourea doped bisglycinium oxalate crystals respectively. Assignments were made on the basis of the magnitudes of the frequencies compared with the literature data [14, 15]. Table 2 represents the frequency assignments for pure

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BGLO and 1 mole% thiourea doped bisglycinium oxalate crystals. The presence of thiourea as a dopant make shift in the frequencies of pure crystals [16]. Here , Fourier transform infrared studies show shift in the frequencies due to the interaction and the incorporation of the dopant thiourea into the BGLO crystal lattice.

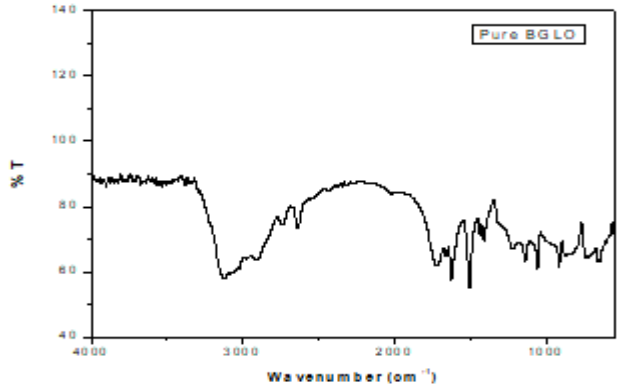

Figure-4 a: FTIR spectrum of BGLO crystal

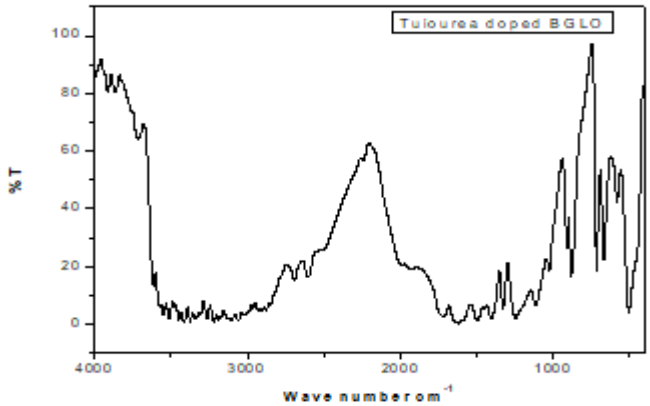

Figure-4b: FTIR spectrum of Thiourea doped BGLO crystal

Table-2: Frequency Assignments for Pure and 1 Mol% Thiourea Doped BGLO Crystals

Pure BGLO	1 mol% Thiourea doped BGLO	Frequency Assignment
3126	3417, 3218	NH_3^+ stretching
-	1621	COO^- asymmetric
-	1328	CH_2 wagging
1718	-	C=O stretching
1412	-	CH_2 bending
660	-	COO^- wagging
878	-	CN stretching

3.4. UV-vis-NIR transmittance studies

The optical study of BGLO and doped BGLO crystals have been recorded on a Perkin- Elmer – Lambda 35 UV-vis spectrophotometer in the range of 200-1100 nm. The recorded optical spectrum is shown in figure 5.

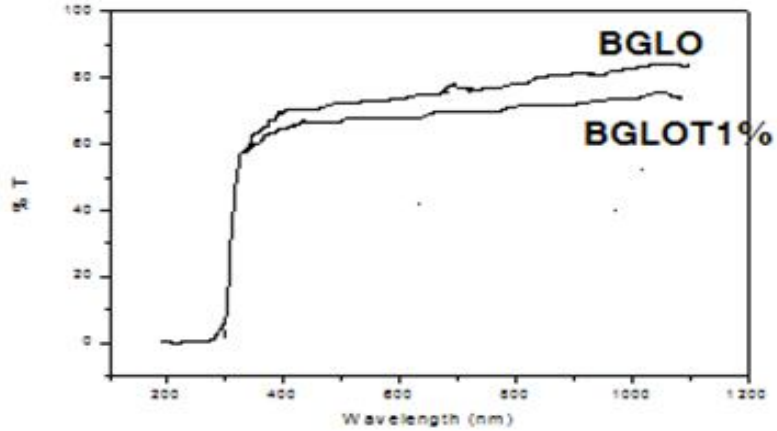

Figure-5: Transmission spectrum of BGLO & Thiourea doped BGLO crystal

ISSN 2394 - 7780

From the spectrum it is seen that the crystal has a lower cut-off wavelength of 295 nm. It is essential parameters for frequency doubling process using diode and solid state laser [17].From the analysis , it is clear that the thiourea doped BGLO crystal has less transmission property than pure BGLO. The presence of low cut off wavelength and the wide optical transmission window are the most desirous properties of materials possessing NLO activity [18].

3.5. Hardness Studies

The hardness is one of the significant mechanical properties to determine the plastic nature and strength of a material. Micro hardness measurements are carried out using Leitz-Weitzler microhardness tester fitted with a diamond indenter. The well polished crystals are used for microhardness measurements. In this work, the intender is kept at right angles to the crystal plane for 10 s in all cases. Vickers microhardness number was determined using $H_v = 1.8544 \quad P/d^2$ where P is the applied load and d is the diagonal length of the indentation impression [19]. The relation between the hardness number (H_v) and load (P) for BGLO and Thiourea doped BGLO crystals are shown in figure 6. The hardness number was found to increase with the increase in load. Mayers's law relates load and size of indentation as $P=ad^n$ where a and n are constants.The plot of log d versus log p of BGLO and Thiourea doped BGLO are drawn in figures 7 & 8. From the plots, the Mayers index (or) work hardening coefficient (n) is determined. The value of the work hardening coefficient n is found to be 2.56, 2.96 for pure and doped BGLO crystals respectively..According to Onitsch, n should be below 1.6 for hard materials and above 1.6 for softer ones [20]. From the results , it is observed that pure and doped BGLO crystals can be classified as soft materials.

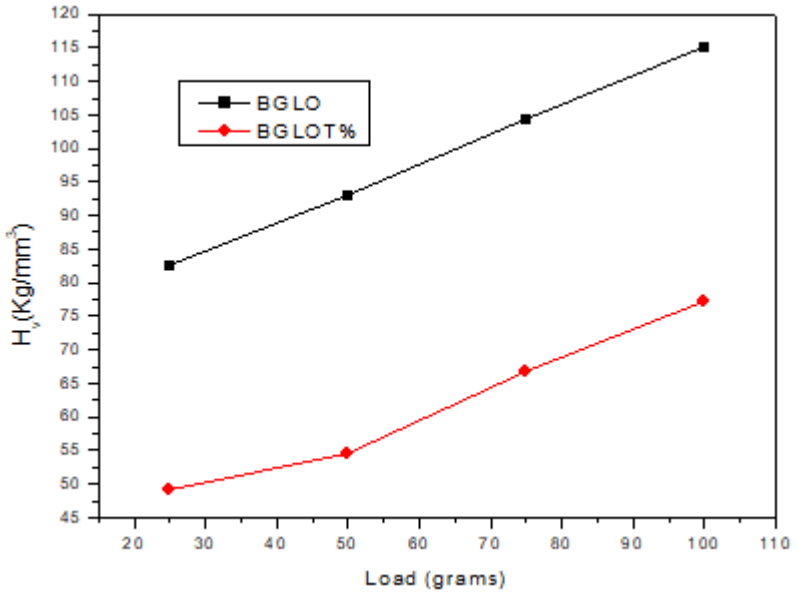

Figure-6: Load versus H_v of BGLO and Thiourea doped BGLO crystals

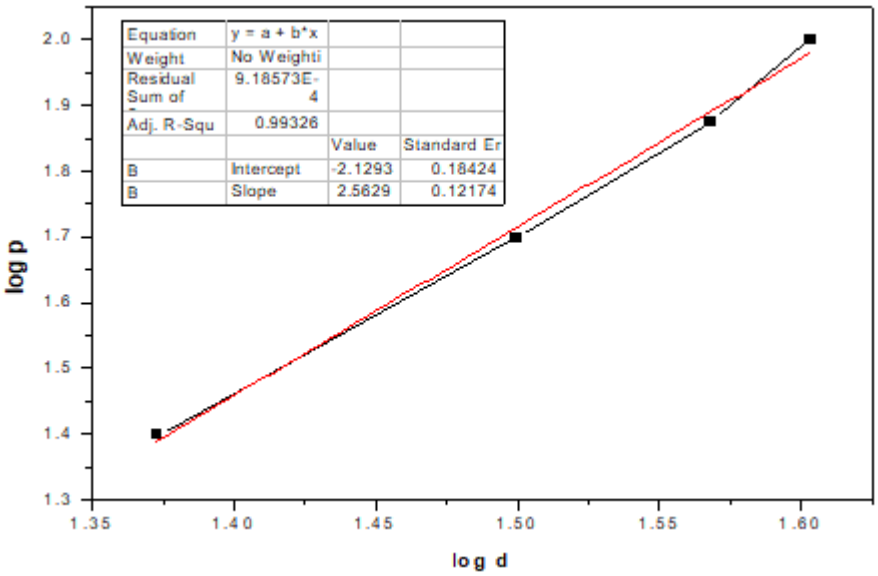

Figure-7: Plot of Log P versus log d of BGLO crystal

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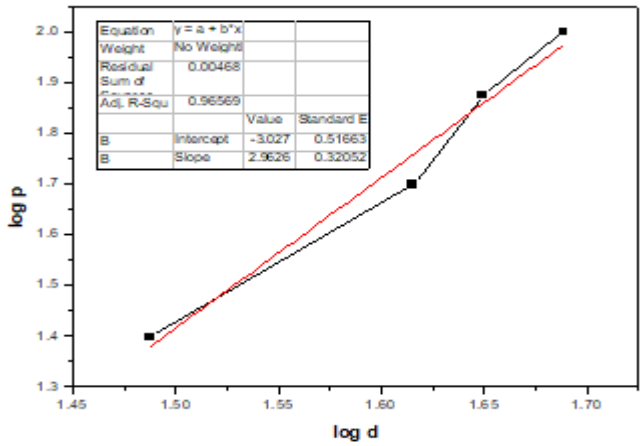

Figure-8: Plot of Log P versus log d of Thiourea doped BGLO crystal

3.6 SHG test

Second order nonlinear optical (NLO) activity has been tested by Kurtz-Perry powder technique [21]. The grown crystal of BGLO and Thiourea doped BGLO were ground into fine powder and subjected to second harmonic generation (SHG) test. A Q-switched Nd: YAG laser beam of 1064 nm wavelength with 6.5 ml input power, 8 ns pulse width and repetition rate 10 Hz was used. It is noticed from the measurement that BGLO crystalline sample does not provide SHG and there is no green light emitted from the sample and it gives the conclusion that the grown crystal has zero second-order susceptibility coefficient.SHG of Thiourea doped BGLO was confirmed by the emission of green light. Using Potassium Dihydrogen Phosphate (KDP) crystalline powder as reference material , the output of SHG signal was compared and found that the SHG conversion efficiency of this Thiourea doped BGLO is 0.4 times that of KDP. From that it is confirmed the presence of Thiourea in the BGLO crystal. Thiorea is an NLO material. Even it is added as a dopant it changes the NLO property of the parent crystal.

4. CONCLUSION

The thiourea doped BGLO single crystals have been successfully grown from solution by slow evaporation technique. The solubility studies confirm that dopant decreases the solubility. The XRD studies confirmed the structure of grown crystals. The incorporation of the dopants has marginally altered the lattice parameters without affecting the basic structure of BGLO crystal. In the FTIR studies of pure and doped BGLO crystals, changes are observed in the peak positions, which is due to amalgamation of dopants in BGLO crystals. It is observed from the microhardness studies that the H_v increases with the increase of load. The SHG studies confirmed that the crystal has NLO property.

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GROWTH, SPECTRAL, MECHANICAL AND DIELECTRIC CHARACTERIZATION OF 2-AMINO-6-METHYLPYRIDINIUM PHOSPHATE CRYSTALS

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ABSTRACT
An organic material like 2-amino-6-methylpyridine and an inorganic material like orthophosphoric acid were mixed in 1:1 molar ratio to synthesize a semi-organic NLO material viz., 2-amino-6-methylpyridinium phosphate (2A6MPP). The single crystals of 2A6MPP were grown by solution method. Solubility for 2A6MPP sample were measured at different temperatures. Single crystal XRD studies were carried out to find the lattice constants and it is ascertained that the sample has the monoclinic structure. The hardness, work hardening coefficient of 2A6MPP crystal were evaluated. The transmittance and absorbance spectra of 2A6MPP crystal were recorded and the lower UV cut-off wavelength is observed to be at 220 nm. Z-scan technique was used to find the NLO parameters.

Keywords: Semi-organic crystal; solution growth; solubility; XRD; Z-scan microhardness; band gap

1. INTRODUCTION
The selection of NLO material for industrial applications like in optical communication, optical computing and photonics must have good physical properties such as high transparency, damage threshold, conversion efficiency and temperature stability along with large molecular first hyperpolarizability. Organic NLO materials have the excellent NLO properties like fast response time, high nonlinear response, wide transparency range, high electronic susceptibility and they are suitable candidates for optoelectronics and photonics industries. [1-4]. But organic materials usually have low thermal stability and low hardness and hence they are mixed with inorganic materials to form semi-organic materials. In this work, an organic material viz., 2-amino-6-methylpyridine and an inorganic material viz., orthophosphoric acid were mixed to synthesize a semi-organic NLO material viz., 2-amino-6-methylpyridinium phosphate (2A6MPP). The single crystals of 2A6MPP were grown by solution method in the mixed solvent of ethanol and water and the grown crystals were characterized by various studies and the obtained results were analysed and discussed in this paper.

2. SYNTHESIS AND GROWTH
Analytical pure grade 2-Amino 6-methylpyridine (98%) and orthophosphoric acid (99%) were purchased from Merck India and they are used for the synthesis of the title compound. The reactants were taken in 1:1 molar ratio for the synthesis and they were dissolved in the mixed solvent of ethanol and double distilled water (1:1 by volume ratio). The solution was allowed to get a homogenous mixture by continuously stirring for 4 hours using the hot plate magnetic stirrer at 35 ^{o}C. After attaining the homogenous saturated state the solution was filtered using the Whatman filter papers. Then, the filtered solution was taken in a growth vessel covered with the perforated sheet having the fine holes for the evaporation. Due to slow evaporation, the saturated solution was converted into supersaturated solution and then crystal nuclei were formed in the supersaturated solution. Good quality seeds could be used for further growth. The growth arrangement was kept in a calm place without any disturbance and the slight shaking of the growth vessel will lead to formation of multi-nucleation. After the growth period of about 25-30 days, brown coloured crystals of 2A6MPP were harvested and the grown crystal of 2A6MPP is shown in figure 1.

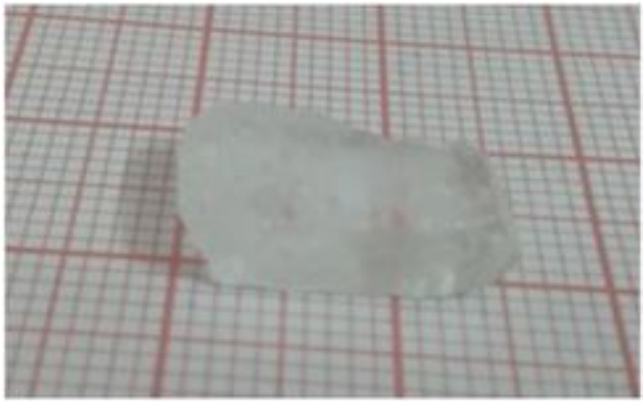

Fig-1: A harvested crystal of 4M6PP

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3. STUDIES, RESULTS AND DISCUSSIONS

3.1 Solubility studies

Solubility is defined as the amount of solute in grams present in 100 ml of saturated solution at a particular temperature and it corresponds to saturation between a solid and its solution at given temperature and pressure. The synthesized salt of 2A6MPP or the grown crystal of 2A6MPP was added step by step to 50 ml of ethanol-water mixed solvent in an air-tight container kept on the hot-plate magnetic stirrer and stirring was continued till a small precipitate was formed. This gave confirmation of supersaturated condition of the solution. Then, 10 ml of the solution was pipetted out and taken in a petri dish and it was warmed up at 40 ^{o}C till the solvent was evaporated out. By gravimetric method, the solubility of the sample in ethanol-water mixed solvent was measured at different temperatures. Here, constant temperature bath (accuracy: $\pm$ 0.01 ^{o}C) was used for maintaining the temperature of the solution. Figure 2 shows the solubility curve for 2A6MPP sample and from the graph, it is observed that the solubility of the sample increases linearly with temperature and it exhibit the positive temperature coefficient of solubility. It reveals the fact that slow evaporation technique is the appropriate method to grow single crystal of 2A6MPP [5-6].

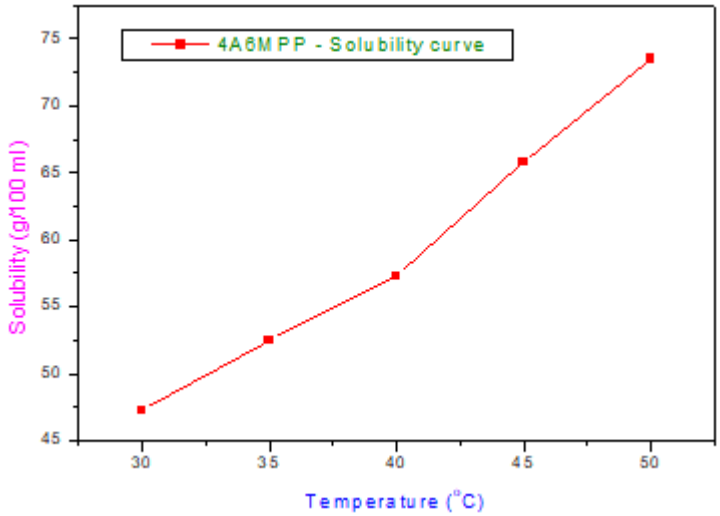

Fig-2: Solubility curve for 2A6MPP crystal

3.2 Structural studies

Structural studies were carried out for the grown 2A6MPP crystal to find the lattice parameters and the crystal structure and these studies were done using ENRAF NONIUS CAD-4- single crystal X-ray diffractometer with MoK_{α} (λ=0.71069 Å) radiation. A good quality crystal of 2A6MPP of dimensions of 0.5 x 0.5 x 0.3 mm^3 was used in the single crystal X-ray diffraction study. The obtained single crystal XRD data for 2A6MPP crystal are provided in the table 1. From the obtained results, it is ascertained that the grown crystal of 2A6Mpp crystallizes in monoclinic structure.

Table-1: Single crystal XRD data for 2A6MPP crystal

Identification code	2A6MPP
Chemical formula	$C_6H_8N_2.H_3PO_4$
Crystal color	Colorless, transparent
Temperature	293(3) K
Symmetry	Monoclinic
a	8.959(4) Å
b	8.991(2) Å
c	10.025(4) Å
α	90°
β	111.47(4)°
γ	90^{o}
V	751.15 (3) Å^3
Diffractometer	ENRAF NONIUS CAD-4
Radiation, wavelength	MoK_{α}, 0.71069 Å
Refinement method	Full matrix Least square method

ISSN 2394 - 7780

3.3 Optical studies

Optical transmittance and absorbance studies were carried out using a Lambda 35 model Perkin Elmer double beam UV-vis- NIR spectrophotometer in the range from 200 nm to 800 nm. Optically polished single crystal of thickness 1.1 mm was used for this study. The recorded absorbance and transmittance spectra of 2A6MPP crystal are shown in the figures 3 and 4. Low absorption and high transmittance in the entire visible and near infrared region with the lower UV cut-off wavelength at 220 nm suggests that the grown crystal is quite suitable for SHG generation and other related optoelectronic applications. As the procedure given in the previous chapters, the linear absorption coefficient of the sample was calculated for different values of wavelength and Tauc's plot for 2A6MPP crystal was drawn using the following equation

$$\alpha = \frac{A(h\nu - E_g)^{\frac{1}{2}}}{h\nu}$$

where E_g is optical band gap of the crystal and A is a constant. The drawn Tauc's plot is shown in the figure 5. From the plot, the optical band gap of the sample is found to be 5.62 eV. The optical band gap of the grown 2A6MPP crystal can also be determined using the relation E_g = 1240/ □□. Here □ is the UV cut-off wavelength. The obtained value of optical band gap of 2A6MPP crystal found using this relation is 5.62 eV. As the formula given in the chapter-5, the extinction coefficient of 2A6MPP crystal was determined at various values of optical energy and it is presented in the figure 6 The extinction coefficient is found to be very low in the visible region and hence 2A6MPP crystal is a suitable material for NLO applications [7.8].

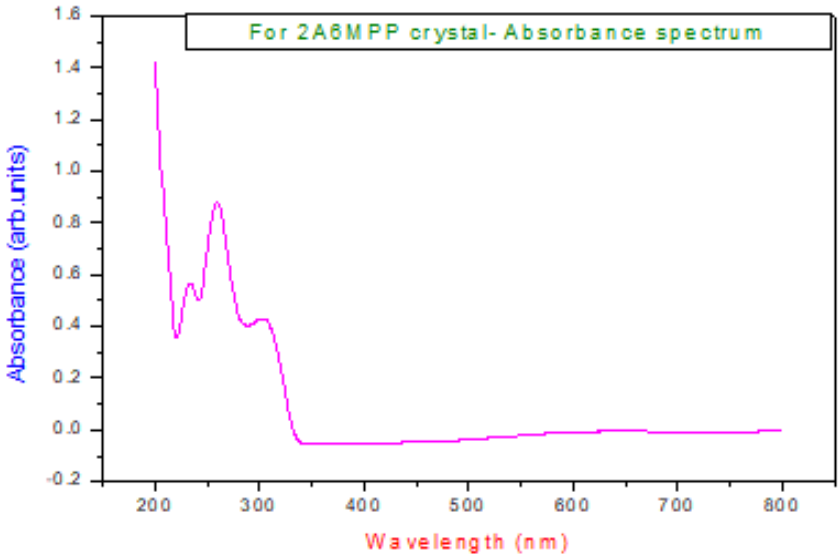

Fig-3: Plot absorbance versus wavelength for 2A6MPP sample

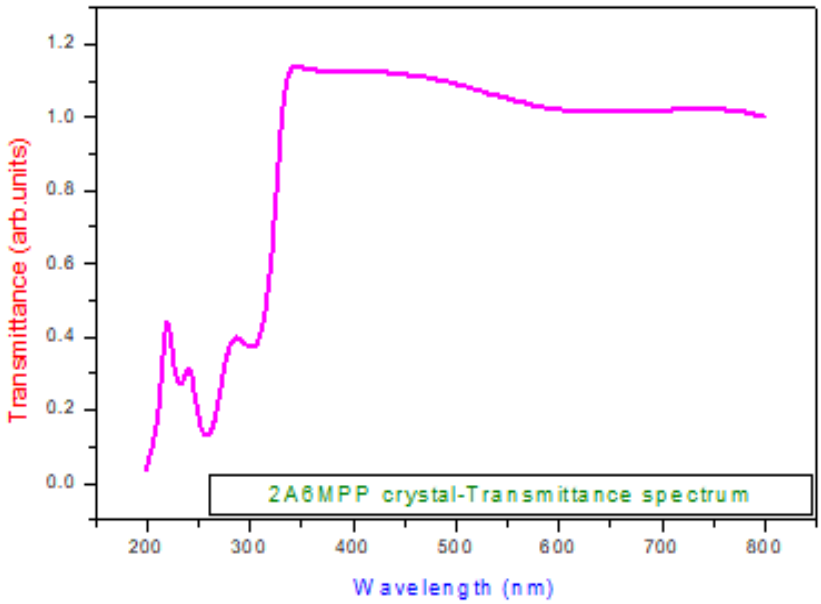

Fig-4: Plot transmittance versus wavelength for 2A6MPP sample

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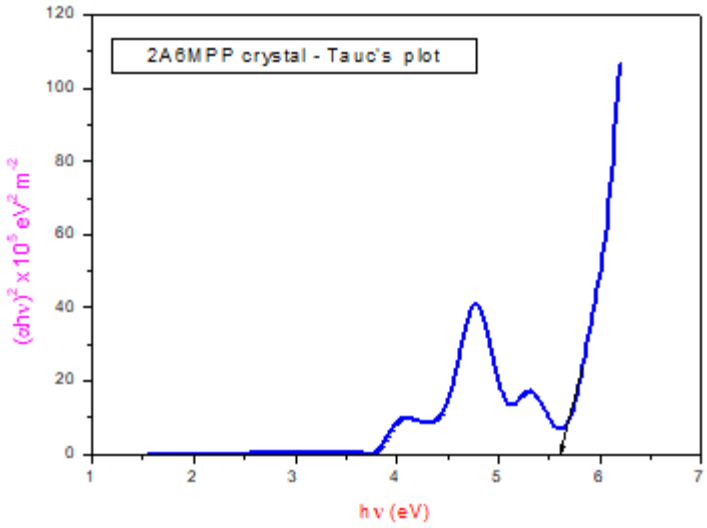

Fig-5: Tauc's plot for 2A6MPP sample

3.4 Mechanical characterization

Mechanical properties of 2A6MPP crystal were studied by carrying out the microhardness studies. Hardness of the material depends on different parameters such as lattice energy, Debye temperature, heat of formation and interatomic spacing. The plot of average diagonal indentation (d) versus applied load for the grown crystal is given in the figure 6. Using the values of average diagonal indentation and as the relation given in the previous chapter, the microhardness number was calculated for various applied loads. The variation of hardness with the applied load for 2A6MPP crystal is shown in the figure 8. It is observed that both hardness and average indentation length increase as the applied load on the surface of 2A6MPP crystal increases. The sample has the reverse indentation size effect because the hardness increases as the applied load increases. Crack initiation and material's chipping becomes significant beyond 100 g of the applied load and so hardness test could not be carried out above this load. Meyer's law relates load and size of indentation as $P = k_1 d^n$ where 'k_1' is the material constant, 'n' is the Meyer's index or work hardening coefficient. Taking log on both sides, Meyer's law can be written as $\log (P) = \log k_1 + n \log (d)$. The plot of log (P) against log (d) is shown in Fig.9 which gives a straight line. By least square fitting, the slope of the straight line is obtained and it is equal to 2.6142 and this is equal to the work hardening coefficient. Since the value of work hardening coefficient is more than 1.6, 2A6MPP crystal is a soft material. According to Hays-Kendall's approach, load dependent hardness may be expressed by $P = W + A_1 d^n$ where W is the minimum load to initiate plastic deformation or resistance pressure, P is the applied load, A_1 is the load independent constant and the exponent n =2.6142. The resistance pressure is defined as a minimum level of indentation load (W) below which no plastic deformation occurs. The values of W and A_1 can be calculated by plotting the P against d^n plot and the plot is shown in figure 9. The corrected hardness H_o has been estimated using the relation $H_o = 1.8544\ A_1$. It is noticed that the resistance pressure (W) is -2.682 g. The value of A_1 is found to be 0.0031 g/□m^2. Hence, the value of H_o is determined to be 0.00575 g/□m^2. The negative value of resistance pressure of 2A6MPP crystal indicates that this crystal exhibits the reverse indentation size effect [9, 10].

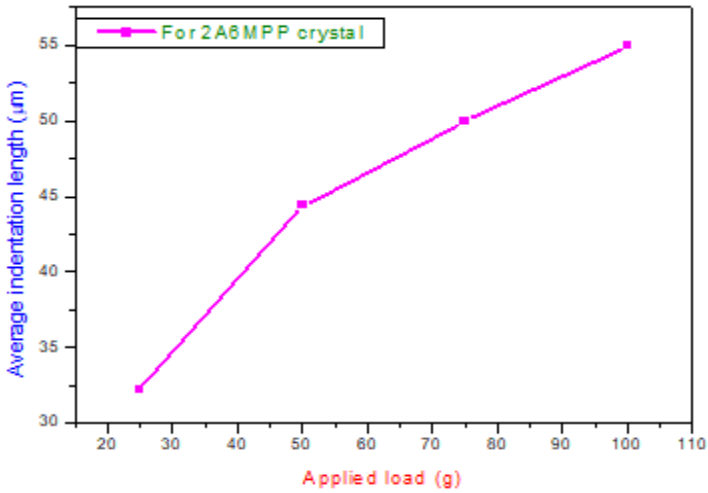

Fig-6: Plot of average indentation length versus applied load for 2A6MPP crystal

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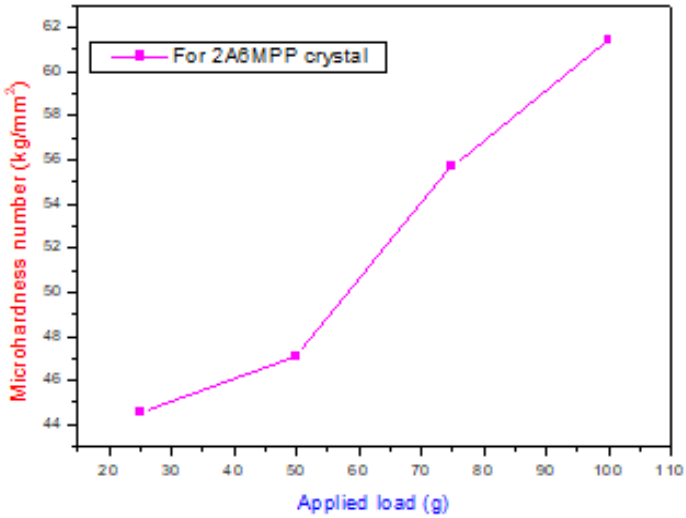

Fig-7: Variation of hardness number (H_v) with applied load for 2A6MPP crystal

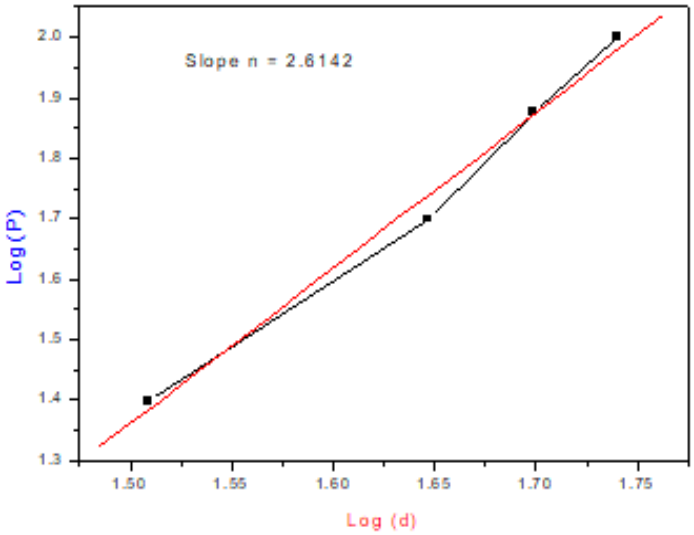

Fig-8: Meyer's plot for 2A6MPP crystal

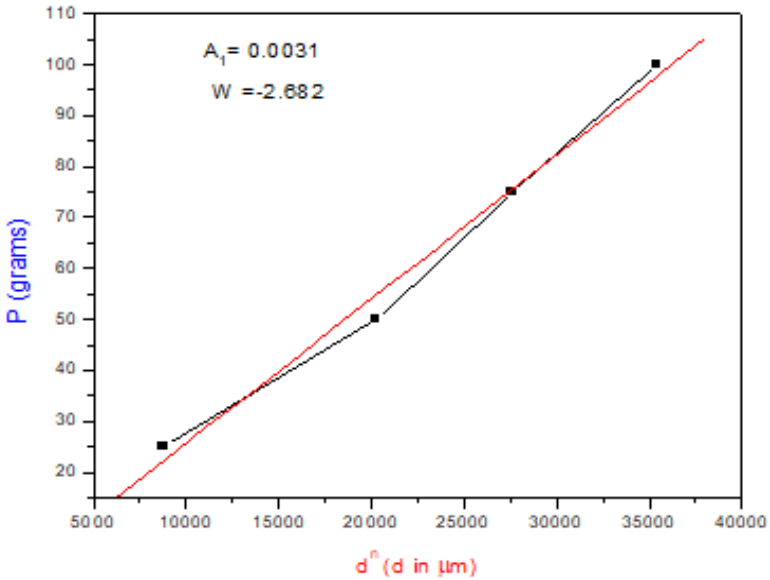

Fig-9: Plot of P against d^n for 2A6MPP crystal

3.5 EDAX studies

Energy Dispersive X-Ray Analysis (EDX), referred to as EDS or EDAX, is an x-ray technique used to identify the elemental composition of materials. The data generated by EDX analysis consist of spectra showing peaks corresponding to the elements making up the true composition of the sample being analyzed. This method gives

ISSN 2394 - 7780

the record of all elements having Z ≥ 11. When the sample is bombarded by an electron beam, electrons are ejected from the atoms comprising the sample's surface. The resulting electron vacancies are filled by electrons from the higher states, and an X-ray is emitted to balance the energy difference between the two electron's states. In this method, the X-rays produced as a result of the electron beam interactions with the sample are detected to analyze it. In the present work an energy dispersive spectrometer was used to identify the presence of the elements in 2A6MPP crystal. Fig.10 shows the EDAX spectrum of 2A6MPP crystal. The elements like oxygen, nitrogen, carbon and phosphrous were detected in 2A6MPP crystal.

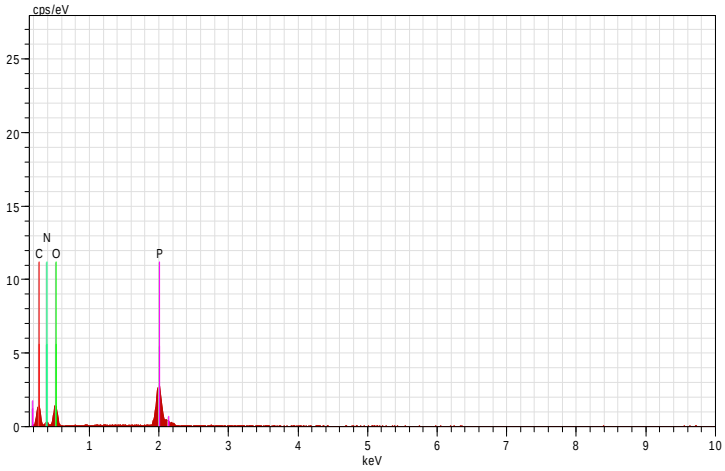

Fig-10: EDAX spectrum of 2A6MPP crystal

3.6 Finding third order NLO parameters by Z-scan technique

Z-scan technique is a method to determine the third order nonlinear optical (NLO) parameters such as nonlinear index of refraction (n_2), nonlinear susceptibility and nonlinear absorption coefficient (β) [11-13]. In this measurement, the He–Ne laser (λ = 632.8 nm) was used as the light source. The light intensities were measured as a function of sample position in the Z-direction with respect to the focal plane either through a closed aperture or open aperture in order to resolve the nonlinear refraction and absorption coefficients. The open and closed aperture Z-scan curves for 2A6MPP crystal are shown in the figures 11 and 12. The closed Z-scan curve is characterized by a pre-focal transmittance peak followed by a post-focal transmittance valley intensity. From the theory of Z-scan technique as given in the chapter-4, the third order NLO parameters of 2A6MPP crystal were determined. The obtained resutls from the Z-scan measurement for 2A6MPP crystal are given in table 2. The negative vlaue of nonlinear refractive index indicates that 2A6MPP crystal has self-defocussing nature. When self-defocusing occurs in the sample, it tends to diverge the beam at the aperture and hence it causes a decrease of the transmittance. Using the closed aperture Z-scan curve, the nonlinear refractive index of 2A6MPP crystal is found to be - 8.026 x 10^{-11} m^2/W and using the open aperture Z-scan curve, the nonlinear absorption coefficient is found to be 5.732 x10^{-4} m/W. The third order nonlinear susceptibility of 2A6MPP crystal is obtained to be 8.474 x 10^{-7} esu. It is observed that the value of third order nonlinear susceptibility of 2A6MPP crystal is more than the values of nonlinear susceptibiliy of other crystals [14-17]. The large value of third order susceptiblity of 2A6MPP crystal is due to electron density transfer and large third order nonlinearity in the crystalline material.

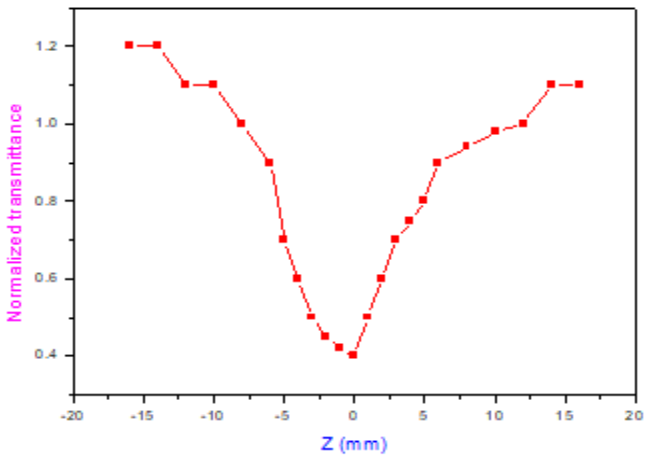

Fig-11: Open aperture Z-scan curve for 2A6MPP crystal

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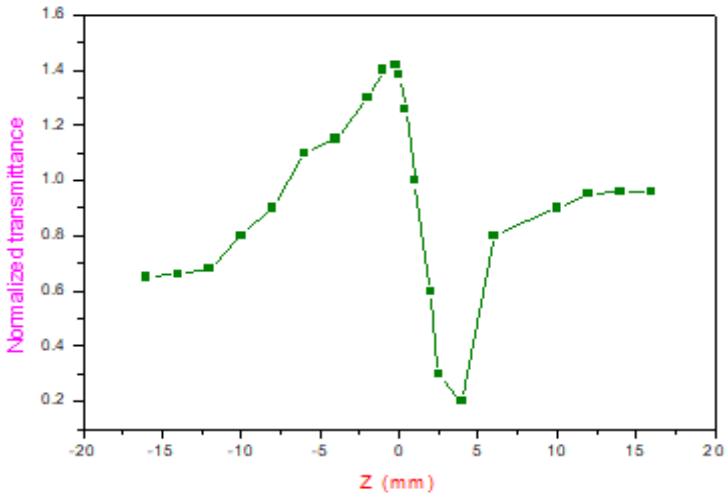

Fig-12: Closed aperture Z-scan curve for 2A6MPP crystal

Table-2: Third order NLO parameters for 2A6MPP crystal

Sample	n_2 x10^{-11} (m^2/W)	β x10^{-4} (m/W)	Re $\chi^{(3)}$ x 10^{-8} (esu)	Im $\chi^{(3)}$ x 10^{-7} (esu)	$\chi^{(3)}$ x 10^{-7} (esu)
2A6MPP crystal	- 8.026	5.732	4.737	8.461	8.474

4. CONCLUSIONS

Single crystals of 2-amino-6-methylpyridinium phosphate were grown by solution method. Using the Perkin Elmer double beam UV-vis-NIR spectrophotometer, the transmittance and absorbance spectra of 2A6MPP crystal were recorded and the lower UV cut-off wavelength is observed to be at 220 nm and the optical band gap the sample was found to be 5.62 eV. A polished crystal of 2A6MPP without any cracks was chosen for microhardness studies and average indentation diagonal lengths were measured and using these data, the values of microhardness for 2A6MPP crystal were determined at different applied loads. It is found that both hardness and average indentation length increase as the applied load on the surface of 2A6MPP crystal increases. The sample has the reverse indentation size effect because the hardness increases as the applied load increases. By drawing the Meyer's plot, the Meyer's index of 2A6MPP crystal was found to be 2.6142 and this value is used as the measure of soft or hard category of materials. By Hays-Kendall's approach, the mechanical parameters like resistance pressure and corrected hardness for 2A6MPP crystal were found out. The obtained value of resistance pressure is -2.682 g and the value of corrected hardness for 2A6MPP crystal is 0.00575 g/□m^2. By Z-scan technique, third order NLO parameters of the sample were determined.

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SOVEREIGN WEALTH FUNDS: GREEN INSTRUMENTS OF STABILITY AND SUSTAINABILITY

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ABSTRACT
Sovereign Wealth Funds (SWFs) are Sovereign-state investment vehicles, and have become substantial players in the global financial landscape. They manage more than $8113.46 trillion assets under management (AUM) (SWF Institute, 2018). They are, truly, a force in the financial world to reckon with. They can become a significant opportunity both for sponsor and recipient countries if properly managed. The prime motive of all sovereign wealth funds, by their sheer nature of inception, has been stabilization and sustainability of sovereign assets. The characteristics of having long investment horizon, high-risk appetite and having no apparent and earmarked liabilities in the immediate future make them most eligible investors to invest for sustainability and stabilization within and without. They can, thus, be the possible instruments for supporting and buffering sustainable investments, inclusive growth, most notably with specific reference to emerging economies and commodity-export driven economies. Lately, the volatility and unusual jitters in the commodity markets on the international level have made the role of SWFs more prominent and, at the same time more challenging. This paper aims to illustrate various practices by SWFs to contribute for stability and sustainability. The prime achievement of this paper is that it shows SWFs as prominent and strong partners for sustainable development and inclusive growth in times of volatility, risk, and uncertainty. Many pieces of evidences have been noted that there is no price for being moral in the markets: it is, in fact, being 'priceless' to invest in such firms and avenues as contribute to the sustainable developments, and divest from such companies as are involved in environmental degradation or insensitive human values, dignity and freedom. No loss of financial return has been documented while being sensitive to environmental and ethical issues. But the basic antagonism embedded in the very origin of these species is something that the world has to live with. And with their greater participation in stabilizing and sustaining the wealth of the world in other various and varied roles is something that can somewhat condone their original sin. With more vocal voices for transparency and standardization of their processes, they are helping the financial climate of the universe to be more salubrious and sublime and sustainable. Given that sustainability is not just a mere function of hardcore financials, the scene of SWFs changing and contributing in kind seems more beautiful.

Keywords: Green Investments, Sustainability, stability, Sovereign Wealth Funds (SWFs)

1. INTRODUCTION
SWFs are a unique creed of global financial institutions; public in nature but they do operate similar to private funds- primarily for purely financial profits. They are (nowadays) the romance of the world markets: substantial, sensitive and, of course, uncertain. They are by their very operational definition supposed to be the instruments of public interest. And lately, the public has been very vocal about socially responsible investment (SRI) through, maybe, stabilization and sustainability. They are thought to be the most appropriate institutions to be the torchbearers in sustainable development continuum. Sustainable development or sustainability aims to scuttle "unfettered economic exploitation of nature(al resources) by ensuring consumption of renewable resources within their rate of regeneration, limiting waste and pollution to the assimilative capacity of the biosphere, and conserving the biodiversity of the plane"(Herman Daly, 2015). The conundrum between financial and social interests has lately been the focus of the academia and economists alike.

Humans activities-conscious and collateral- have caused such an imbalance in the Earth's ecosystems that now seem so frail and fragile. Too strained to sustain the natural function of the system. The very sustenance of the future generations can no longer be taken for granted (MEAB, 2005), The world is, perhaps, looking up to SWFs to deliver the 'moral merchandise'. They can be very instrumental in restoring the right of the humans-present and future, to use the cradle of the earth for a sweet and sustainable life. They have long term investment horizons and have great risk tolerance. With no immediate liabilities in sight, SWFs are very unique in their own way: their ownership by a sovereign state can render them instruments of public policy (Benjamin J. Richardson, 2011). These characteristics make them more eligible to invest in such avenues as are helping in sustainability and stability in the long run.

1.1 : Defining SWFs
Defining who Sovereign Wealth Funds (SWFs) really are is not only important for savvying the concept and the connotations thereof, but it will also set out the limits of the current study. SWFs are fundamentally government-backed investment vehicles who invest the wealth of the sovereign state in a portfolio of diverse

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nature that include equity, debt, alternative assets, etc. The funds necessarily park funds in international assets to diversify and aim to earn higher returns than available domestically. The origin of SWFs stems from the accumulation of currency reserves and rising prices of commodities like oil, gas, etc. Their investment strategies are long term which enables them to buffer economies in times of instabilities (Gieve, 2009; Park and van Hoorn, 2012). There are, however, debates about their motives being purely financial vs political. Empirical studies have not supported the purely political motives view. SWFs are quite heterogeneous in their genesis (how they originated), source (of funds) and the plethora of objectives they pursue. There is , therefore, no right definition for such funds; however, the following definitions may have captured their uniqueness and diversity at the same time. The term SWF was first used by Rozanov describe an institution who is "a by-product of national budget surpluses, accumulated over the years due to favorable macroeconomic, trade and fiscal positions, coupled with long-term budget planning and spending restraint" (Rozanov, 2005). So, those countries that fed on the windfall gains of commodities (like, oil, gas, etc.) were the first to establish SWFs like Middle East countries Kuwait, Dubai, KSA, etc. More recently, Clark, Dixon and Monk have defined them as "government-owned and controlled (directly and indirectly) investment funds that have no outside beneficiaries or liabilities (beyond the government or the citizenry in abstract) and invest their assets, either in the short or long term, according to the interests and objectives of the sovereign sponsor."(Clark, Dixon and Monk, 2013). Such funds invest as per the objectives set out by the sponsoring country. The funds are supposed to ensure sustainable development of the resources of the home country. However, the definition given by the International Working Group of Sovereign Wealth Funds (IWG-SWF) in 2008 is to the point and while being well detailed too. The definition also formed the basis for Santiago Principles and other official reports and reviews.

So, SWFs are defined as "special purpose investment funds or arrangements, owned by the general government. Created by the general government for macroeconomic purposes, SWFs hold, manage, or administer assets to achieve financial objectives, and employ a set of investment strategies which include investing in foreign financial assets. The SWFs are commonly established out of balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, fiscal surpluses, and/or receipts resulting from commodity exports" (IWG-SWF,2008). The definition, ergo, explains who they are, what they do, and where they are from (sources of funds).

1.2 A Brief History of SWFs

'Sovereign Wealth Fund' got its name as recently as 2005 by Andrew Rozanov but the term became as famous as notorious only in 2007. The origin of a true '**sovereign'** SWF is traced to the creation of the Kuwait Investment Board (KIB). It was set up as early as 1953 (Singh, 2008; Hassan, 2009, Pistor and Hatton, 2011, Overview of the Kuwait Investment Authority, 2019). In 1982, KIB was named what it is currently called now-the Kuwait Investment Authority(KIA) "as an autonomous government body responsible for the management of the assets of the country" (Overview of the Kuwait Investment Authority, 2019). Earlier as back as 1816, France had set up Caisse des Dépôts et Consignations "placed under Parliamentary supervision and guarantee' (KIA, Official Website, Our Model, 2019). In 1854, the Permanent School Fund was created by the US State of Texas. This was followed by the establishment of another fund in 1876. The two entities had been established for the sake of serving the interests of education institutions in the state at various levels (Dewenter, Han, & Malatesta, 2010). Currently, there are 78 SWFs (The Preqin SWF Report, 2018). Some sources put the number as high as 95. From 2000 to 2009, 41% of the SWFs were established. The enormous growth in number was fueled by high commodity prices so much so that it almost became compulsory to create one. Prior to 1970, only 8% of the funds were created. Newer and newer SWFs are sustainably established, and in just eight years' time from 2010-2017, 27% of SWFs have been established.

So far as the present geographical distribution of the funds is concerned, as depicted through Figure 1, they are concentrated in Asia ($ 3,147 billion AUM), Middle East $2,445 billion) and somewhat in Europe ($1,310 billion).

Moreover, we have got SWFs in Australia, North America, Latam & Caribbean area and Africa too. The first SWFs have been from the Middle East commodity exporting zone, including those of Abu Dhabi, Saudi Arabia and , of course, from Kuwait. The biggest SWF from Norway (GPFG) manages more than a trillion SWF assets in the Eurozone. Country-wise, China SWFs manage the largest assets in the SWF universe. The larger than life ,the foreign exchange reserves of China have almost swelled the shape of her SWFs so much so that some suspect them of carrying a lot of financial flab. And their professional managers have been successful to prove them sleek and smart.

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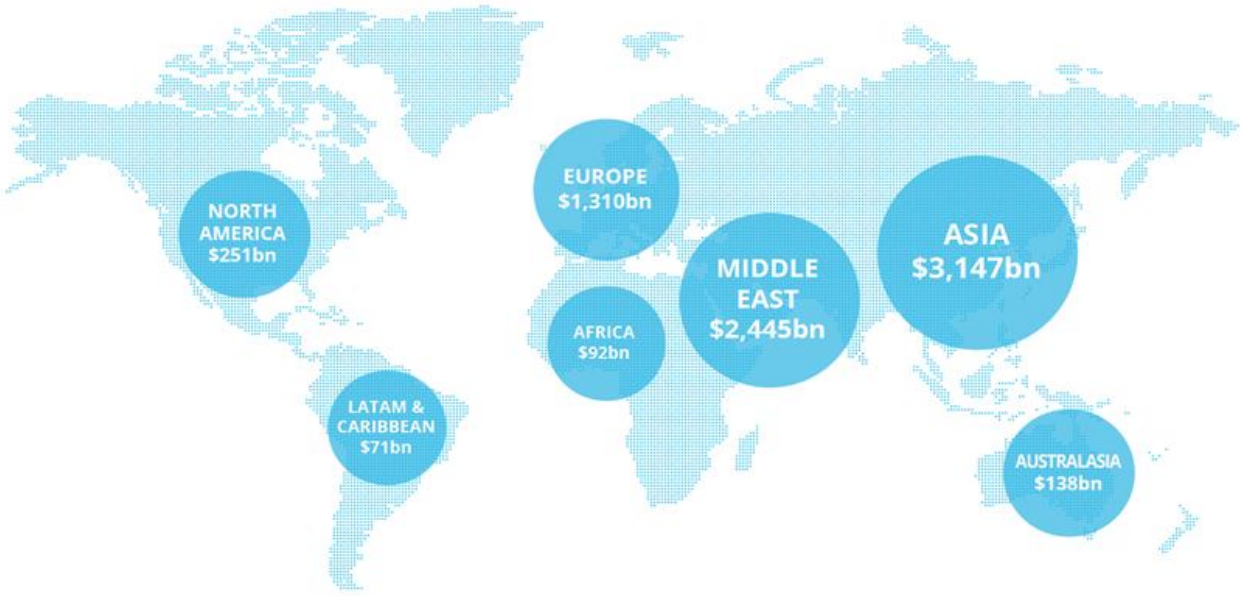
Figure-1: Ubiquitous SWFs: Geographical Distribution of SWFs



Source: SWF Report, 2018

1.3 Types of SWFs

Though , SWFs are heterogeneous in essence, but within this heterogeneity run homogenous themes too. As per the International Forum of Sovereign Wealth Funds (IFSWF), SWFs seem to serve three broad goals: sustained (long-term) saving, fiscal stabilization and sustainable economic development.

Sovereign Wealth Funds may broadly be classified into two categories- commodity and non-commodity SWFs. Commodity (52% hydrocarbon and 9 % other commodity sources) SWFs manage 61% of the total SWF assets whereas 39 % of the SWFs are managed by non-commodity SWFs (The Preqin SWF Review, 2018)

Sovereign Wealth Fund (SWFs) , as per the Sovereign Wealth Fund Institute (SWFI) may be classified as

I. Stabilization Funds;
II. Saving Funds;
III. Pension Reserve Funds'
IV. Reserve Investments Funds; and
V. Strategic Development SWFs

Stabilization funds' main target is targeting fiscal stability of the country as well as ensuring the stabilization of the exchange rate by providing a buffer from the external shocks. Such a fund uses counter-cyclical instruments to smoothen changes in commodities' prices and buffers itself from both external and externals shocks. They also synchronize inflows and outflows in the short term and prevent asset price bubbles . They also buffer a country from hot & cold cash flows and make it sure that exchange rate remains managed in such a way that Dutch disease is prevented. The investments of such funds tend to be in fixed income securities. Examples of such funds include Chile Economic and Social Stabilization Fund, Russia Reserve Fund, Mexico Oil Income Stabilization Fund, etc. Economic development funds , on the other hand, enhance a country's long-term productivity . These funds primarily invest in physical and social infrastructure (The Preqin Special Report, 2018). The other class of funds , called capital maximization funds, target maintenance and maximization of the wealth of the country. They tend to invest in long-term funds like equities- public and private to leverage ' liquidity premium' (The Preqin Special Report, 2018). Because of their long-term investment horizon, they easily tide over short-term market jittering and volatility. Saving funds, as the name suggests, transform wealth from the current generation to the future generation. In a way, they are the funds to transform current natural assets and budget surpluses into financial assets. These funds invest to generate intergenerational equity , grow and preserve current capital value so that the country can easily pay future (contingent) liabilities and earn a higher return on country's reserves. Such funds include the Kuwait Investment Authority (KIA), Australia Future Fund, China Investment Corporation. So, Pension Reserve Funds and Reserve Investments Funds are part of this group of funds. Strategic Development SWFs invest to enhance the long-term productivity of the

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country. They invest in physical infrastructure, social infrastructure and pursue country's industrial policy in such a way that dependence on just one type of resource is decreased. Such funds transform natural capital into produced capital. Nigeria Infrastructure Fund, Temasek fund, Mubadala Development Company are included in such funds.

In reality, SWFs pursue diverse and heterogeneous objectives so that they sometimes overlap. There is no clear line of demarcation. A particular fund may be classified one type at one stage, and another type at another stage. Figure 2 summaries broad themes of SWF investment with specific objectives they pursue. The other details include a brief description and examples of such SWFs as represent the respective themes.

Figure-2: SWF Types and Characteristics

Economic Objectives	Specific Objectives	Description	Examples
Capital maximisation Building a risk-adjusted capital base for the growth and preservation of national wealth	Balancing intergenerational wealth	Investing to create intergenerational equity e.g. transforming non-renewable assets into diversified financial assets for future generations	NBIM, Kuwait Investment Authority
	Funding future liabilities	Growing and preserving the real value of capital to meet future liabilities, such as contingent liabilities like pensions	Australia Future Fund, New Zealand Super Fund
	Investing reserves	Investing excess reserves in potentially higher-yielding assets via financial strategies aiming at higher long-term returns, and reducing the negative carry costs of holding reserves	China Investment Corporation Korea Investment Corporation
Stabilisation Macroeconomic management and economic smoothing	Facilitating fiscal stability	Using counter-cyclical fiscal tools to insulate the economy from internal and /or external shocks, e.g. changes in commodity prices to smooth consumption	Chile Economic and Social Stabilisation Fund
	Stabilising the exchange rate	Using the fund's resources to balance large capital inflows and outflows in the short term (which may be caused by commodity price volatility) to prevent asset price bubbles and reduce price volatility	Russia Reserve Fund
		Using the fund to manage the amount of capital entering the domestic economy over the long run to ensure the exchange rate is maintained at a level that allows for other export activities, e.g. to prevent Dutch Disease	Mexico Oil Income Stabilisation Fund
Economic development Investment to boost a country's long-term productivity	Investing in hard infrastructure	Domestic development in capital assets, including but not limited to transport, energy, water management and communications	Nigeria Infrastructure Fund
	Investing in social infrastructure	Domestic development in soft infrastructure: human capital and the institutions that cultivate it. This includes socio-economic projects such as education and health	Mubadala Development Company
	Pursuing industrial policy	Creating a diversified economy in order to reduce dependency on one resource or source of funding. Official, strategic efforts by governments to boost productivity in specific sectors	Temasek, BPI (France)

Source: PWC

2. THE CONTRIBUTION OF SWFS TO STABILIZATION AND SUSTAINABILITY

SWFs, like their own origin and genesis, pursue diverse objectives. Stabilization and sustainability (must) stem from their own existence. That is actually what they have been created for. So, in classical normative terms, SWFs were supposed to be the Instruments of Stability and Sustainability; how well they are living up to the 'perky' prayer is to be answered- with modern twists and turns in their constitution, in fact , a difficult question to answer.

2.1 Stabilization

Global financial stability has been a concern for a sustained period of time: the financial crisis of 2008, and the deployment of funds from developing countries into the developed world has ushered in a sea(see-)change in the way businesses are conceived and conducted. Sometimes they act as the hedge against global imbalances, and other sometimes they form part of the scheme to turn around and up sagging shoulders. Since 2007, the AUM of the funds have increased from $2.2 trillion to more than $8 trillion in 2018 (SWF Report, 2018). Because of their sheer size and sovereign control, they can be the movers and shakers of global financial stability. They have proved to be the 'lenders of the last resort 'during the recent financial crisis' Raymond, H.

ISSN 2394 - 7780

(2010); Raymond, H. (2010). Before the financial crisis, there was increasing suspicion of SWFs. They were seen as opaque and as being driven more by strategic and political reasons instead of cunning commercial needs (Parry, A, Jan, Anisa, 2019) .Businesses in the west were wary of such funds because of they were thought to be more after political mileages than financial security and emancipation. One such stark reality has been the outcry over the buying of stake by CNOOCO in Unocal. But, when all is said and done more is, as a rule, left to be done. SWFs have in fact been a stabilizing force in times of crises: they are truly long-term investors with no impending call on their assets and mainly loaded positions. They are, ergo, in a better position to tide over market downturns or even go against market trends. For example, the SWFs' capital injections into systemically important financial institutions in late 2007 and 2008 augmented the recipients' capital buffers and helped reduce risk for some banks. Risk reduction was more prominent in the short term. This provides a good indication that they may reduce volatility in global and local financial markets. SWFs have lately been investing and supporting local equity markets and institutions that really matter. SWFs of Dubai, Kuwait, etc. have been preempting

heating and cooling off of domestic markets by investments. With the swell in the AUM of the SWFs, they are in a good position to arrest volatilities and short swings in the commodity markets. They do contribute to the market efficiency and time well to arrest higher volatility. However, lack of transparency in their deals can (also) contribute to jitters in the markets. There are more evidences of their role as global stabilizers. Am and Rossi have come up with a theoretical model that analyses the impact of SWFs on 'financial stability' of the world during crisis-times. Another study by Hammer, Kunzel, and Petrova (2008) closely studies the shape of the investment portfolios and the risk management designs. All these efforts by SWFs make the system less prone to moves and shakes of the market. The survey has found strong reasons that the funds have been on the right path with nuts and bolts screwed and in proper place too. The survey has found that there are strictly specific objectives with respect to asset allocation and risk measurement in place that preempt any threat in the otherwise unruly markets.

A survey by Baker and Boatright, 2010; Betbèze, 2009; Butt et al., 2008; Das, 2009; Keller, 2008; Makhlouf, (2010) (additionally) suggest a continued balancing effect on the liquidity and performance of markets. This leads to unhindered higher monetary development: an astounding amount of $40 billion was infused into US institutions by SWFs in the early period of the 2008 financial crisis. This prompted a fall in the severity of the crisis(Aslund, 2007). However, In, Park, Ji, and Lee (2013) find these funds cause destabilizing effect. They have, nonetheless, noticed that saving assets have had a smoothening impact during the crisis. In the middle of the tempest, western economies utilized the umbrella of SWFs which has been confirmed by the investigations of Fotak, Bortolotti, Megginson, and Miracky (2008). They additionally recognize the clamor about SWFs' cynicism to be unwarranted both in principle and practice. In the short-run, it has been seen, the odds of investee organizations increased while being invested into by the SWFs, yet Dewenter et al. (2010) have reported mixed results.

The latest fad of SWFs has been investing domestically to finance building infrastructure and building the capacities to 'produce' capital. Moreover, the energy sector is the favorite of some SWFs like China Investment Corporation to ensure a stable supply of fuel to fan the fire of development back home on a cheap and sustained basis. So, stabilization consists in ensuring a constant basket of merchandise -both short term and long term- at the appropriate cost, with the right quantum and at the right time. Creating a buffer zone too is not a no-zone. In testing times, SWF investments have smoothened businesses- within and without- when they were 'almost dead' e.g., timely infusion of capital of Qatari funds when Barclays was on life support-nay, the fund actually was the life support to revive it (and it got kicking!) while its competitors unfortunately strayed to death.

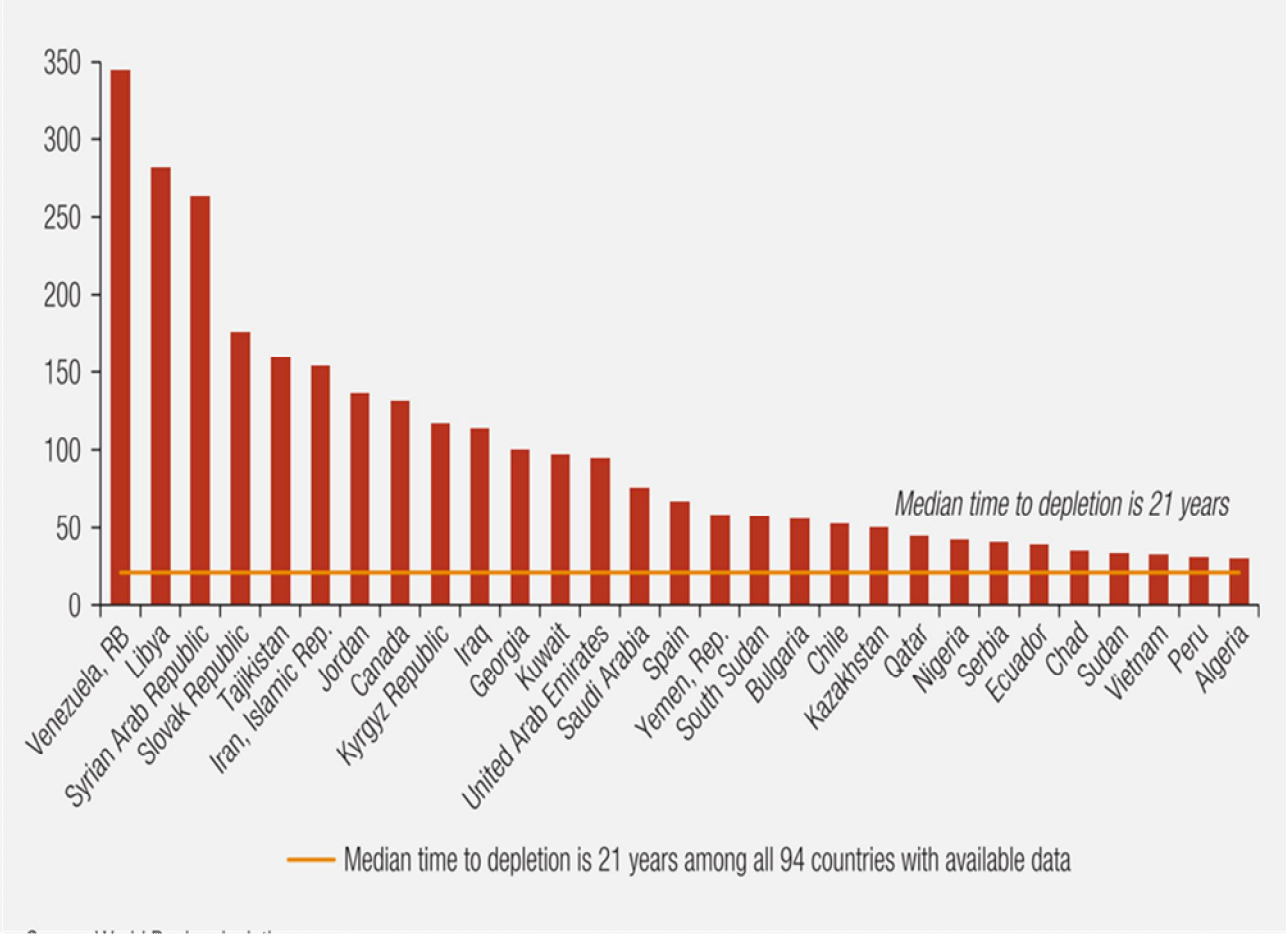
2.2 Sustainability

Sustainability, like all good things, is not an event: it is a process and only continuous, conscious and systematic efforts result in a state of things that may later become partially self-sustained. Sustainable development must mean- in abundance- the promotion of investment in infrastructure, industrialization, science & technology, agriculture and innovation. And investments in human capital and knowledge and skill development are a prerequisite. It also consists in consistently converting natural capital into produced capital so that we don't miss reaching our destination before our natural fuel runs out. An economy on steroids may win many a sprint but marathons are won through sustained natural and organic fuel. A country has natural capital, and a major part of such capital is non-renewable like oil, gas, coal, etc. These non-renewable resources are fast depleting with a median life of just 21 years as per the recent study in the year 2014. (**Figure 3** presents the depletion of carbon wealth (for the countries only whose resources will last for at least more than 30 years) as the individual span of time left for the resources for complete exhaustion. As can be seen from the depiction, Venezuela, Libya, Syria

ISSN 2394 - 7780

Arab Republic, Slovak Republic have a lovely leeway ranging from more than 150 years to more than 330 years before 'Nature' turns blood red from glory green, and hydrocarbon wealth is completely exhausted. Algeria, Peru, Vietnam, Sudan, Chad, etc., on the other hand, have a little bit of leave ranging from a little over thirty years to a little fewer than 50 years before the Earth under their feet turns hollow and fuming hot. For rest of the economies, the depletion clock will run the course in an average 21 years. Quite scary, indeed. In order to ensure a constant stream of revenue for the citizenry- both present and the future- these resources are to be converted into 'produced capital' on a sure and sustained basis with the help of SWFs. In this way, these funds will ensure inter-generation sustainability of Natural capital before things turn unnatural. That amounts to loving her (Nature) in 'cash & kind'.

Figure-3: Depletion of Carbon Wealth for select Economies



Source: World Bank Report, 2018

SWFs sound as famous as they seem to be notorious: they were the ones to recapitalize entities of (otherwise) huge stature like Morgan Stanley and Merrill Lynch in testing times; moreover, they were the ones that were earnestly persuaded by European governments to help in finding a solution to the financial crisis. (PWC, The Impact of Sovereign Wealth Funds on Economic Success, 2011). The latest World Sustainability Report by IMF too does not augur well though systems have been created to create buffer zones against systemic shocks. With this ominous forecast, the weather for the global financial fraternity is going to be tough- really tough. And SWFs are the institutions with their unique creed and character to look up to for salvage. They are wired that way in the scheme of things.

"Sustainable development is the development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment, 1987). "This definition stresses the aspects of intertemporal distribution and intergenerational equity associated with sustainable development. But, leaving something for the future generation is not a static concept: it has dynamic connotations. The present generations can't afford to survive and sustain just by merely maintaining their resources in 'nominal & naked' terms. The present stream of cash flows has to be invested in such a way that the future possible stream of outflows is not merely ensured, but ensured in 'real' terms. So, sustainability means 'organic and green growth' – growth with human dignity, 'environmental everness' and social emancipation.

ISSN 2394 - 7780

To make the definition of sustainable development functional and fruitful for the development of sustainability conditions, and the framework of sustainable policies, many derivative definitions have been developed. These definitions pinpoint conditions which when satisfied, an economy can be regarded as following a path of sustainable development. The most current of these definitions associate sustainable paths with 'achieving constant utility' (Solow 1974; Hartwick 1977), and 'avoiding any decline in utility' (Pearce, Markandya and Barbier, 1989). As per Arrow et al., 2003(b), sustainable development means the maintenance of the economy's productive capacity. This translates into transferring the legacy of the previous generation in terms of total resources (at least intact in real terms) or more to the next generations. To this end, the productive base of the present generation is not only to be preserved but to be preserved in real terms with a premium to tide over the uncertain future. This productive base consists of natural capital, produced (manufactured) capital, human capital and knowledge capital. The basket of this summed of capital called genuine investment, valued at economic prices (not merely accounting prices), has to be non-decreasing over time along with social welfare being non-decreasing, the (resultant) development is then going to be sustainable.

SWFs already contribute to sustainable development in their own right: the establishment of an SWF itself can be considered a contribution to sustainable development in its own right. SWFs have ensured for the resource-rich economies to finance their large parts of their budget through the revenues earned by SWFs. This will sustainably make such economies less dependent on the commodity resources, apart from neutralizing the volatile prices of these commodities. This is what they call resource diversification. The very process of setting up an institution like an SWF in itself is an exercise in seeking sustained social, economic and environmental benefits while minimizing the cost of random wastage of ever depleting resources. Such institutions need exact accountability and glowing good governance, and above all, transparency. These characteristics are the stem cells of sustainable development and efficiency. Accountability, transparency and good governance demand a system that is built on 'robust legal and regulatory' basis. This has a very salubrious impact on other national infrastructure and institutions.

The world over, the clamor for all-inclusive, sustainable development is getting louder. The SWFs of the Middle East have tremendously invested into their national economies to create capabilities and enhance capacities. They are on the path to prioritize social and human welfare. In the United States, sustainable investments grew 33% from 2014 to 2016 and now (2016) total $9 trillion, about one-fifth of all professionally managed assets (US SIF Foundation,2016. This is a welcome indication. In other countries too, under the umbrella of World Sustainable Development Goals (SDG) for 2030, the movement has gained momentum. The themes identified for the global financial landscape to color itself in green are seen in the colors of national economies too: Temasek, an SWF from Singapore, for example, now strives for sectors and economies with the propensity to develop and turn them into champions with the infusion of core capital. The New Zealand Superannuation Fund, like other economies too, are striving for and seeking opportunities to set the sustainability drive moving. They are, in particular, enhancing investments to 'emerging and frontier markets'. China is not far off with its recent huge investments in the Energy sector, and One Belt One Road (OBOR) for development within and without. The projects are ushering in a new wave of development for all other economies that are either directly part of it or will be benefiting indirectly over a sustained period of time. The scenario in African countries with recent developments in the development sector are very promising. The gap between these kinds of investment themes and the sustainable development agenda appears not that large after all. What is needed to move SWF investments closer to sustainable development are investment products that 'incorporate social objectives, and offer attractive commercial returns. At the same time, 'pure financial' returns are just a part of the basket returns-social, environmental, human-that determines the health and shine of what is called sustainability with stability.

2.3 Green SWFs

SWFs are fast catching up in the race to be part of the sustainable finance arena. They are adopting climate considerations in their investment patterns. The genesis of investing in 'green areas' party stems from their 'guilty conscience' as a majority of them are the very source of 'fossils' fury. The other reason is that they are the prime actors to represent the aspirations of the public, whose assets they manage. And in recent years the public has been demanding a kind consideration for the climate cravings too. In three years', time from 2015-2017, the value of green investments by SWFs has increased to $ 11 billion (The Preqin Special Report, 2018). This is , in fact, a humble beginning as the investment forms just a meager 0.15% of the total assets of SWFs . SWFs' universe has recently witnessed disinvestments by various SWFs ,like the ones from Norway, France, New Zealand, from the firms that had high emissions of Green House Gases (GHG). Just in the past two years, such disinvestments are valued at $ 2.9 . Green investing is yet in its 'grey' stage and a lot of activity is expected in the future. Government Pension Fund Global (GPFG) of Norway and New Zealand Superannuation

ISSN 2394 - 7780

Fund ate at the forefront , and have fully integrated climate risks in their investment programs. And , this is no surprise that the two countries are leading the One Planet Initiative (OPI). Other SWFs , e.g., the ones from the UAE, Singapore, Morocco, Saudi Arabia, are committing their funds-directly or indirectly- to green infrastructure. They have been part of green debt platform to the tune of $ 4.3 billion, invested in renewable energy arena to the tune of $ 3.5 billion and have been parties to green infrastructure funds to the tune of $2.5 billion (The Preqin Special Report, 2018).

SWFs can be very instrumental in achieving the targets of Sustainable Development Goals (SDG) initiative. They have huge capital which can help bridge the yawning yearly financing gap of $ 2.5 trillion to 2030. With the joining of more and more big SWFs into the scheme of things, the gap can be narrowed down. Moreover, the leverage of SWFs with respect to their strong linkages with developing countries can be tapped into action as the game of sustainability goals is to be mostly played on the turf and temperament of developing counties. 22 of the largest SWFs come from developing counties only. Green investing too has some grey areas that need to be addressed so that the allocations of SWFs to green zones pick up. Green investments still face the issues of performance on a risk-adjusted return basis. With more transparency and more commitments by the sovereign states into sustainable development arena, green investments are supposed to get the green ahead.

3 CONCLUSION AND FUTURE OF SWFS

To conclude, existent studies on sovereign wealth funds suggests that they have been a stabilizing force in testing times for the world financial markets and institutions- a whiff of fresh air that kept things within control during and after the financial crunches and crises. They can be a more stabilizing force in global financial markets as the market conditions are conditioned to suit such a unique set of institutions. Many studies have though reported small minor hiccups, but the overall experience has been quite satisfying. SWFs are elegantly investing in basic industries to fuel the new level of developments across the countries while simultaneously creating capabilities and building capacities in on the home turf. True to their nature, they are a happening creed of institutions that are surely the harbingers of how modern businesses are created, run and developed and dedicated to the service of human welfare and development. This is altogether a different proposition for traditional investment vehicles in the world. With the new landmarks in disclosure norms and transparency standards, the funds' contribution to the developmental scenarios will be more obvious. But one glaring reality has already come to the fore: sustainable development is not an option for SWFs: it is definitely their very essence and existence. The world is going to be greener, stronger and more stable- a better place to live in and, perhaps, the best place to leave behind-literally and figuratively.

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A STUDY ON FACTORS DETERMINING PURCHASE OF GREEN PRODUCTS AMONG CONSUMERS IN CHENNAI CITY

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ABSTRACT
Nowadays, large number of consumers chooses products that have lesser damage to environment, consume low energy, highly concern with environment and friendliness. Significant difference exists among factors determining purchase of green products and profile of consumers. Environmental concern, environmental responsibility, environmental attitude, social influence and seriousness of environmental problems are significantly and positively impacting purchasing decision of consumers towards green products. In order improve purchase decision of consumers on green products, marketers should communicate efficiently through their marketing and promotional campaigns on ways and means for preservation of environment and make consumers to realize their responsibilities and accountabilities for protection of environment and reduce environment related problems. Further, Governments should give striking incentives for firms to adopt green production strategies and must establish effective regulatory and legal frameworks to encourage green production techniques and methods for sustainable development.

Keywords: Consumers, Factors, Green Products, Purchasing Decision

1. INTRODUCTION

In present days, almost all countries across world are focusing on environment and its related problems because of pollution, global warming, climate change and deterioration of environment and natural resources (Aziz and Yani 2017). Each and every firms give higher level of attention to reduce the harmful effect of business activities in the areas of production, marketing consumption and purchase behaviour on the environment (Hartmann and Ibariez, 2006). Environmental consciousness and anxiety have moved to the appearance of sustainable development that diminishes harmful effect on physical and natural environment, consumers and society (Axelrod and Lehman, 1993). The main aim of sustainable development is to develop economy of nation and natural environment in long term leading in to strict regulations and legal arrangements relating to effect of products in manufacturing, consumption and disposal (Cornelissen et al 2008).

Nowadays, large number of consumers chooses products that have lesser damage to environment, consume low energy, highly concern with environment and friendliness (Dangelico and Pontrandolfo, 2010). Green products are sensitive to environment and they help to protect and conserve natural environment and recycling of resources efficiently (Seyrek and Gul, 2017). Consumers are decently aware of consequences of degradation of environment and aspire to purchase green products that make firms to go for green practices (Laroche et al 2001). On the other hand, purchase of green products among consumers is determined by a number of factors especially in metro cities. Therefore, it is essential to study factors determining purchase of green products among consumers in Chennai city.

2. REVIEW OF LITERATURE

Tan and Lau (2011) found that awareness and attitude on environment, effectiveness, beliefs and promotions were affecting purchasing behaviour of green products. Kaufmann and Panni (2012) concluded that knowledge and attitude on environment, beliefs and availability of products, effectiveness, value and collectivism were affecting green purchasing behaviour of consumers.

Hessami and Yousefi (2013) revealed that environmental related factors, consumer beliefs and values and awareness of consumers were influencing purchase behaviour of consumers on green products. Dagher and Itani (2014) indicated that perception on effectiveness of environmental behaviour, environmental responsibility, self image on protection of environment and seriousness of environmental problems influenced purchase behaviour towards green products among consumers.

Majumdar and Swain (2015) showed that environment and health consciousness, innovation, price, quality, safety, product involvement, appearance, nutritional contents, brands and availability of products were positively influencing selection of green products. Jamal et al (2016) found that awareness and attitude on environment, knowledge and peer groups were affecting purchasing behaviour of consumers on green products.

Atthirawong and Panprung (2017) concluded that concern on environment, healthiness, safety, convenience, package, attitude on environment, subject norms, management of products, environmental laws and value

ISSN 2394 - 7780

influenced purchase behaviour of green products among consumers. Sasikala and Parameswaran (2018) revealed awareness on concern about environment, product, brand and price were influencing purchasing decision of consumers for green products.

3. OBJECTIVES OF THE STUDY

1. To examine factors determining purchase of green products among consumers.
2. To scrutinize difference among factors determining purchase of green products and profile of consumers.
3. To assess impact of factors determining purchase of green products on purchasing decision of consumers.

4. HYPOTHESES OF THE STUDY

1. There is no significant difference in factors determining purchase of green products among profile of consumers.
2. There is no significant impact of factors determining purchase of green products on purchasing decision of consumers.

5. METHODOLOGY

The present study is done in Chennai city. Consumers of green products are chosen by using simple random sampling method and questionnaire is used to collect data from 350 consumers of green products. Percentages are calculated to understand profile of consumers of green products and mean and standard deviation are worked out to know agreement level of consumers for factors determining purchase of green products. t-test and F-test are done to scrutinize difference among profile of green consumers and factors determining purchase of green products. Multiple regression analysis is used to assess impact of factors determining purchase of green products on purchasing decision of consumers.

6. RESULTS AND DISCUSSION

6.1. Profile of Consumers

The profile of consumers is given in Table-1. The findings disclose that 58.86 per cent of consumers are males, while, 41.14 per cent of them are females and 34.57 per cent of them are coming under age category of 31– 40 years, while, 17.43 per cent of them are coming under age category of 21 – 30 years. The findings explain that 29.14 per cent of consumers are possessing post graduation, while, 9.14 per cent of them are possessing secondary education and 36.29 per cent of them are private sector consumers, while, 13.71 per cent of them are retired persons. The findings clarify that 38.86 per cent of consumers are earning monthly income of Rs.30,001 – Rs.40,000, while 13.14 per cent of them are earning monthly income of below Rs.30,000 and 72.00 per cent of them are married, while, 28.00 per cent of them are unmarried.

Table-1: Profile of Consumers

Profile	Number of Consumers	Percentage
Gender		
Male	206	58.86
Female	144	41.14
Age Category		
21 – 30 Years	61	17.43
31– 40 Years	121	34.57
41 – 50 Years	94	26.86
51 – 60 Years	74	21.14
Education		
Secondary	32	9.14
Higher Secondary	58	16.57
Diploma	73	20.86
Under Graduation	85	24.29
Post Graduation	102	29.14
Occupation		
Business	59	16.86
Government	116	33.14
Private	127	36.29
Retired	48	13.71

ISSN 2394 - 7780

Monthly Income		
Below Rs.30,000	46	13.14
Rs.30,001 – Rs.40,000	136	38.86
Rs.40,001 – Rs.50,000	119	34.00
Above Rs.50,000	49	14.00
Marital Status		
Married	252	72.00
Unmarried	98	28.00

6.2. Factors Determining Purchase of Green Products Among Consumers

The views of consumers on factors determining purchase of green products are given as below.

6.2.1. Environmental Attitude

The view of consumers on environmental attitude is given in Table-2.

Table-2: Environmental Attitude

Environmental Attitude	Mean	Standard Deviation
Knowledge on preservation of environment is very important	3.94	0.87
Measures for protection of environment are highly required	3.80	0.93
It is necessary to encourage green livelihood	3.86	1.02
Conservation of environment is not my duty	3.26	1.08
Protection of environment is worthless	3.28	1.04

The consumers of green products are agreed with knowledge on preservation of environment is very important, measures for protection of environment are highly required and it is necessary to encourage green livelihood, while, they are neutral with conservation of environment is not their duty and protection of environment is worthless.

6.2.2. Environmental Concern

The view of consumers on environmental concern is given in Table-3.

Table-3: Environmental Concern

Environmental Concern	Mean	Standard Deviation
I live in harmony with environment	3.37	1.36
I have high apprehension on environment	3.88	1.07
I have no right to change nature of environment	3.84	1.09
I am worried about quality of environment	3.73	1.04
I am actively engaged in safeguarding environment	3.40	1.27

The consumers of green products are agreed with they have high apprehension on environment, they have no right to change nature of environment and they are worried about quality of environment, while, they are neutral with they live in harmony with environment and they are actively engaged in safeguarding environment.

6.2.3. Environmental Responsibility

The view of consumers on environmental responsibility is given in Table-4.

Table-4: Environmental Responsibility

Environmental Responsibility	Mean	Standard Deviation
I am responsible for protection of environment	3.33	1.13
Protection of environment is stating with me	3.83	1.08
I am ready to engage in protecting environment	3.90	1.06
I take responsibility for protection of environment since my young age	3.31	1.26
Protection of environment is responsibility of government	3.35	1.25

The consumers of green products are agreed with protection of environment is stating with them and they are ready to engage in protecting environment, while, they are neutral with they are responsible for protection of environment, they take responsibility for protection of environment since their young ages and protection of environment is responsibility of government.

ISSN 2394 - 7780

6.2.4. Seriousness of Environmental Problems

The view of consumers on seriousness of environmental problems is given in Table-5.

Table-5: Seriousness of Environmental Problems

Seriousness of Environmental Problems	Mean	Standard Deviation
Environmental problems are aggravating	3.89	0.98
Environmental problems are threats to healthy life	3.92	0.94
Environmental problems have to address immediately	3.97	0.97
Environmental problems are danger to society	3.93	0.99
Environmental problems are extremely grave	3.85	0.96

The consumers of green products are agreed with environmental problems are aggravating, environmental problems are threats to healthy life, environmental problems have to address immediately, environmental problems are danger to society and environmental problems are extremely grave.

6.2.5. Social Influence

The view of consumers on social influence is given in Table-6.

Table-6: Social Influence

Social Influence	Mean	Standard Deviation
I learn environmental problems from my friends	3.95	0.94
I get information on green products from my parents	3.87	1.05
I talk about environmental problems with my colleagues	3.29	1.12
I usually purchase green products with my spouse	3.99	0.95
My children compel me to purchase green products	3.32	1.13

The consumers of green products are agreed with they learn environmental problems from their friends, they get information on green products from their parents and they usually purchase green products with their spouse, while, they are neutral with they talk about environmental problems with their colleagues and their children compel them to purchase green products.

6.3. Factors Determining Purchase of Green Products and Profile of Consumers

To scrutinize difference among factors determining purchase of green products and profile of consumers, t-test and ANOVA (Analysis of Variance) test are used and the results are given in Table-7.

Table-7: Difference among Factors Determining Purchase of Green Products and Profile of Consumers

Particulars	t-Value / F-Value	Sig.
Gender and Factors Determining Purchase of Green Products	5.348** (t-value)	.000
Age Category and Factors Determining Purchase of Green Products	4.752** (F-Value)	.000
Education and Factors Determining Purchase of Green Products	5.114** (F-Value)	.000
Occupation and Factors Determining Purchase of Green Products	4.659** (F-Value)	.000
Monthly Income and Factors Determining Purchase of Green Products	4.986** (F-Value)	.000
Marital Status and Factors Determining Purchase of Green Products	5.225** (t-value)	.000

** Significant at 1 % level

The t-values and F-values elucidate that significant difference is prevailing in factors determining purchase of green products among profile of consumers at one cent level.

ISSN 2394 - 7780

6.4 Impact of Factors Determining Purchase of Green Products on Purchasing Decision of Consumers

To assess impact of factors determining purchase of green products on purchasing decision of consumers**,** multiple regression analysis is carried out and the results are given in Table-8. R^2 and adjusted R^2 are 0.58 and 0.56 that represent the regression model has good fit and independent variables altogether have 56 per cent of variation on dependent variable. The F-value of 27.425 displays the model is significant at one per cent level.

Table-8: Impact of Factors Determining Purchase of Green Products on Purchasing Decision of Consumers

Factors Determining Purchase of Green Products	Regression Co-efficients	t-Value	Sig.
Constant	3.582**	10.940	.000
Environmental Attitude (X_1)	.396**	6.362	.000
Environmental Concern (X_2)	.468**	7.850	.000
Environmental Responsibility (X_3)	.445**	7.216	.000
Seriousness of Environmental Problems (X_4)	.354**	5.108	.000
Social Influence (X_5)	.370**	5.964	.000
R^2	0.58	-	-
Adjusted R^2	0.56	-	-
F	27.425	-	.000

** Significant at 1 % level

The findings explicate that environmental concern, environmental responsibility, environmental attitude, social influence and seriousness of environmental problems have positive and significant impact on purchasing decision of consumers for green products at one per cent level.

7. CONCLUSION

The findings of this study make clear that environmental attitude, environmental concern, environmental responsibility, environmental responsibility and social influence are factors determining purchase of green products by consumers. Significant difference exists among factors determining purchase of green products and profile of consumers. Environmental concern, environmental responsibility, environmental attitude, social influence and seriousness of environmental problems are significantly and positively impacting purchasing decision of consumers towards green products. In order improve purchase decision of consumers on green products, marketers should communicate efficiently through their marketing and promotional campaigns on ways and means for preservation of environment and make consumers to realize their responsibilities and accountabilities for protection of environment and reduce environment related problems. In addition, consumer must live in harmonious with natural environment and enthusiastically involve in activities for safeguarding environment. Further, Governments should give striking incentives for firms to adopt green production strategies and must establish effective regulatory and legal frameworks to encourage green production techniques and methods for sustainable development. Hence, purchasing and consumption of green products by consumers are good for them, their family, society and environment.

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FEAR OF VICTIMIZATION AND WOMEN FEARSCAPES: AN EXPLORATORY STUDY OF VARANASI CITY, INDIA

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ABSTRACT
Cities are becoming 'safest and most scared ever' simultaneously. In a city like Varanasi, known for its religious-cultural importance, crime and violence have a known history. However, the fact lies in such a way that, in traditional Indian societies, there exist clear-cut gender differences in (urban) fear perception. The paper aims at developing an understanding of women's perception of fear of victimization and the places where they feel unsafe to go. It is perception based primary survey conducted among 300 women in Varanasi city. The respondents were selected by the purposive sampling method. Mixed-method approaches were executed to analyse the data. The bi-variate analysis is employed for getting the categorical prevalence of fear level among women. In-depth interviews were conducted to understand the perception about the fear of places from women's perspective. The results illustrated the linkages between gendered spaces and fear of sexual crimes against women. Interestingly, not only the unfamiliar remote places were perceived as space of fear and victimization, but the chaotic places with unsocial gatherings were also recognised as fearscape for women. This study will help for the future research to explore the complex phenomenon of fear of crime, particularly among women.

Keywords: Crime, Explorations, Fearscape, Victimization, Women, Varanasi.

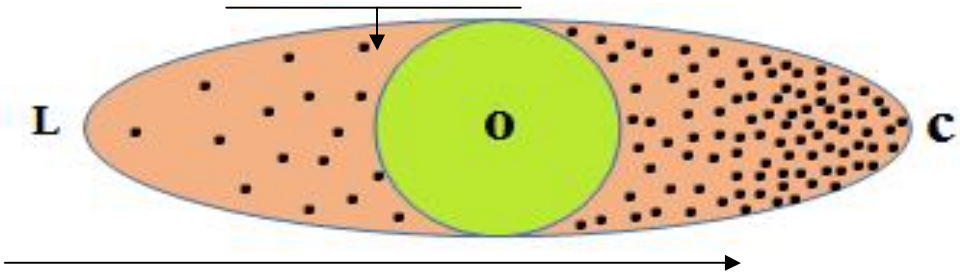
INTRODUCTION
Generally, women develop individual mental maps of places where they fear (sexual) assaults. This fear is a product of either their past self or neighbourhood experiences. Such sites are parts of larger women fearscape. In particular, girls are made accustomed to the restricted use of public space by their parents in the process of socialisation (Valentine, 1989). It creates a range of differences in their perception towards the use of public space in comparison to their male counterparts. 'Male gaze' is a daily life issue encountered by the women while walking through streets. It acts as a restricting factor for the women to opt for more 'safer' streets and routes during daily commuting. However, despite their best possible avoidance of 'feared places', most women have some form of frightening experience such as being flashed at or stalked.

City spaces are being increasingly masculinised and seem to restrict women's use of public spaces in rearticulated socially coded ways, mainly concerning domesticity. Frequently used means of limiting women out of male-dominated public spaces is physical intimidation (Paul, 2011a, 2011b). The study tries to unravel the interrelationship between perceptual spaces and women's fear of crime as social behaviour. It also explored the linkages between gendered space and fear of sexual crimes against women and showed how spaces get shaped and modified by socially constituted fear of crime. The city of Varanasi, according to National Crime Records Bureau, appears to have the reputation of being one of the safest cities regarding overall crimes against women. Therefore, women's access to public places in the city should be devoid of any circumscriptions and their mobility and claim over public space should be imbued with as much command as that of a man. However, it has been noted that even in the absence of potential physical threats to women, the mobility of the surveyed women in public has remarkably prescribed through "socially produced" fear. Further, their fear mostly revolves around their sexuality. With this, the aim of the present study has to develop a preliminary understanding of women's discernment of feared places and locations in Varanasi city from the point of women-safety and to know the perception of women about their vulnerability, victimisation experience that results in the fear.

FEARSCAPE: CONCEPTUAL FRAMEWORK
Whitzman (2007) stated that "fear is defined as the range of emotional and practical responses from pain to uneasiness caused by the sense of a perceived threat or danger, often concerning one's safety." Fearscape is also a by-product geographical setting of the cultural landscape. Moser (2004) defined it in his terms as "the geographic study of fear reveals the spatial manifestation of institutions of power which operate within a specific setting, that is, who has power, how it is expressed, its material ramifications and everyday manifestations." People often fear areas characterised by the visual presence of disorder such as unfamiliar remote places or chaotic places with unsocial gatherings. They develop an individual image of such places which may be the product of either their victimisation experience or vulnerability to crime. Those places are termed as 'Fearscape' (Fig. 1).

ISSN 2394 - 7780

Figure-1: Concept of 'fearscape'.
Circle of comfort zone



Increasing population density

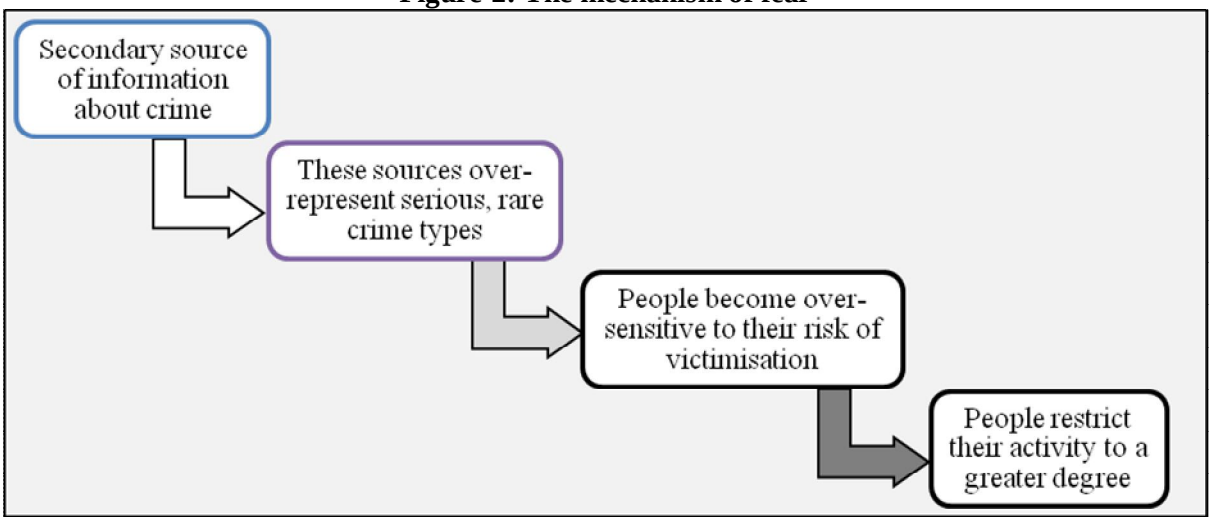
(From scarce to high concentration of population)

L= Region of scarce population

O= Region of ideal concentration of population

C= Region of high concentration of population

Figure-2: The mechanism of fear



Secondary information about the crime is a significant source of fear among people. These sources over-represent severe and rare crime types, which over-sensitises people to their risk of victimisation (Jewkes, 2015), and this insecurity leads to fear amplification in those who consume such information sources (Fig. 2). As a result, people restrict their activity to a higher degree to minimise the risk of on-street victimisation, preferring the relative safety and familiarity of their home to the potential dangers of public places and establishments (Garofalo, 1981).

THE SENSE OF PLACE AND FEAR OF CRIME AMONG WOMEN

Fear of crime is intricately associated with the sense of place ingrained in the minds of women and is in turn anchored in the way public space is constructed and perceived by them (Paul, 2011b). Therefore, the public sphere is much beyond physical forms and structures. Many scholars defined this space with the different notions like it is perceptual and it experienced through the senses (Cassirer, 1944); it is symbolic and is experienced through a spatial symbolic representation (Harvey, 1973); it functions as representational and is lived through symbols and images (Lefebvre, 1974) and it seems like subjective and is shaped by experiences of the mental realm (Tuan, 1977).

The meanings associated with public space emanate from socialisation processes. Ranade (2007) observes that women in Mumbai while moving through public spaces, avoid unrespectable (bars, lottery shops) or unsafe (isolated and dark lanes) places. Further, women also tend to prevent low-income squatters, fearing "unfriendly men" who are likely to impart a feeling of discomfort (Paul, 2011a). It is because of this fear that urban spaces are experienced differently by women and men. (Rose, 1993) maintains that the mundane world of routine is the realm of women's social life in masculine's society. Ranade (2007) points out that women can access public space legitimately only when they can manufacture a sense of purpose and are seldom found wandering in

ISSN 2394 - 7780

public spaces without any purpose. Further, women tend to occupy public spaces as a transit between one private space and another. Phadke (2007) enlisted specific possible "risks" concerning women in the public space. She talks about four potential risks:

1. The potential physical assault,
2. The risk to 'reputation' of accessing public space against the stereotypical construction that defines women's place as the private spaces of the home,
3. The risk of being blamed for being in the public space for physical assault or sexual harassment, if any,
4. The risk of loss of opportunity to "engage city space and the loss of the experience of public spaces."

This culminates in the adoption of specific precautionary steps, such as avoiding some places in the city (Koskela, 1997; Wesely & Gaarder, 2004). Valentine (1989) stated that the association of fear with public spaces and the consequent precaution taken by women constitute a "spatial expression of patriarchy." Pain (2001) states that routes were chosen and places preferred by women, though often mistaken as their autonomous choice, are governed by fear of crime as well as notions of social legitimacy. Such decisions to abstain from "masculine" city spaces generate a different type of urban space. This is because if women withdraw from public space, their oppressors gain more control over public space. The study has mainly focused on quantitative analysis of reactions, perception to fear, vulnerability and victimisation of sexual crimes among women in the study area and tried to explore the significant causes of fear associated with different places in Varanasi city.

MATERIALS AND METHODS

The paper uses literature to explore the linkages between gendered space and the fear of crime. This is further corroborated by the primary survey conducted in the city. Respondents have been chosen exclusively through non-probability means; that is, with the use of snowball sampling, purposive and convenience (accidental) sampling. A total of 300 women completed the survey, which focused on the fear of crime. Open-ended questions were directed toward their vulnerability and past experiences with a crime that results in fear. The present study is mainly focused on six major themes. The first theme is based on quantitative analysis of reactions to fear of sexual crimes among women in the study area. The second theme explores the linkages between the age of women and their perception towards fear against crime. The third theme focuses on fear level among women based on their level of educational qualification. The fourth theme tries to explore the significant causes of fear associated with different places in Varanasi city. The fifth theme is to find out the linkages between victimisation and fear among women in Varanasi city. The sixth theme is to know about the women's vulnerability and fear in the city.

RESULTS AND DISCUSSION

The body of research that has emerged from this line of inquiry has indicated that there are specific groups in society, including women, the elderly, and individuals with low socioeconomic status, minorities, and urbanites that have levels of fear of crime than other groups in society (Niranjana, 2001). Across fear of crime research, women have received a great deal of attention from researchers attempting to unravel why specific groups in society are more fearful of crime. Women are particularly interesting because they often report levels of fear of crime that are two to three times higher than men's, even though they have a lower victimisation risk than men for almost all non-sexual crimes (Pain, 1991). The study conducted in the context of fear of women against crime bring forth that out of 300 women being surveyed, 255 of them responded as experiencing sexual harassment, and/or receiving unwanted attention and having received obscene phone calls as part of their daily affairs.

PREVALENCE OF FEAR LEVEL AMONG WOMEN

The study was conducted on the age group of 15 to 30 years and categorised into three viz. 15-20, 20-25, 25-30. For each group, a total of 50 responses were recorded. The result shows that a maximum percentage of fear, i.e. 58% was found in the age group of 20-25 while 42% was observed in the age group of 25-30. The least, i.e. 20% was observed in the age group of 15-20 (Table 1). This can be attributed to the fact that the majority of the media reports targets women of 20-25 age group as the major victims of crime against women (Singh & Rashmi, 2013). Another fact which may be the reason behind this result is that the women of these age groups begin their career and independent life. Due to which they have to face day to day challenges alone and struggle accordingly, and this struggle also includes the cases of crime against women. The women of 15-20 and 25-30 age group feel protected compared to women of 20-25 age group as either they were under parental care or are married respectively.

ISSN 2394 - 7780

The fear level among women based on their level of educational qualification explores that women with higher qualification level are more scared and feel more unsafe than those who hardly have any qualification or who are at a lower qualification level. Education is something that instills fearlessness in an individual, but the higher education and general awareness regarding the rate of an ongoing event of sexual crimes in the surrounding make women of the age group of 20-25 psychologically more prone towards fear against sexual crime. With more knowledge and information, one is easily aware of the cases of women violence and crime against women, which in turn increases the sense of fear among women and they start feeling insecure to go out or travel alone. Whereas, the intermediate students or those who were studying in schools, had limited access to information related to concerning issues outside their syllabi. Moreover, students at such educational levels are generally found to be under strict parental care, which is an important security factor. Whereas, women pursuing their graduation/post-graduation have broader access to information regarding severe issues of crime, violence, discrimination and so on. Also, in most cases, such students are set free from their parental care and are made to face their problems independently. Currently employed or ever employed women in Varanasi city also feel fear of workplace harassment but an overwhelming majority of 75% of harassment victims experienced retaliation when they spoke out (Table 1).

Table-1: Prevalence of Fear level among women while walking alone after dark

Respondent's Characteristics	Fear level among women while walking alone after dark (%)			
	Very Safe	**Some What Unsafe**	**Very Unsafe**	***Sample (n)***
Educational Status				
Primary	38	42	20	*68*
Secondary	14	58	28	*96*
Higher	6	62	32	*136*
Age Group (Years)				
Below20	20	60	20	*74*
21-25	14	28	58	*119*
26 & Above	6	52	42	*107*
Employment Status				
Employed	19	32	49	*137*
Unemployed	45	40	15	*163*
N (Total)				**300**

Note: Educational Status is completed Education; Employment status is ever employed

Source: Based on field survey (2015)

So, apart from that, the role of media via news channels and newspapers make lots of information readily available nowadays. Students' awareness of general and special issues always remains updated through such medium. Hence, it can be seen that more information and knowledge about the negative aspects of human behavior on women is, on the one hand, helpful as they increase social awareness but on the other hand, it somehow affects the state of mind and women seem to lose their sense of security amid all that happens around them.

FACTORS ASSOCIATED WITH THE CREATION OF 'WOMEN FEARSCAPE'

The assumption about women's lack of freedom to be in selected public places, at a certain time is reflected in comments made by women (Box. 1).

Box-1: Explorations of major causes of fear associated with different places

"मैं दालमंडी और उसके आस-पास के इलाके में अकेले नही जाना चाहती क्योंकि जब भी मैं वहां मुस्लिमों को टोपी और कुरते मे देखती हूँ तब मुझे दंगे की याद आती है और मैं डर जाती हूँ।"

"I don't want to walk alone in Jangamwadi area and its environs because when I see group of people wearing typical Muslim attire, I perceive the feeling of getting stuck in a riot."
(A women, 25 years)

"मैं कैंटोनमेंट क्षेत्र में अकेले जाने से डरती हूँ क्योंकि वहां मुझे देह-व्यापर के चक्कर में फंस जाने का डर सताता है।"

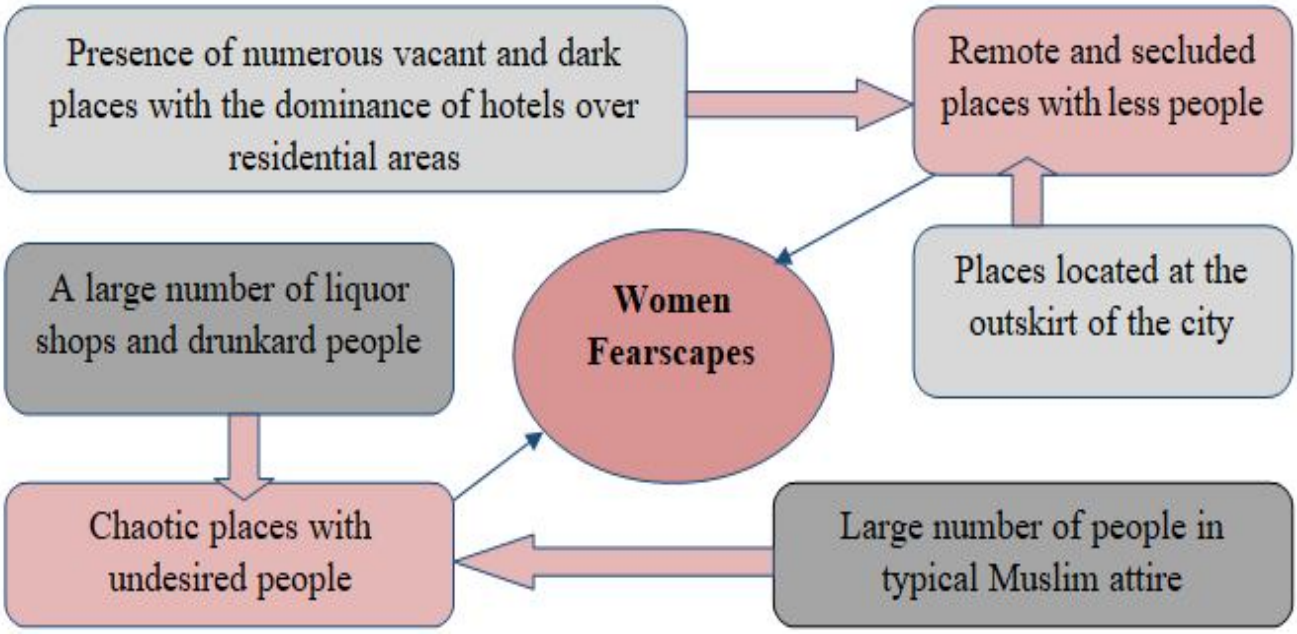
"I avoid walking alone in Cantonment area because I have fear of being caught in the racket of sex-trafficking." *(A women, 23 years)*

ISSN 2394 - 7780

"मड़ुआडीह शहर का बाहरी और एकांत क्षेत्र है जहाँ मैंने कई बार वेश्यावृ तिमें फँस जाने का डर महसूस किया है ।" *"Maduadih, being at the outskirts of the city, I always feel the terror of being lost in the world of prostitution."* *(A women, 24 years)*
"सामने घाट वाले क्षेत्र में अक्सर पियक्कड़ लोग घूमते रहते हैं और मुझे छेड़खानी का डर लगता है ।" *"I am afraid of getting molest or sexually harassed due to presence of large number of liquor shops in samne ghat region."* *(A unmarried women, 19 years)*

Women always feel unsafe to go in that areas where they feel like being the victim of either sexual crime or unable to protect themselves in adverse conditions like riots because they always perceive themselves as the weaker sections of the society. This is adverse because their cognitive understanding of their environment is essentially based on the socio-cultural norms which are still engraved in their mind and it leads to the creation of psychological and mental images of being the 'helpless victim'. Women avoid either remote and secluded places with less number of people or chaotic places with a large number of undesired people in the city (Fig.3).

Figure-3: Factors associated with the creation of 'Women Fearscape'



The main reason for this kind of fear is secondary information generated either by media or by their elders. The information related to the ongoing crimes creates a hypothetical scenario of fear in their mind. The situation thus generated make them psychologically scared of that area. The results of the survey further substantiate this reason because the majority of the respondents reported such kind of places as part of larger fearscape in the city.

SIGNIFICANT FEARSCAPES OF THE CITY

The major fear factor associated with this place is the presence of a large number of people in typical Muslim attire. The reason can be attributed to the fact that women's cognitive understanding of this type of place is essentially based on the socio-cultural norms which are still engraved in their mind, and it leads to the creation of psychological and mental images of being the 'helpless victim' or unable to protect themselves in the adverse conditions like riots. (Fig. 4).

1. ***Nayi Sadak, Dalmandi area:*** A discussion with the respondents further substantiated this reason because the majority of the respondents revealed the fact that when they see people in typical Muslim attire, they are afraid of getting stuck in a riot.
2. ***Cantonment Railway Station Area:*** The major fear factor associated with this place is the dominance of hotels over the residential areas with more number of unfamiliar people.
3. ***Maduadih Area:*** It is a remote and secluded place of the city with less number of people.

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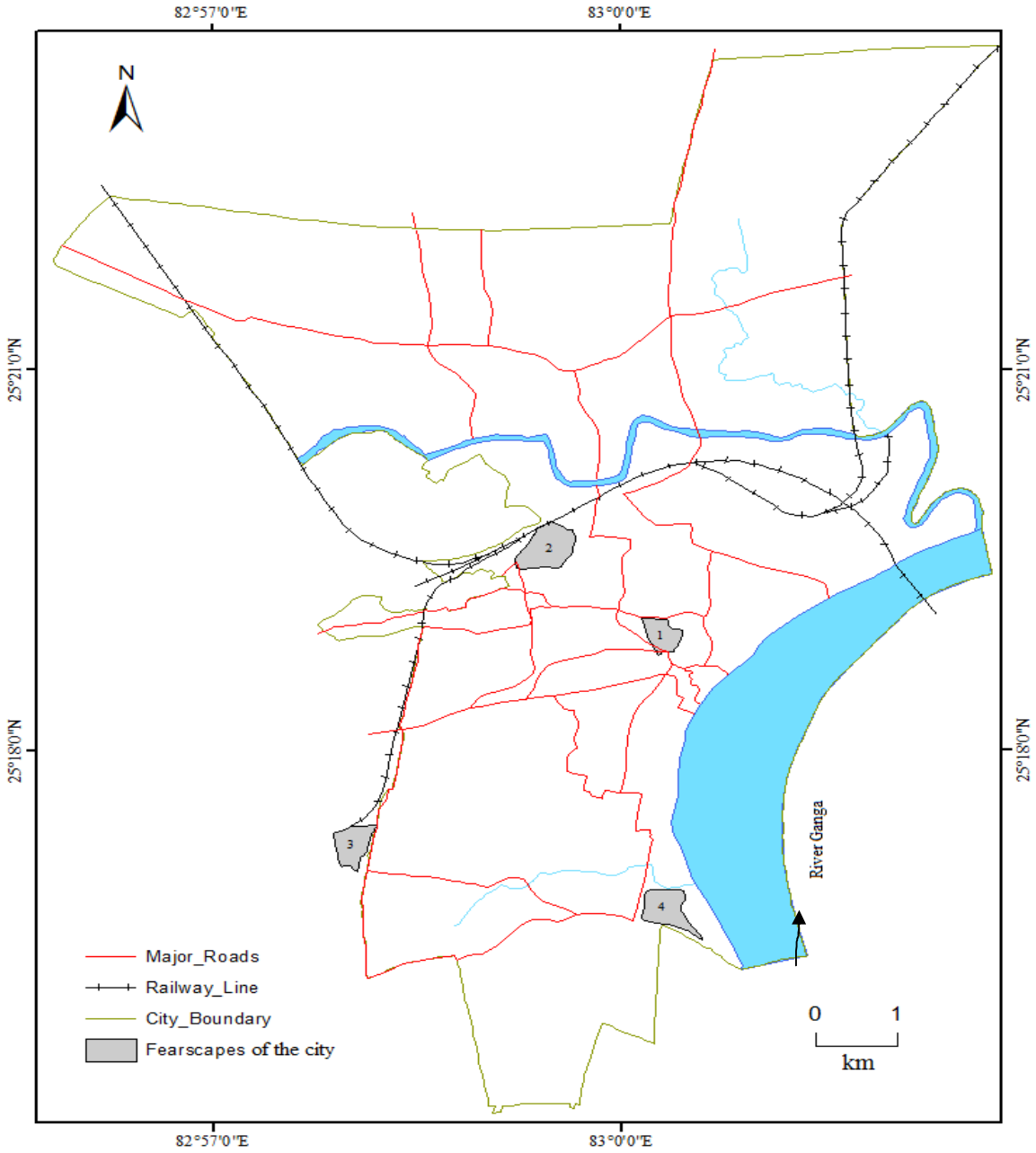
4. ***Samne Ghat Area:*** A large number of liquor shops and drunkard people are the major source of fear among women in this area.

Figure-4: 'Major fearscapes of the city'



SIGNIFICANT CAUSES OF FEAR ASSOCIATED WITH DIFFERENT PLACES

To explore the significant reasons of fear related to different places in Varanasi city is based on comments made by respondents regarding their fear in different space and time (Table 2). The association of crime with more prominent sociological contexts has a profound effect on many women's use of space in Varanasi city. Every day most women in these societies visit public space alone. Women adapt to stay safe. The effective strategy adopted by the women, interviewed is the avoidance of perceived 'dangerous places' at 'dangerous times'. By adopting such defensive tactics victimised women are pressurised into a restricted use and occupation of public space (Valentine, 1989). The type of places in which women anticipate themselves to be most at risk is those where they perceive the behaviour of others, especially of men, who may be sharing that space to be unregulated (Smith, 1987). It may be as typical Muslim areas, outskirts of the city, vacant and dark places, areas with a large number of liquor shops and drunkard people etc. Frequently some mythologies develop around such places. Women in places where they perceive themselves to be at risk they have to become alert to their physical and social surroundings, As a result, most women, especially at night, have a heightened consciousness of the micro design features of their environment, and adjust their pace and path accordingly: walking fast or crossing the

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road to avoid perceived fear sites. The place is highly associated with the fear due to its cause of functionality and responsible for the perception of fear. In the present study, the survey had conducted by the respondent to know the significant location for the fear along with the specific characteristics of the space (Table 2).

Table-2: Major causes of fear associated with different places

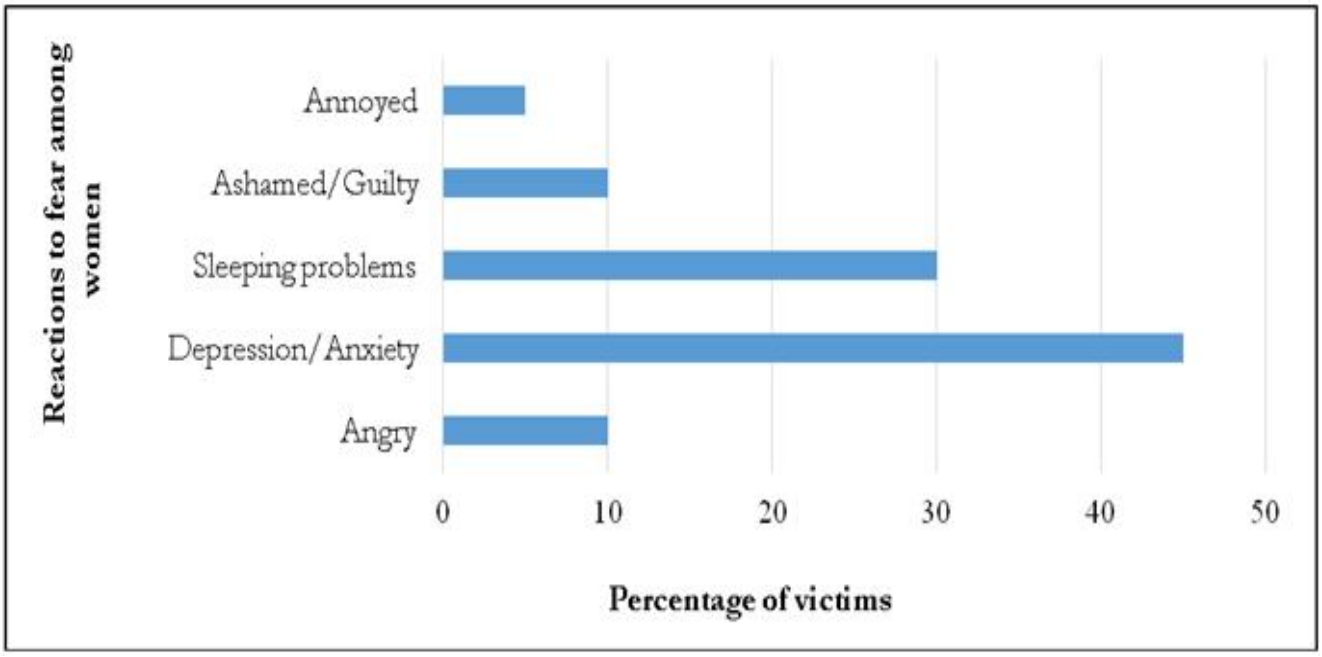
Associated fear factor(s)	Places
Large number of people in typical Muslim attire	Nayi sadak, Dalmandi area
Presence of numerous vacant and dark places with the dominance of hotels over residential areas.	Cant. Railway station area
Located at the outskirt of the city	Maduadih area
A large number of liquor shops and drunkard people.	Samne ghat area

Source: Based on Survey, 2015

NEGATIVE OUTCOMES OF FEAR AMONG WOMEN

The fear of crime among women is widespread and has been found to negatively impact women's workplace productivity, emotionality, and relations with family and friends (Holmes & Holmes, 2008).

Figure-5: Negative outcomes of fear among women



Findings revealed the negative outcomes of fear among women which can adversely affect women's overall quality of life. As per the observation based on the study conducted for the first theme which is based on negative outcomes of fear among women shows that majority of the women react towards fear in the form of either depression/anxiety/sleeping problems (75%) followed by ashamed/guilty (10%); angry (10%) and annoyed (5%) (Fig.5). The reason behind the reaction percentage being higher on the side of depression/anxiety/sleeping problems can be that Varanasi is one of the traditional societies of India. In traditional societies, a girl is brought up with the feeling that she is the most vulnerable section of society towards the sexual crimes. Further, all the blames if any regarding the sexual crime has imposed on women (Seth, 2001). Moreover, any women moving forward to fight against any sexual crimes that have harassed by the society has decided to hide all the circumstances they face (Ram, 1987). They are afraid of discussing their plight with other and hence suffer the problem of anxiety/depression/sleeping problems.

VICTIMIZATION AND FEAR AMONG WOMEN

Another explanation for women's fear of crime that emerged from the responses was the result of prior victimisation. Several women wrote that they were afraid of rape/sexual assault because they had been victimised in the past. This explanation is not surprising; it would follow that if you are victimised once, the experience would likely be related to increased levels of fear of all crime in the future.

Once an individual is victimised, the "it won't happen to me" mentality is shattered, and they are fully aware that they are at risk of victimisation. Experiencing one type of victimisation likely causes a heightened awareness of any type of victimisation, resulting in increased levels of fear of all crimes and altering daily activities. For

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example, one woman wrote that she frequently misses class because she is afraid to go out in public after being sexually assaulted. So, women who had been victimised once were often more fearful because they had firsthand knowledge of the physical, emotional, and psychological damage that resulted from the victimisation experience, and were aware that the crime could happen again (Box 2).

Box-2: Explorations of victimization and fear among women associated with different places

"व्यक्तिगत रूप से यौन शोषण के शिकार होने की वजह से मैं अपनी जिंदगी में कभी कभी अवसाद महसूस करती हूँ ।" *("Yes, because the experience itself left me personally jittery more about life in general for a while.")*
"अभी हाल ही में यौन शोषण की शिकार होने की वजह से मैं हमेशा डर महसूस करती हूँ और बाहर जाने से तो डरती ही हूँ साथ में अपनी कक्षाएं भी छोडती हूँ ।" *("Having been recently sexually assaulted I'm afraid of everything. I frequently miss class because I'm afraid to go out.")*
"अभी हाल में ही यौन शोषण की शिकार होने की वजह से मुझे लगता है कि ये दुबाराहो सकता है ।" *("Having been recently sexually assaulted I'm always afraid it will happen again.")*

There was some disagreement with the idea that prior-victimisation increases fear among women because some women stated that their prior victimisation experiences had prepared them for the possible victimisation for any crime, and because of this, they are less afraid. They had been the victim of sexual crimes in the past, they felt prepared to defend themselves and took precautions so that they would not be in vulnerable situations. As such, they felt that they were not fearful of crime because they felt that they would never again allow themselves to be victimised (Box 3).

Box-3: Explorations of mentally preparedness of being vulnerable after having experience of fear of crime associated with different places

"मुझे नही लगता की यौन शोषण की शिकार होना मेरे अन्दर डर पैदा करता है क्योंकि अब मैं सतर्क हो गयी हूँ । पिछली बार मुझे जबरदस्ती शराब पिला दिया गया था और अब मैं ऐसी स्थिति आने ही नही दूंगी जिससे मैं किसी भी प्रकार के यौन शोषण का शिकार बनूँ ।" *("No, I do not think my fear of rape/sexual assault makes me more fearful. I was basically forced to have sex with someone and now I know that I won't let that happen again, forced to drink or not. I am not afraid of any type of crime.")*
"मैं पहले बलात्कार की शिकार हो चुकी हूँ इसलिए अब मैं किसी भी प्रकार की अनाधिकृत पार्टी में जाती ही नही ।" *("I have been the victim of rape in the past and because of that I don't go to unauthorized parties.")*

Women's vulnerability and fear: Another theme that has been offered to explain why women are so much more fearful of the crime than men is based on the typical size differences between men and women, and the problem with a woman to defend herself against a, presumably larger, man. The status difference is evident in the roles women play as a victim. Women are unable to defend themselves against bigger, stronger men who are trying to hurt them. For example, women stated:

"लड़कों की तुलना में कमजोर होना ही मेरे अन्दर डर पैदा करता है क्योंकि हमला होने की स्थिति में मैं खुद को बचा नही सकती ।"

("Most men are bigger than me so there is no way I could defend myself against a man who is attacking me. This makes me afraid of crime because men commit the most crimes.")

Interestingly, however, some women stated that they were not fearful of crime because they were prepared to defend themselves in an adverse condition. Some women wrote that because they had been the victim of rape or sexual assault in the past, they felt prepared to defend themselves and took precautions so that they would not be in vulnerable situations. As such, they felt that they were not fearful of crime because they felt that they would never again allow themselves to be victimised. This is an interesting outlook, as it goes against research that has suggested the prior victimisation leads to future victimisation (Daigle, Fisher, & Cullen, 2008; Lauritsen & Davis-Quinet, 1995).

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"मुझे किसी भी प्रकार के यौन शोषण का डर नही लगता क्योंकि मुझे पता है की इस तरह की विपरीत स्थिति में खुद को कैसे बचाना है । मैं अपने भाईयों के साथ पली-बढ़ी हूँ और मुझे पता है की अगर कोई मुझे छूने की भी कोशिश करता है तो उसे पछताना पड़ेगा ।"

("I don't think it makes me more afraid because I feel I know how to handle myself in a situation like that. I grew up with brothers, and if people try to mess with me, I'm pretty sure they'd regret it.")

Finally, some women stated that they were afraid of crime in general simply because they were a woman or had been taught to be fearful.

"मेरे माँ-बाप ने हमेशा मुझे खुद को बचा कर रखने के लिए बोला है क्योंकि मैं एक लड़की हूँ और कोई भी मुझे अपने हवस का शिकार बना सकता है इसलिए मैं डरती हूँ। लड़की होने के कारण मुझे हमेशा यही लगता है की मेरे साथ कुछ गलत कभी भी हो सकता है ।"

("My parents always told me to protect myself and be afraid of being hurt by someone, so I am more afraid because of what they taught me. Because I'm a woman, I always think that something bad could happen to me.")

The responses indicate that women vary greatly on what makes them fearful or why they are fearful. The responses further suggest that it is not correct to assume that all women are fearful of crime, as some specifically stated that they were not afraid for various reasons. Overall the result presented here seems to generate more questions than they answer. It is evident from the findings that this explanation is one of many that articulate why women are fearful of crime. Perhaps there is not one single explanation that can adequately explain women's fear; it might be that it is a combination of different explanations that describe the sources of women's fear, and it is inappropriate to try to isolate one particular cause. Future research should continue to explore these explanations, using both quantitative and qualitative research methods. The ability for women to provide answers to open-ended questions in their own words provided a rich source of data that quantitative analysis would not necessarily have been able to capture.

CONCLUSION

The preceding discussion attempts to unravel the inter-linkages between space, gender, and fear of crime. Female body and sexuality create a different cognitive understanding of space. Fear of crime shapes women's access to and mobility in public spaces in Varanasi city. The results suggest that there is not a straightforward explanation for why women are afraid of crime. Preferably, the explanations seem to vary. Future research should continue to explore the complex phenomenon of fear of crime, particularly among women; once it becomes clearer why women are fearful of crime, these causes can be addressed, to mitigate the women's fear and provide them with accurate information about their risk of victimisation. Although the current research has expanded our knowledge of fear of crime, particularly among women, by asking them to describe this fear in their own words, it is not without its limitations. If women are having accurate information about their actual risk of victimisation, their fear of being victimised might be more in line with their actual risk of victimisation and they will not be so consumed with fear.

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- **Multiple author journal article:**

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S. Neelamegham," Marketing in India, Cases and Reading, Vikas Publishing House Pvt. Ltd, III Edition, 2000.

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Raine, A. (Ed.). (2006). *Crime and schizophrenia: Causes and cures.* New York: Nova Science.

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