

## A STUDY ON THE SOCIO-ECONOMIC STATUS OF FARMERS IN THANJAVUR DISTRICT

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### ABSTRACT

*Government schemes to improve the standard of living of the citizens has had an impact on the socio-economic status of the farmers. Increase in the industrial and service sector activities has changed the demand for employment in the urban and semi-urban areas. agricultural sector and agro based industries have received a setback due to lack of labour forces. This study tries to understand the socio-economic status of the farmers post privatization policy of the government of India two decades ago.*

**Keywords:** Farmers, social status, health care, education, job, lifestyle.

### Introduction

With the concept of Liberalization-Privatization-Globalization (LPG) policy of the government, quarter of a century ago, agricultural activities have taken a setback. India once a predominately a nation dependent mainly on farming, has started showing a downswing towards it. The free market policy has enabled people to find easy jobs, thus abandoning agricultural activities- which are primarily dependent on monsoon.

With this as the background, a study was undertaken to assess the socio economic status of farmers living in the rain bowl of Tamil Nadu- Thanjavur. Fondly known as the Delta region, a large amount of fertile land is available in this region and has been cultivating and supply rice all over India. The world famous Rice institute is too set up here. Today the agricultural activities have received such a pathetic setback the even the Rice Institute is struggling for existence, along with the closure of many sugar mill and rice mills.

The downfall of agricultural can also be attributed to the growth of education, availability of semi-skilled overseas jobs and demand for land real estate. A decade ago many of the farmers opted for the easy way of income generating, failing to look at the long term impact. Added to this the unstable political scenario and failure of monsoon change the socio economic condition of the farmers.

### Review of Literature

Socioeconomic status (SES) is a composite measure of an individual's economic and sociological standing. It is a complex assessment measured in a variety of ways that account for a person's work experience and economic and social position in relation to others, based on income, education, and occupation. Socioeconomic status has been a powerful determinant of health; as a general rule, wealthy people tend to be in better health than people of poorer status (Erreygers, 2013) Surabhi Mittal, Mamta Mehar (2016) claims that providing of basic amenities such as Information plays a key role in a farmer's life by enhancing their knowledge and strengthening their decision making ability. Farmers use multiple sources of information as no one source is sufficient in itself. This is feasible by the new generation farmers due to their education and hygienic living conditions.

### Research Methodology

#### Objective of the study:

- To analyse the perception of the farmers on the changes in the basic facilities and services provided by the government
- To analyse the association between the economical development and the socio economic status of farmers

**Research design**

This study addresses the socio economic status of the delta region farmers of Tamil Nadu. A quantitative analysis was carried out by collecting primary data through a well-structured schedule.

**Sample Size**

A pilot study was carried out among 50 farmers living in Thanjavur district

**Tools used**

**Data Analysis and Interpretation**

Likert Scaling, Frequency distribution

**Scope of the Study**

The study tries to analyse the impact of Liberalization-Privatization-Globalization policy on the socio economic status of farmers.

**Limitation of the study**

The farmers’ answers were influenced by the response of the panchayat leaders. Time also was a limited constrain for the researcher.

**Table 1**

Table showing the Standard of Living index of income, expenditure and savings						
Income	Rs ('000)	<10k	10k-20k	20k-30k	>30k	Total
	Response	12	15	11	12	50
	%	24	30	22	24	100
Expenditure	Rs ('000)	<5k	5k-10k	10k-15k	>15	
	Response	9	15	23	3	50
	%	18	30	46	6	100
Savings	Rs ('000)	<2.5k	2.5k -5k	5k-7.5k	7.5k-10k	
	Response	36	11	0	3	50
	%	72	22	0	6	100

Interpretation: Table 1 analysis the standard of living based on the income earned, expenditures incurred and the savings of the farmers. The findings are

- i. Income- 30% of the respondents income per month is between Rs.10,000/- to Rs.20,000/-, 24% of the respondents each earn less than Rs.10,000/- and more than Rs.30,000/- respectively and 20% of the respondents earn an income of between Rs.20,000/- to Rs.30,000/-
- ii. Expenditure- 46% of the respondents spend between Rs. 10,000/- to Rs.15,000/- per

month, 30% spend between Rs.5,000/- to Rs. 10,000/- , 18% spend less than Rs.5,000/- and 6% of the respondents spend more than Rs.15,000/- per month

iii. Savings- 72% of the respondents save less than Rs.2,500/- per month, 22% of them

save between Rs.2,500/- to Rs.5,000/-, 6% of the respondents save between Rs.7,500/- to Rs.10,000/-

**Table 2**

	Perception on the Socio Economic Status index of healthcare, education and employment	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Likert reading	Level of Significance	Inference
1	Easy accessibility to healthcare	35	12	3	0	0	232	4.64	Strongly Agree
2	Affordability of health facilities	16	12	10	9	3	179	3.58	Agree
3	Easy accessibility to education	34	13	3	0	0	231	4.62	Agree
4	Affordability of education	14	12	9	9	6	169	3.38	Neutral

5	Education improves family status	14	21	0	12	3	181	3.62	Agree
6	Education has provided good job	11	14	7	15	3	165	3.3	Neutral
7	Availability of jobs for all	11	21	0	12	3	166	3.32	Neutral
8	Standard of living has improved	14	21	0	12	3	181	3.62	Agree
9	Cost of modern lifestyle is affordable	0	6	3	35	6	109	2.18	Disagree

Interpretation: Table 2 shows that the respondents strongly agree that they have easy access to healthcare and also agree that they get affordable health facilities.

Regarding education the respondents agree that they have easy access to education, they were neutral regarding the affordability of education, they had agree that education improves family status and they are neutral with the thought that education has provided good job.

Regarding availability of jobs for all they neither agree nor disagree, they agree that their standard of living has improved and disagree that cost of modern lifestyle is affordable.

### Findings and Suggestions

The study reveals that the standard of living has improved with the intervention of government supports in providing basic necessities in the field of health care, education and health and hygiene. The political environment too support in providing better standard of living so as to earn more vote banks.

The study also reveals that although standard of living has improved, there seems to be no or very less improvement in the socio economic status of the farmers. In the past they depended on the wealthy land lords, now they are looking upon the politicians and bureaucrats to support in their day to day living.

Most of the respondents in this study are between the age group of 45 to 55 years, they have seen the transformation in the Indian

economical condition over that past 2 decades. Further their children are the first generation to be benefitted through the social development schemes of the government. Hence the new generation descendents of the farmers have grown up to be educated and healthy adults. Their lifestyle could bring about a change in the socio economic status of the farmers in the near future.

### Conclusion

Many positive signs are being seen in the field of agriculture. Few significant among them being the market demand for organic agricultural produce has made many people to invest in farming, hence the agricultural sector is reforming to have a professional outlook as in the western countries.

Also many first generation graduates of farmers after pursuing career in an industrial or service sector are reverting back to farming; hence they are too contributing in reviving the socio economic status of the rural area, with their lifestyle.

Finally technology has penetrated to every nook and corner of the earth, that it has shrunk the world into a global village, this factor too will elevate the status of the farmers soon.

With a paradigm shift expected in the socio economic status of the farmers in the near future, the government should provide the needed financial and agricultural support to the new generation farmers so as to sustain the agricultural sector.

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## INFLUENCE OF EMOTIONAL INTELLIGENCE AND LATERAL THINKING ON ACHIEVEMENT IN BIOLOGY OF XI STANDARD STUDENTS

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### ABSTRACT

*The present study aimed at finding out the influence of emotional intelligence and lateral thinking on achievement in Biology of XI standard students. The investigator employed the survey method. The study concluded that the high percentage level of emotional intelligence and lateral thinking on achievement in biology it possessed by only 23.8 %, 21.7% and 11.9% of students respectively. There is significant factor with positive loading of the dimensions and emotional intelligence and dimensions and lateral thinking and objectives on their achievement in Biology of XI standard students. The factor for the study has been identified as 'Emotive Thinking Attainment'.*

**Keywords:** Emotional Intelligence, Lateral Thinking, Achievement, Biology, Emotive thinking Attainment.

### Introduction

Emotional intelligence consists of two words Emotion and Intelligence. Emotion refers to intense feeling of human intelligence is basically based on mental ability of human to deal effectively with the environment. Emotional intelligence is the ability to sense and understand one's own emotions, to express and regulate them appropriately and to use them in the process of decision making. It includes the capacity to understand and feel for others, and so set up maintain quality relationships. Emotional intelligence refers to the ability to perceive, control and evaluate emotions. Some researchers suggest that emotional intelligence can be learned and strengthened, while others claim it an inborn characteristic. Emotional intelligence is the ability to recognize your emotions, understand what they are telling you, and realize how your emotions affect people around you. Emotional intelligence also involves your perception of others: when you understand how they feel, this allows you to manage relationships more effectively. There are five elements identified as the components of emotional intelligence: self-awareness, self-regulation, motivation, empathy and social skills that comprise the field of emotional intelligence.

Gardner (1983) had a major hand in resurrecting emotional intelligence theory in psychology. His influential model of multiple intelligence includes two types of personal intelligence, the interpersonal and intrapersonal intelligence. Lateral thinking is an important

life skill to succeed, overcoming the hurdles humps encountered on life-tread paths and educators are interested in imparting Lateral thinking skills among the students. Teachers can be transformed in their teaching and students can be transformed in their learning through continued, consistent use and application of Lateral thinking skills (Mimbs, 2005). Teaching Lateral thinking skills to students requires teachers themselves to be competent in using higher order thinking skills. Achievement Motivation has come to be regarded as one of the major domains of psychology and education. It constitutes an integral part of the scientific endeavour to interpret human and intra human behaviour. Achievement motivation has been referred to as the need for achievement (and abbreviated as n-Ach), a wish to do well. It refers to the behaviour of an individual who strives to accomplish something, to do his best, to excel others performance. This involves competition with a particular standard of excellence or performance. Achievement motivation is defined by Murray (1938) as a special motive to master, manipulate or organize physical objects, human beings or ideas, to do this as rapidly and independently as possible, to overcome obstacles and attain a high standard, to rival and surpass others, and to increase self-regard by successful exercise of talent.

### Need and Significance of the study

In today's digital age, emotional intelligence and lateral thinking skills are viewed as crucial

for students to cope with a rapidly changing world. If higher Secondary students/adolescents are to function effectively in this age of massive discontinuities and accelerating change, they must be equipped with lifelong learning, emotional intelligence and lateral thinking skills necessary to acquire and process information. The world is becoming more and more competitive. Quality of performance has become the key factor for personal progress. Parents' desire that their children climb the ladder of performance as high level as possible. This desire for a high level of achievement puts a lot of pressure on students, teachers, and schools and in general the education system itself. In fact, it appears as if the whole system of education revolves round the Academic achievement of students, though various other outcomes are also expected from the system. Thus, a lot of time and effort of the schools are used for helping students to achieve better in their scholastic endeavours. Numerous investigations have revealed that there is a positive relationship between higher level of emotional intelligence and excellent academic success among adolescent students. Emotional intelligence's abilities are considered four times more significant than IQ in deciding professional success and prestige. Emotional intelligence is a substantial predictor of performance in educational and other organizational settings (Goleman, 2003). Emotional skills, abilities, intelligence, and knowledge contribute to the enhancement of education, facilitation of students, instructors, faculty, and their professional development for the success of higher levels of accomplishment, career success, personal wellbeing, and leadership (Low,2004). Emotional intelligence incorporates the important aspects of interpersonal and intrapersonal relationships, adaptability, moods and stress management skills, which have a profound effect on the academic performance of students. Lateral thinking capability would correlate more closely with Emotion Intelligence, or highly emotionally intelligent people lateral thinking is a manner of solving problems using an indirect and creative approach via reasoning that is not immediately obvious. It involves ideas that may not be obtainable using only traditional step-by-step logic. Liberation from

old ideas and the stimulation of new ones are twin aspects of lateral thinking. Lateral Thinking is intended for use both at home and at school. At school, the emphasis has traditionally always been on vertical thinking which is effective but incomplete. This selective type of thinking needs to be supplemented with the generative qualities of creative thinking. Lateral Thinking is the process of using information to bring about creativity and insight restructuring. Lateral thinking can be learned, practiced and used. It is possible to acquire skill in it just as it is possible to acquire skill in school subjects.

Academic Achievement is viewed as one of the most significant conceptualizations within the domain of education that is intended to assess the accomplishment of the end goals of an individual's success as well as the productivity of an educational system in future. Emotional intelligence and lateral thinking assume a significant position within the realm of educational setting i.e., academic success, academic adaptation and psychological well-being of the students. They are significant determining factors of academic accomplishment in contemporary intensely stressful condition for students at each level of education. That is the importance of my study. that is, how far Emotional intelligence and lateral thinking are influencing academic achievement of higher secondary students.

The present study focuses on Emotional intelligence and lateral thinking of higher secondary students. This study is the best and the need of the hour to bring out the desirable change in the minds of the parents and students. Emotional intelligence and lateral thinking vary on the background dwelling in rural or urban, socio-economic status, educational status influence the academic aspect of higher secondary students. The present study is unique to explore how far Emotional intelligence and lateral thinking has its impact on the academic achievement of higher secondary students.

### **Statement of the problem**

To find out the Influence of Emotional Intelligence and Lateral Thinking on

## Achievement in Biology of XI Standard Students

### Objectives:

- To find out the Relationship between achievement in biology and emotional intelligence of XI Standard Students.
- To find out the Influence of lateral thinking and achievement in biology of XI Standard Students.
- To find out the Influence of emotional intelligence and lateral thinking on achievement in biology of XI Standard Students.
- To find out the Identifying a factor from the variables of emotional intelligence and lateral thinking on achievement in biology of XI Standard Students.

### Hypothesis:

- There is no significant relationship between Emotional Intelligence and Achievement in biology of XI standard students.
- There is no significant relationship between Lateral Thinking and Achievement in Biology of XI standard students.
- There is no significant influence of Emotional Intelligence and Lateral Thinking on Achievement in Biology of XI standard students.
- There is no significant factor with positive loading of the variables namely self-awareness, self-management, social awareness, relationship management and Emotional Intelligence, analogies, fractionation, generation of alternatives, brain storming, dominant ideas and Lateral Thinking on Achievement in Biology of XI standard students.

### Materials and Methods

In the present investigation, the normative survey research method was used. This methodology helps researcher to obtain general results about the sample. One of the main reasons employing survey methodology was that it would enable the researcher to go to the

field and to collect data on the topic in question from a small sample of the population in a short period. This paper deals with the design and procedure adopted for the study. It also describes the development of necessary tool for data collection. This paper presents the design procedure under following subheads

**Area of the study:** The area of the study consists of three Southern revenue districts of Tamil Nadu namely, Tirunelveli, Tuticorin, and Kanniyakumari.

**Population of the study:** The population for the present study includes all the higher secondary school students studying in government, aided and matriculation schools of the above-mentioned southern districts. According to government norms, there are three educational districts centred at Tirunelveli, Cheranmahadvi and Vallioor in Tirunelveli revenue district, two educational districts centred at Tuticorin and Kovilpatti in Tuticorin revenue district and three educational districts centred at Nagercoil, Kuzhithurai and Thakkalai in Kanyakumari revenue district. Then the investigator administered the student check list, developed by him to all the 1080 students, identified by head masters or principals.

**Sample:** The investigator had used stratified random sampling for selecting the sample. The investigator randomly selected sixteen schools from each district. From these schools, 765 students were selected by stratified random sampling technique.

**Research Tool & Test Construction:** The Standardised attitude scale was developed and standardized by the researcher was used for data collection for Indian academia.

**Statistics:** Suitable descriptive and inferential statistics was used for analysis of data.

### Results

The chapter deals with the analysis of data collected over 54 schools' students. The data is subjected to statistical analysis and discussed in different sub-headings related to the objectives of the study. The statistics gives a comprehensive picture of relation Emotional

Intelligences and Lateral thinking on Achievements in Biology of XI Standard Students.

**There is no significant relationship between self-awareness, self-management, social**

**awareness, relationship management and emotional intelligence and achievement in Biology of XI standard students.**

**Table 1**

Relationship between Self-Awareness, Self-Management, Social Awareness, Relationship Management and Emotional intelligence and Achievement in Biology of XI Standard Students

Variables	N	Df	Calculated 'γ' value	Remarks
Self-awareness and Achievement in Biology	765	763	0.011	NS
Self-management and Achievement in Biology	765	763	0.006	NS
Social awareness and Achievement in Biology	765	763	0.009	NS
Relationship management and Achievement in Biology	765	763	0.295	S
Emotional intelligence in total and Achievement in Biology	765	763	0.035	NS

*(The table value of 'γ' is 0.069, S - Significant, NS - Not Significant)*

It is inferred from the above table that the calculated 'γ' values (0.011, 0.006, 0.009, 0.035) are less than the table 'γ' value (0.069) at 0.05 level of significance. Hence the respective null sub hypothesis is accepted. Thus, the result shows that there is no significant positive correlation between self-awareness, self-management, social awareness, and emotional intelligence and their achievement in Biology

of XI standard students. But there is significant positive correlation between relationship management and achievement in Biology of XI standard students.

**There is no significant relationship between analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking and achievement in Biology of XI standard students.**

**Table 2**

Relationship between Analogies, Fractionation, Generation of Alternatives, Brain Storming, Dominant Ideas and Lateral thinking and their Achievement in Biology of XI Standard Students

Variables	N	Df	Calculated 'γ' value	Remarks
Analogies and Achievement in Biology	765	763	0.260	S
Fractionation and Achievement in Biology	765	763	0.435	S

Generation of Alternatives and Achievement in Biology	765	763	0.158	S
Brain Storming and Achievement in Biology	765	763	0.275	S
Dominant Ideas and Achievement in Biology	765	763	0.354	S
Lateral thinking and Achievement in Biology	765	763	0.395	S

*(The table value of ' $\gamma$ ' is 0.069, S – Significant)*

It is inferred from the above table that the calculated ' $\gamma$ ' values (0.260, 0.435, 0.158, 0.275, 0.354, 0.395) is greater than the table ' $\gamma$ ' value (0.069) at 0.05 level of significance. Hence the respective null sub hypothesis is rejected. Thus, the result shows that there is significant positive correlation between analogies, fractionation, generation of

alternatives, brain storming, dominant ideas and lateral thinking and their achievement in Biology of XI standard students

**There is no significant relationship between self-awareness, self-management, social awareness, relationship management and emotional intelligence and their lateral thinking of XI standard students.**

**Table 3**

Relationship between Self-Awareness, Self-Management, Social Awareness, Relationship Management and Emotional intelligence and their Lateral thinking of XI Standard Students

Variables	N	Df	Calculated ' $\gamma$ ' value	Remarks
Self-awareness and Lateral thinking	765	763	0.005	NS
Self-management and Lateral thinking	765	763	0.011	NS
Social awareness and Lateral thinking	765	763	0.030	NS
Relationship management and Lateral thinking	765	763	0.641	S
Emotional intelligence and Lateral thinking	765	763	0.074	S

*(The table value of ' $\gamma$ ' is 0.069, S - Significant, NS - Not Significant)*

It is inferred from the above table that the calculated ' $\gamma$ ' values (0.005, 0.011, 0.030) are less than the table ' $\gamma$ ' value (0.069) at 0.05 level of significance. Hence the respective null hypothesis is accepted. Thus, the result shows that there is no significant positive correlation

between self-awareness, self-management, social awareness and their lateral thinking of XI standard students. But there is significant positive correlation between relationship management and emotional intelligence and their lateral thinking of XI standard students.



Hence the respective null hypothesis is rejected.

**There is no significant factor with positive loading of the variables namely self-awareness, self-management, social awareness, relationship management and emotional intelligence, analogies,**

**fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking, knowledge, understanding, application, skills and their achievement in Biology of XI standard students.**

**Table 4**

Factor loading of Emotional Intelligence and Lateral Thinking on Achievement in Biology of XI Standard Students

Variables	Factor Loading	Nature of Variables
Self-awareness	.880	Very high presence
Self-management	.895	Very high presence
Social awareness	.883	Very high presence
Relationship management	.872	Very high presence
Emotional intelligence	.998	Extremely high presence
Analogies	.730	Very high presence
Fractionation	.727	Very high presence
Generation of alternatives,	.884	Extremely high presence
Brain Storming	.625	Considerable presence
Dominant ideas	.506	Extremely somewhat presence
Lateral thinking	.995	Extremely high presence
Knowledge	.779	Very high presence
Understanding	.784	Very high presence
Application	.802	Very high presence
Skills	.797	Very high presence
Achievement in Biology	.992	Extremely high presence

The factor analysis of the correlation matrix for Emotional intelligence, Lateral thinking and Achievement in Biology and it yields a single factor with considerable factor loading as given the above table; hence there is self-awareness, self-management, social awareness, relationship management and emotional intelligence, analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking ,

knowledge, understanding, application, skills and their achievement in Biology of XI standard students. The factor for the study has been identified as Emotive Thinking Attainment. The table (4) explains the graphical representation of factor loading of the Emotional intelligence and Lateral thinking on Achievement in Biology of XI Standard Students.

### Major findings of the study

- ❖ Significant positive correlation was found between relationship management and achievement in Biology of XI standard students. But no significant positive correlation was found between self-awareness, self-management, social awareness, and emotional intelligence and their achievement in Biology of XI standard students.
- ❖ Significant positive correlation was found between analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking and their achievement in Biology of XI standard students.
- ❖ Significant positive correlation was found between relationship management and emotional intelligence and their lateral thinking of XI standard students. But no significant positive correlation was found between self-awareness, self-management, social awareness and their lateral thinking of XI standard students.
- ❖ There is significant factor with positive loading of the self-awareness, self-management, social awareness, relationship management and emotional intelligence, analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking and knowledge, understanding, application, skills and their achievement in Biology of XI standard students.

### Implications of the study

In the light of the findings of the present study, the investigator offers the following recommendations.

- 1) School students should be given special orientation Programme on personality development and professional skills by the directorate of secondary education board.
- 2) Full time counsellor may be appointed by the government not only for the students but also to the teachers.
- 3) Government has to organize Yoga, meditation classes, picnics and co-curricular

activities can be made compulsory for high secondary school teachers to develop inter and intra emotional expressions.

- 4) Government may organize or encourage rural schools to organize emotional intelligence and lateral thinking awareness programs to create self-realization and it may lead to emotional health of students.
- 5) Guidance and counselling services may be organized for higher secondary school students so that they may know their emotional strength and weakness and manage their abilities effectively.
- 6) Separate recreational rooms may be established where the teachers may come together, speak and play that may pave way for developing their emotional intelligence and lateral thinking stability.
- 7) Students can read books on the life history of great emotional establishes. This would develop positive and value-based attitudes and it may yield emotional and lateral thinking awareness

### Conclusion

The present study aimed to find out the influence of emotional intelligence and lateral thinking on achievement in Biology of XI standard students. The present study is limited in XI standard students of higher secondary school in emotion intelligence and lateral thinking on achievement in biology.

The study concluded that the high percentage level of emotional intelligence, lateral thinking on achievement in biology of XI standard students it possessed by only 23.8 %, 21.7% and 11.9% of students respectively. The governments have to organize yoga and emotional intelligence management training Programme to the XI standard students every year.

Significant positive correlation was found between relationship management and achievement in Biology of XI standard students. This may be due to the fact that they may develop a good inter-personal relationship with other participants. They can develop skills like self-control, adaptability and optimism. This may be aware of their strength, weakness

and emotions and to understand and others and to manage various challenging situations.

Significant positive correlation was found between analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking and their achievement in Biology of XI standard students. This may be due to the fact that they may learn how to share their ideas and compile the ideas for solving their problems. They may learn lot of practical solutions from their parent's job. Their parent's may guide their child for solving their problem in different way. From their parent's job-oriented skills, they may gain and can apply in their day-to-day life. They may get the chance to discuss with their parents for making creative ideas or solving the problems.

Significant positive correlation was found between relationship management and emotional intelligence and their lateral thinking of XI standard students.

This may be due to the fact that they may get the chance to interact with their classmates, teachers and parent. At the time of interaction, they can get mutual relationship management and emotional intelligence for developing their lateral thinking which influence on achievement.

There is significant factor with positive loading of the self-awareness, self-management, social awareness, relationship management and emotional intelligence, analogies, fractionation, generation of alternatives, brain storming, dominant ideas and lateral thinking and knowledge, understanding, application, skills and their achievement in Biology of XI standard students. The factor for the study has been identified as 'Emotive Thinking Attainment'. The table (4) explains the graphical representation of factor loading of the Emotional intelligence, Lateral thinking and Achievement in Biology of XI standard Students.

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## EFFECTIVENESS OF INTERACTIVE MULTIMEDIA PACKAGE IN MATHEMATICS ON PROBLEM SOLVING ABILITY OF HIGHER SECONDARY STUDENTS

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### ABSTRACT

*The present study aims to investigate the effectiveness of an interactive multimedia package in mathematics on the problem solving ability of higher secondary students. Using random sampling technique 60 students, from the higher secondary level. The investigator has used the experimental method for this study. The study is quasi-experimental wherein a pretest-posttest non-equivalent groups design was employed. The pretest-posttest non-equivalent groups design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes, which may be similar. The data collected is subjected to statistical analysis, namely, mean, standard deviation, Independent pair 's' test and effect size'. There is a significant difference between the control and experimental group higher secondary students in their post-test scores of problem ability in mathematics. The calculated 't' value (t=16.99) is greater than the critical values of 2.423 at 0.01 level of significance with df =58. The experimental group (23.07) greater than the control groups in their problem solving ability. There is a significant Effect size difference between the control group and experiment group higher secondary students in their posts of problem solving ability. The mean of the control group in the post-test is 15.83 and the experimental group is 22.97. The effect size is found to be 4.84 which represents the large effect. Hence, Experimental group performance is better than a control group..*

**Keywords:** Interactive Multimedia, Problem Ability, and Higher secondary students.

### Introduction

Today's world is a rapidly changing world and change can be seen in all directions but the pace of change, however, has not been the same in all parts of the globe while the scientific and technological revolution accelerated the pace of change in making the efforts to change their traditional pattern of life-style to adjust to the demands of modern living. The use of sensory aids has a strong psychological and scientific base in the teaching-learning process. Science is no doubt full of facts, concepts and principles but its teaching is not just giving out information about them to students. The ultimate purpose of science teaching is to educate pupils and make science a part of their life activity. This can be achieved by providing science education based on the needs, interest and abilities of the learners. For this science teachers should plan and formulate an effective teaching programme based on the basic principles of good teaching. The President of India Dr. Abdul Kalam, a great scientist attributes that poverty still rampant in the nation is due to "lack of hard work and innovative spirit... Only a nation with

a spirit to think can progress. A nation with an idle mind will fall into destruction"

### Multimedia Contribution to Instructional Strategies

Media is a potentially effective instrument for the improvement of learning and teaching. Multimedia offers a variety of sensory experiences which stimulates self-activity on the part of pupils and make learning less verbalises by reinforcing the spoken or written words with concrete image. An image - both still and moving - contributes to the depth and variety of learning, and makes learning more lasting or permanent. They help the learning process by inventing images, for example models, graphs, etc, to abstract ideas and offering a new perspective, new ways of approach and providing the best resources with the latest development; demonstrating by example; condensing study time through animation and special techniques. capturing live events, condensing time and space and sowing dynamic change, taking viewers to close and showing simultaneous action for better comparison and comprehension, on split-screen.

### **Problem Solving Ability**

According to Albert Einstein, "If I had 60 minutes to solve a problem, I'd spend 55 minutes defining it, and 5 minutes solving it." Problem solving has been observed as one of the principal causes of scholastic failure in areas of science such as mathematics, chemistry and physics (Perez & Terragosa, 1983). Problem solving ability is a complex cognitive ability that characterizes a human activity requiring intelligence. Problem solving is the frame-work or pattern within which creative thinking and reasoning take place. From childhood, we actively solve problems that are presented to us by the world. By solving problems, we acquire information about objects, events, people, ourselves and store it in our memory. This memory helps us to solve further problems in our daily life at school, workplace, playground etc. Every person has a problem solving ability which is used to find out the solution to problems. The term 'problem solving ability' refers to the self-initiated cognitive behavioural process by which a person attempts to identify, discover or invent effective or adaptive strategies for coping with problems in everyday living

### **Significance of the Study**

Multimedia learning experiences represent a natural way for learning to take place. Learning pace can be accelerated by involving a maximum number of senses. Sensory experience forms the foundation of intellectual activity within any formal school situation. Learners differ in the effectiveness of their sense of reception. Multimedia learning is experiences consume more advantage and attractive to the specific individual learners' own pace, curiosity and eagerness. Besides, cognition and conceptualization depend on a chain of events that begin with the learners, perception of the stimulus, be it auditory, visual, tactile and olfactory. These initial learning experiences must be accurately dependable and understandable. Unless the learners' initial sensory impressions are accurate, it will be impossible for them to have a reliable conceptualization and understanding. With the existing numerous kinds of aids, carefully organized presentation of information through a variety of media should occupy the

learning conscious attention to living stimuli. The activities during a class session should be varied to prevent boredom, as well as to achieve the set of objectives. The teachers must make the pupils look, listen and think to attain maximum learning, interest should be created and learning should be speeded up. Teachers can make sure of the above outcomes by making use of the right type of multimedia to the maximum extent at right time in the right way. The education in science, which they get at the school stage is quite inadequate to teach elementary science as a teacher in the modern context. NCF-2005 points out that the aim of learning mathematics is not merely being able to develop abilities in the child that would improve her/his relationship with the world. It recommends that mathematics needs to move slowly towards abstraction even though it starts with concrete experiences and models. Problem-solving is considered as the heart of mathematics learning because the skill is not only for learning the subject, but it emphasizes developing skill in thinking as well. Students can apply their knowledge and problem-solving skills to be useful in daily life since the processes of solving mathematical problem are similar to general problem-solving. It has been decided to study the relation of problem-solving ability to mathematical achievement by selecting it as one of the variables in the present study. The investigator being the teacher educator was interested to know and to find out the reason for the reduction of the difficulty. As the investigator felt that using multimedia may reduce the difficulty in knowing some of the concepts of Mathematics and hence, an attempt was made to know to what extent this was effective in teaching Mathematics among the higher secondary students. Hence the study was undertaken by the researcher.

### **Objectives**

1. To find out the significant difference between the control and experimental group of higher secondary students in their pre-test scores of problem solving ability in mathematics.
2. To find out the significant difference between the control and experimental group of higher secondary students in

their post-test scores of problem solving ability in mathematics.

3. To find out the significant Effect size difference between the control group and the experiment group of higher secondary students in their problem solving ability in mathematics.

### Hypothesis

1. There is no significant difference between the control and experimental group higher secondary students in their pre-test scores of problem solving ability in mathematics.
2. There is no significant difference between the control and experimental group higher secondary students in their post-test scores of problem solving ability in mathematics.
3. There is no significant Effect size difference between the control group and the experiment group higher secondary students in their problem solving ability in mathematics.

### Review of related literature

Smitha Baboo & Vasimalairaja, M (2017) impact of playing and watching videogames on classroom attention, problem-solving and pro-social behaviour of school children. There is a difference in the classroom attention, problem-solving and pro-social behaviour of students while playing the videogame than watching and boys show a more significant difference than girls in problem-solving and vice versa for the pro-social behaviour. Smitha Baboo & Vasimalairaja, M (2017) the playing and watching video games – impact on the problem solving and pro-social Behaviour of middle school students. Playing and watching video games have a positive impact on the problem solving and pro-social Behaviour of middle school students.

Darma (2017) studied improving mathematical problem solving ability through problem-based learning and authentic assessment of the students of Bali State Polytechnic. The research was conducted in Bali State Polytechnic, using the 2x2 experiment factorial design. The sample of this research was 110 students. The result of the analysis showed that the students facilitated with problem-based

learning and authentic assessment models got the highest average scores compared to the other students, both in concept understanding and mathematical problem solving. The result of the hypothesis test showed significantly: 1) there was a difference of mathematical problem solving ability between the students facilitated with problem-based learning model and conventional learning model, 2) there was a difference of mathematical problem solving ability between the students facilitated with authentic assessment model and conventional assessment model, and 3) there was interactional effect between learning model and assessment model on mathematical problem solving. To improve the effectiveness of mathematics learning, a collaboration between the problem-based learning model and authentic assessment model can be considered as one of the learning models in the class.

Smitha Baboo & Vasimalairaja, M (2017) Differential effects of playing and watching videogames on the problem solving and pro-social behaviour of middle school students. There is a difference in problem-solving and pro-social behaviour while playing the videogame than while watching and boys show a more significant difference than girls in problem-solving and vice versa for the pro-social behaviour. Vasimalairaja, M (2018) Effectiveness of videogames on classroom attention and problem solving of middle school students. This shows that videogame playing is also an effective tool, with its interactive and decision affecting nature it encourages problem solving skills among the students. Vasimalairaja, M. (2018). The effectiveness of video games on classroom attention and problem solving of middle school students. There are positive effects of video games on classroom attention and problem-solving.

According to Cynthia Gnanamalar, S. & Vasimalairaja, M (2019) relationship between lateral thinking and problem solving ability of the higher secondary school teachers. There was a significant relationship between the lateral thinking and problem solving ability of higher secondary school teachers. Praveen Kumar, G. & Vasimalairaja, M (2020) Influence of Educational Video game to enhance problem solving ability and achievement on the mathematics of upper

primary school students. There is a positive influence of educational video game is better than the face to face method to enhance the problem solving ability of the students.

**Research Design of the Study**

The investigator has used the experimental method for this study. The study is quasi-experimental wherein a pretest-posttest non-equivalent groups design was employed. The pretest-posttest non-equivalent groups design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes, which may be similar. The study adopted a pretest-posttest non-equivalent groups design. Pre-tests on Problem Ability (Achievement in Mathematics) were administered to both the experimental and control group. Then, the experimental group was taught using the Interactive Multimedia package, whereas the control group was taught by the regular teacher using the conventional teaching method. Then post-tests were administered to both the groups.

**Population**

The population for the present study has been defined as higher secondary students. In the

present experiment, the students of standard XI studying Mathematics as one of the subjects in English medium in State Board syllabus in Madurai district formed the population.

**Sample**

In any educational study, it is desirable to select a sample in such a way that the research worker is assured that certain subgroup in a population or represented in the sample in proportion to their number in the population itself. Such samples are usually referred to as a representative sample. The sample for the present study consists of 60 higher secondary students studying in Ponmani Matric Her Secondary School, Usilampatti, Madurai district, Tamil Nadu. The present study focused on a sample of 60 in two groups, namely, Conventional or Traditional and experimental group. The investigator adopted the purposive sampling technique to select the respondents.

**Null Hypothesis: 01**

There is no significant difference between the control and experimental group of higher secondary students in their pre-test scores of problem solving ability in mathematics.

**Table: 1 significant difference between the control and experimental group of higher secondary students in their pre-test scores of problem solving ability in mathematics**

Group	Number	Mean	SD	't' value	df	Remarks at 1% level
Control Group (Pre-test)	30	8.56	0.85	0.31	58	Not significant
Experimental Group (Pre-test)	30	8.63	0.80			

(At the 0.01 level of significance the table value of 't' is 2.423)

The above table: 1 shows that the control and experimental group mean scores value are 8.57 and 8.63 respectively with a standard deviation of 0.85 and 0.80. The calculated 't' value (t=0.31) is lesser than the critical values of 2.423 at 0.01 level of significance with df =58. Hence, the null hypothesis is "There is no significant difference between the control and

experimental group higher secondary students in their pre-test scores of problem ability in mathematics" is accepted and concluded.

**Null Hypothesis: 02**

There is no significant difference between the control and experimental group of higher secondary students in their post-test of problem solving ability in mathematics.



**Table: 2 significant difference between the control and experimental group of higher secondary students in their Post-test of problem solving ability in mathematics.**

Group	Number	Mean	SD	't' value	df	Remarks at 1% level
Control Group (Post-test)	30	16.57	1.59	16.99	58	significant
Experimental Group (Post-test)	30	23.07	1.36			

(At the 0.01 level of significance the table value of 't' is 2.423)

The above table: 2 shows that the control and experimental group mean scores value are 16.57 and 23.07 respectively with a standard deviation of 1.59 and 1.36. The calculated' value (t=16.99) is greater than the critical values of 2.423 at 0.01 level of significance with df =58. Hence, the null hypothesis is "There is no significant difference between the control and experimental group higher secondary students in their post-test scores of

problem ability in mathematics" is rejected. Therefore, interactive was found effective during an intervention.

**Null Hypothesis: 03**

There is no significant Effect size difference between the post-test of a control group and the experiment group of higher secondary students in their problem solving ability in mathematics.

**Table: 2 Effect size between Control and Experimental group mean scores of post-tests**

Test	Group	Mean	SD	Effect size (d)	Effect
Problem Solving Ability	Control Group of Post-test	15.83	1.46	4.84	Large Effect
	Experimental Group of Post-test	22.97	1.49		

The close perusal of the above table: 2 reveals that the mean of the control group in post-test is 15.83 and the experimental group is 22.97. The effect size is found to be 4.84 which represents the large effect. Hence, Experimental group performance is better than a control group.

**Finding**

1. There is no significant difference between the control and experimental group of higher secondary students in their pre-test scores of problem solving ability in mathematics. The control and experimental group mean scores value are 8.57 and 8.63 respectively with a standard deviation of 0.85 and 0.80. The calculated' value (t=0.31) is lesser than the critical values in their problem solving ability in mathematics.
2. There is a significant difference between the control and experimental group of higher secondary students in their post-test scores of problem solving ability in mathematics. The calculated' value (t=16.99) is greater than the critical values of 2.423 at 0.01 level of significance with df =58. The experimental group (23.07) greater than the control groups in their problem solving ability in mathematics.
3. There is a significant Effect size difference between the post-test of a control group and experiment group of higher secondary students in their problem solving ability in mathematics. The mean of the control group in the post-test is 15.83 and the experimental group is 22.97. The effect size is found to be 4.84 which represents the large effect. Hence, Experimental

group performance is better than a control group.

### Discussion and interpretation

The finding of the present study reveals that there is no significant difference between the control and experimental group higher secondary students in their pre-test scores of problem ability in mathematics. . Therefore, interactive multimedia was found effective during the intervention. Students found step-by-step clarifications and the ability to control their learning to be more helpful features of the interactive multimedia package. Shifting content to out-of-class video viewing frees up in-class time for tasks that promote learning at the higher levels of Bloom's taxonomy. The finding is supported by the finding of Richards-Babb, Michelle (2014) Zheng, A author of Robert; Zhou, Bei (2006) conclude that the synchronized interactive multimedia group outperformed their counterparts in the unsynchronized interactive multimedia group in terms of response time and test scores. The finding is supported by the finding of Hwang, Wu-Yuin (2007) found that student multiple representation skills are the keys to successful mathematical problem solving. Students with high elaboration ability can take better advantage of peer interactions and teacher guidance to generate more diversified ideas and solutions in mathematical problem solving. The finding is supported by the finding of Darma (2017). The study suggests

that teachers could design mathematical problem solving activities supported by a multimedia whiteboard system to improve student multiple representation skills. . Thus it is understood that the achievement of the students could be enhanced by teaching with the help of an interactive multimedia package. The finding of the present study there is no significant Effect size difference between the control group and experiment group higher secondary students in their posts of problem solving ability. Hence, Hence, Experimental group performance is better than a control group. It is concluded that the exposure of Technology-based strategies in the problem solving ability in Mathematics helps the experimental group to perform tremendously in their achievement. The finding is supported by the finding of Praveen Kumar, G., & Vasimalairaja, M. (2020) Thus, the experimental group who were taught using Technology-based teaching in their problem solving in Mathematics higher than a control group who were taught using conventional methods visualized. The finding is supported by the finding of Vasimalairaja, M. (2018). Attempting to solve very difficult problems before viewing animated solution videos can potentially lead to overconfidence, where students believe that they learned more from the solutions than they have learned. The finding is supported by the finding of Morphey, Jason W. (2020)

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## THE EFFECT OF EDUCATIONAL VIDEO GAMES ON THE MATHEMATICS ACHIEVEMENT OF MIDDLE SCHOOL STUDENTS

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### ABSTRACT

*Even though educational video games have attracted the attention of many educational experts as a means to increase students' learning, no consensus has been established on the impact of educational video games on student success. Furthermore, there is a scarcity of experimental research on the effects of educational video games on different types of learners. In response, this study looked at the impact of educational video games on middle school arithmetic success, with a particular focus on gender and linguistic minority groups. This study looked at students' post-test performance and retention in mathematics when they were taught using educational video games and traditional lecture methods. This study used a quasi-experimental design. Sri Meenakshi Sundareswarar Higher Secondary School in Karaikudi, Sivagangai District, southern Tamilnadu, provided the sample. 90 students took part in the survey (46 boys and 44 girls). The findings indicate that: i) there was a significant difference between experimental and control groups' post-test scores, and ii) there was a significant difference between experimental and control groups' retention test scores. According to the findings, educational video game learning enhances students' success and retention ability. As a result, the study concluded that this new mode of learning, which combines face-to-face and online delivery, may be effectively used in middle school mathematics to improve performance and retention.*

**Keywords:** Technology for education, Gaming for education, computer-based educational video games, cognitive learning.

### Introduction

Computer-assisted instruction (CAI) Programmes might substantially inspire, improve curiosity and control through interesting challenges, and promote children's imagination abilities under the recent effect of ICT [1]. However, the prevalence and popularity of digital media, such as computer-based video games, has accelerated its usage in education, and academics and game creators are examining how these digital games may affect children's cognitive development [2] [3] [4]. for example, Pillay [5], investigated how recreational computer games could affect children's later performance in instructional activities.

While some educators are enthusiastic about the potential for educational video games to improve players' learning skills [6] [7], others are more cautious, believing that educational video games promote violence, social isolation, aggressiveness, or negative images of women [8] [9]. In this view, educational video games have been seen as pure amusement. This is due to the fact that instructional video games are primarily intended for profit by corporations and video

game developers. In 2008, computer and console game software brought in a staggering \$ 21.33 billion, bringing the total gaming industry revenue to \$ 54 billion globally (Wikia 2008 [10]).

Until far, educational video games have mostly been created as action games. Other genres such as adventure, strategy, simulations, role-playing, riddles, or sports might be included in educational video games. The way the players are engaged in a rich interactive digital environment is an important asset of smart game design. Through this immersion, educational video games allow users to experience the almost real-life experience of piloting a jet fighter (Jetfighter IV) or being transported to the past to plan and plot a war strategy (Call of Duty, Commandos, Modern Warfare); raising a family (The Sims); saving humanity in a post-apocalyptic era (Resident Evil), or role-playing (Final Fantasy). Despite the fact that the quantity of educational video game software is increasing, particularly in the simulation genre, there is still a huge vacuum in a study on how these games are played and influence learning. However, research has been done in favour of educational video games to

study how to include motivating features of educational video games into the instructional design [11] [12] [13].

Game and play have also been shown to be effective learning methods in the past [14] [15]. However, modern culture and educational discourse consider human learning as a non-fun process, since the public has associated knowledge acquisition with hard work. Play and enjoyment may and should be viewed as an important component of the learning process, in contrast to the prevalent idea that learning requires a lot of work and perseverance.

Even though Malaysia has conducted extensive research on educational video games, the country is still lagging behind other countries, with the majority of studies and research focusing on students' and teachers' perceptions and attitudes toward computer games in education and video games as a motivational tool for learning [16]. Studies on the efficacy of computer or video games in helping children learn particular subjects in school still have a large gap. As a result, the goal of this study is to see if a computer-based video game can help children acquire multiplication facts.

The study used a similar study done by Blunt to assess the efficacy of computer-based video games in children's acquisition of multiplication facts in Mathematics [17] to achieve this goal. Blunt's research aims to look into the link between video game use and learning among students at the university level. However, the goal of this study was to investigate if video games had an impact on children's learning.

The study used a similar study done by Blunt to assess the efficacy of computer-based video games in children's acquisition of multiplication facts in Mathematics [17] to achieve this goal. Blunt's research aims to look at the link between video game use and learning among university students. However, the goal of this study was to examine if video games have an impact on children's learning.

### Objectives of the Study

The research aims even though to determine the impact of educational video games on a

middle school student's mathematics achievement.

- To assess the significance of variations in post-test performance between students who studied mathematics using Educational Video Games (EVG) and those who learnt mathematics through the Traditional Learning Method (TLM).
- To examine the significance of differences in retention between students who learn mathematics using the EVG and those who study mathematics using the TLM.

### Research Questions

The study raised the following research questions:

- Is there any difference in the post-test performance of student's learned mathematics using the EVG and those learned to use the TLM?
- Is there a difference between the retention performance of students learned mathematics using the EVG and those learned to use the TLM?
- Is there a difference exists between gender regarding mathematics achievement after experimental treatments?
- Is there a difference exists between locality regarding mathematics achievement after experimental treatments?

### Research Hypotheses

Based on the above research questions, the following null hypotheses were formulated for the study:

**H<sub>1</sub>:** There is no significant difference in the post-test performance of students learned mathematics through the EVG and those learned with TLM.

**H<sub>2</sub>:** There is no significant difference in the retention performance of students learned mathematics through the EVG and those using the TLM.

**H<sub>3</sub>:** There is no significant difference exists between genders regarding post-test scores in mathematics after experimental treatments.

**H<sub>4</sub>:** There is no significant difference exists between localities regarding post-test scores in mathematics after experimental treatments.

### Significance of the study

The findings of the study might serve as a valuable road map for incorporating educational video games into middle school mathematics courses. The findings of this study will also aid students in improving their test preparation and changing their perceptions of mathematics through educational video games. This may also help to improve the learner's computer skills, which may help to alleviate their anxiety and lack of preparation. Furthermore, the findings of this study will assist educational administrators in developing, implementing, and evaluating an educational video game strategy to aims even improve the quality of the teaching-learning process.

### Research Methodology

To answer the research question a pre-test and post-test Quasi-experimental design were adopted for the present investigation.

### Sample

Using a purposive selection approach, the investigator selected a sample for the current research from Sri Meenakshi Sundareswarar Higher Secondary School in Karaikudi, Sivagangai District, southern Tamilnadu. A total of 90 samples (46 boys and 44 girls) from middle school were chosen as a homogenous group based on the percentage of marks obtained in their last test. Furthermore, using the basic random selection approach, these 90 students were separated into two groups: the control group 45 students (23 boys and 22 girls) and the experimental group 45 students (23 boys and 22 girls), each with 45 students. For the control group, the traditional method namely the lecture method was followed, whereas for the experimental group educational video games method was adopted.

### Study tools and Procedure for Implementation

To respond to the study questions and main objectives, the investigator selected the unit entitled 'Algebra', in the mathematics textbook for 8<sup>th</sup> standard. Further, the unit

content was analyzed and numerous learning objectives were recognized. After the identification of the unit, the investigator showed the related educational video games comprised of a content-based unit, various activities. Then the investigator developed a Mathematics Achievement Test (MAT) to measure the academic achievement level among 8th standard students, which consisted of 20 questions of multiple-choice questions and dichotomous questions. The Cronbach Alpha reliability of the Mathematics Achievement Test (MAT) was 0.88. The pre-test was given to both the control and experimental groups at the start of the experiment. For four weeks, the investigator gave EVG to the experimental group and TLM to the control group. The control and experimental groups both responded to the post-test after the treatment. A retention exam was conducted after a month of the experimentation period to assess the students' retention level.

### Study variables

Educational video games and traditional learning methods are the study's independent variables, and Academic Achievement is the study's dependent variable.

### Statistical Treatments

The Statistical Package for Social Sciences (SPSS) is used to evaluate the study data, and all objectives are tested at the 0.99 confidence interval. With the assumption of normally distributed data, parametric tests are used in the analyses. To determine the impact of the EVG on student performance and retention, the researcher used descriptive analysis (Mean & SD) and differential analysis (t' test). For comparison of independent variables, an independent sample t-test is used, whereas, for comparison of dependent variables, a paired-samples t-test is employed.

### Results

The significance of differences in the mean values of pre-test scores of the groups is assessed using the 't' test to determine the homogeneity of control and experimental groups. Table 1 shows the results (1)

**Table 1: Significance of differences between pre-test mean value scores of control and experimental group.**

Group	N	Mean	SD	Calculated 't' value	Remarks at 5% Level
Control	45	9.802	1.354	2.065	S
Experimental	45	10.16	1.347		

(At 5% level of significance of the table value of 't' is 1.96)

Table 1 shows at a glimpse that the difference between the control and experimental groups was insignificant as the mean score and standard deviation for the control group are 9.082 and 1.354 respectively while for the experimental group 10.16 and 1.347. The calculated value of the t-test is 2.065 which is not significant at the 0.01 level. The result reveals that there is no statistically significant difference between the mean values of students

of control and experimental groups in the pre-test. Thus, the homogeneity of the groups is well-established before treatment.

**Results on Hypotheses**

**H<sub>1</sub>:** There is no significant difference in the post-test performance of students learned mathematics through the EVG and those learned with TLM.

**Table 2: Significance of differences in post-test performance between the control and experimental groups.**

Group	N	Mean	SD	Calculated 't' value	Remarks at 5% Level
Control	45	10.16	1.307	0.965	NS
Experimental	45	9.40	1.378		

( At 5% level of significance of the table value of 't' is 1.96)

Table 2 shows that the difference between the control and experimental groups was significant as the mean score and standard deviation for the control group are 10.16 and 1.307 respectively while for the experimental group 9.40 and 1.378. The calculated t-test value is 0.965 which is statistically significant at the 0.01 level. Here, the null hypothesis is not rejected. This result indicates that there was a significant difference in the academic achievement of students learned mathematics

using EVG and those learned to use the TLM as reflected in the mean and SD. The use of EVG is more effective than TLM regarding student's performance in Mathematics academic achievement.

**H<sub>2</sub>:** There is no significant difference in the retention performance of students learned mathematics through the EVG and those using the TLM.

Table no (3) describes the analyses for testing this hypothesis,

**Table 3: Significance of the difference in retention-test performance between the control and experimental groups.**

Group	N	Mean	SD	Calculated 't' value	Remarks at 5% Level
Control	45	10.05	1.078	0.681	NS
Experimental	45	9.956	1.280		

( At 5% level of significance of the table value of ‘t’ is 1.96)

Table 3 shows that the difference between the control and experimental groups was significant as the mean score and standard deviation for the control group are 10.05 and 1.078 respectively while for the experimental group 9.956 and 1.280. The calculated t-test value is 0.681 which is a statistically significant difference in the retention scores of students learned mathematics using EVG and those learned using the TLM as reflected in the

mean and SD. Here, the null hypothesis is not rejected. The use of EVG is more effective than TLM in terms of the retention level of the students.

**H<sub>3</sub>:** There is no significant difference exists between genders in terms of post-test scores in mathematics after experimental treatments.

Table no (4) describes the analyses for testing this hypothesis,

**Table 4: Results of t-test at academic achievement level between Boys and Girls students of post-test scores attributed to gender variable (Experimental group).**

Group	N	Mean	SD	Calculated ‘t’ value	Remarks at 5% Level
Boys	46	9.604	1.562	3.327	S
Girls	44	10.18	1.260		

( At 5% level of significance of the table value of ‘t’ is 1.96)

Table (4), that the post-test mean value of boy’s students of the experimental group is 9.604 with a standard deviation of 1.562 and the post-test mean value of girl’s students is 10.18 with a standard deviation of 1.260. The calculated t-value of 3.327 is no statistically significant at (0.01) significance level. Hence the null hypothesis is rejected. This finding suggests that students, both boys and girls, use

current technological methods in similar ways as a result of the widespread availability of modern technological gadgets as a result of rapid scientific and technological advancement and ease of access.

**H<sub>4</sub>:** There is no significant difference exists between locality in terms of post-test scores in mathematics after experimental treatments.

Table no (5) describes the analyses for testing this hypothesis,

**Table 5: Results of t-test at academic achievement level between Rural and Urban students of post-test scores attributed to Locality variable (Experimental group).**

Group	N	Mean	SD	Calculated ‘t’ value	Remarks at 5% Level
Rural	46	53.33	12.89	2.194	S
Urban	44	56.88	12.25		

( At 5% level of significance of the table value of ‘t’ is 1.96)

It is evident from table (5), that the post-test mean value of rural students of the experimental group is 53.33 with a standard deviation of 12.89 and the post-test mean value of urban students is 56.88 with a standard deviation of 12.25. The calculated t-value of 2.194 is no statistically significant at (0.01) significance level. Hence the null hypothesis is rejected. Because of the availability of modern

technical gadgets as a result of massive scientific and technological growth and ease of access, this result might be read as students, whether rural or urban, are similar in their usage of modern technological methods.

**Research Findings**

In conclusion, the outcomes of this study show that using educational video games as a supplement to classroom learning has a



significant and positive impact on students' memory and knowledge of multiplication tables when compared to students who only follow traditional classroom instructions. In terms of the gender factor, while girl's students scored somewhat higher on average than boy's students, the difference was significant; in other words, gender is not a factor in the use of educational video games as a learning activity. Although it was interesting to discover that the mean score for rural students was higher than for urban students, the difference was not significant, suggesting that the effect of educational video games in this study is not dependent on learners' geographical status, at least for this study. However, it was interesting to see that mean scores among average students' significant different from those of below-average and above-average students. It might be interesting to do more study to learn more about the causes for this finding.

### Conclusion

The study will have an impact on the future curriculum of tomorrow's society to keep the country up to date with technological advancements in education and to keep the country on par with other developed countries that have increasingly embraced the concept of the digital game in their educational systems. Many aspects of our current educational situation have been altered by the technology revolution. Educational video games, m-learning, blended learning, virtual learning, gamification, and artificial intelligence have all revolutionized pedagogy in education. It is critical to evaluate the ground realities at the grassroots level before implementing these new techniques. As a result, the goal of this study was to see how educational video games impacted a middle school student's mathematics achievement. The findings revealed that students who learnt through educational video games scored higher in mathematics academic achievement than students who learned through traditional methods. It also showed that in educational video games, students' retention performance in mathematics was high. Furthermore, there

were no statistically significant differences in mathematics academic achievement between boys and girls in the experimental group. The findings encourage math teachers to use educational video games in the classroom since they have been shown to improve students' math achievement and retention.

### Recommendations

The following suggestions were made based on the study's results and conclusions:

- Providing continuing supervision for students while they play educational video games.
- School authorities should develop standards of quality care and procedures in the form of manuals to be available to all teachers in using computers and other digitalized materials.
- Quality experts with varied experiences should be assigned in schools to give guidance to teachers while the students use any digitized materials. Those experts should have well-defined responsibilities and experience.
- Parent teacher's meetings should include sessions in which awareness is given to the parents also about the educational video games.
- Appropriate strategies to deal with students should be given to the teachers and parents.
- The works of the teachers and students should be credited and appreciated by the head of the organization and teachers should acknowledge the students' interests. Their addressed needs should be fulfilled immediately.
- Educational video games are the best tool for controlling the motor activity of children. So, the school administration encourages the students to provide educational video games during their class hours.

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## COMPARATIVE STUDY OF STRESS BETWEEN BOYS & GIRLS HIGH SCHOOL STUDENTS

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### ABSTRACT

*Student is a worldwide marvel. Sound considering students will prompt Healthy politics and a solid vote based An attempt has been made to study the comparison of stress between boys and girls High School students of Bundelkhand area of Uttar Pradesh. For this purpose, 'Students' Stress Scale' by Dr. Taresh Bhatia & Arunima Pathak was administered on 350 boys and 350 girls high school students of Bundelkhand region selected through stratified random sampling technique. The mean, standard deviation and critical ratio were calculated. The results showed that the boys have significantly high stress than girl students at 0.01 level. The boys have significantly high financial, vocational stress and social stress than girl students. Although there is no significant difference of stress as academic, family and emotional stress between boys and girls high school students at 0.05 level.*

### Introduction

In secondary and tertiary education, students often experience a wide range of normative stressors, such as academic pressure and concerns about obtaining good grades.

In a survey conducted by the Organization for Economic Cooperation and Development, over half of the respondents stated that they were worried about their grades. Also, about 60% of them said that taking a test would be hard. Around 44% of students said they were very anxious about school testing, and these students reported being very tense when studying.

Student stress is a mental disorder that occurs when a person is not aware that he or she has failed. It can be triggered by various factors such as the stress due to the endless studying, the pressure to meet expectations, and the lack of time to do so. It can also contribute to the development of mental health problems and other physical health issues. It can also affect the academic performance of students.

School students have been shown to have a significant frequency of mental health disorders across the country. The Bundelkhand region of Uttar Pradesh has insufficient resources for mental health therapy, counselling, or alternative interventions to assist students in managing their stress levels.

With this background, an attempt has been made in this paper find out the significant difference of stress between boys & girls high school students.

Lee et al., (2013) described the sleep characteristics of female college students and investigate the relationships between perceived stress, sleep disruptions, depressive symptoms, and physical problems. During the academic year, the children were under a lot of stress. During the week, the majority of them slept for fewer than 6 hours and were somewhat fatigued. Sleep disruptions, shorter nocturnal total sleep time, greater tiredness intensity, and more depressive symptoms are all connected with high stress levels. Perceived stress and sleep disruptions are major determinants of depressed and physical symptoms. Poor sleepers reported higher daytime drowsiness, depressed symptoms, and physical complaints than excellent sleepers.

Sinha (2013) noted that adolescents may readily manage with academic stress by utilizing stress reduction strategies, managing work, and enlisting the assistance of friends and counsellors. Parents may also assist their children in overcoming academic stress by being supportive, paying attention to their children's needs, having reasonable

expectations, and teaching them how to overcome hurdles, among other things.

Jayanthi et.al (2014) observed that the major sources of academic stress among adolescents were parental and teacher expectations, with teenage females experiencing more academic stress than boys.

Suresh Prabu, (2015) found that the higher secondary pupils had a modest amount of academic stress, regardless of subgroups. Male students experience more academic stress than female pupils. Academic stress is higher among urban students than among rural students. Academic stress is lower among government school students than among private school students. Academic stress is greater for scientific students than for arts students. Academic stress is higher in students whose parents are literate than in their counterparts.

Razia (2016) observed that adolescents in private schools face higher academic stress than those in public schools.

### The Objective of the Study

To find out the significant difference of stress between boys & girls high school students.

### The Hypothesis of the Study

To find out the significant difference of stress between boys & girls high school students.

### Research Methodology

#### Sample

In the present study 350 boys and 350 girls high school of Bundelkhand area of Uttar Pradesh were selected through stratified random sampling technique.

#### Tool Used

Students Stress Scale by Dr. Tareh Bhatia and Arunima Pathak was used in the present study.

### Results and Discussion

An attempt has been made to study and compare the different areas of Stress between boys & girls High school students of Bundelkhand region. For this purpose, 'Students Stress Scale' by Dr. Tareh Bhatia & Arunima Pathak was administered on 350 boys and 350 girls High School student of Bundelkhand region. The table shows the Mean, Standard Deviation (S.D.) and Critical Ratio of stress between boy and girl students.

**Table:1 Showing comparison of different areas of Stress between boys & girls high school student-**

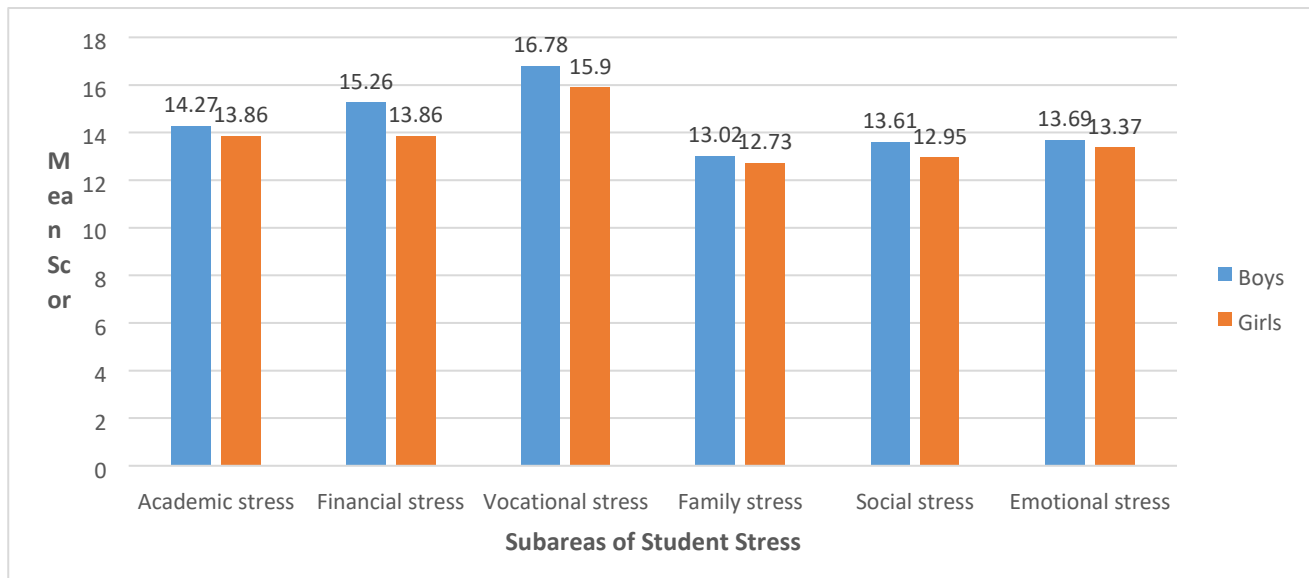
Different areas of Stress	Gender				Critical Ratio
	Boys (N=350 )		Girls (N=350 )		
Mean	SD	Mean	SD		
<b>A. Academic stress</b>	14.27	4.06	13.86	3.71	1.31
<b>B. Financial stress</b>	15.26	3.89	13.86	3.87	4.72**
<b>C. Vocational stress</b>	16.78	3.78	15.90	3.09	3.38**
<b>D. Family stress</b>	13.02	4.34	12.73	4.23	0.90
<b>E. Social stress</b>	13.61	3.94	12.95	3.75	2.27*
<b>F. Emotional stress</b>	13.69	4.16	13.37	3.68	1.07
<b>Total</b>	86.66	20.47	82.32	18.19	2.97**

Significant at \*0.05 -----1.96

\*\*0.01 -----2.58

Table 1 shows that boy students have high stress (mean 86.66) than girl students (mean 82.32). The boy students have high stress as Academic stress (mean 14.27), financial stress (mean 15.26), vocational stress (mean 16.78), Family stress (mean 13.02), social stress (mean 13.61) and Emotional stress (mean 13.69) while the girls high school students have relatively low stress as Academic stress (mean 13.86),

financial stress (mean 13.86), vocational stress (mean 15.9) and Family stress (mean 12.73), social stress (mean 12.95) and Emotional stress (mean 13.37). Bar Diagram also showing the different areas of stress between Boys & girls high school student (Fig. 01).



**Fig. 1 – Mean score of different subareas of Students Stress**

To see the significant difference of Stress between Boys & girls high school students, the critical ratio was calculated. The critical ratio value required to be significant at 0.01 level is 2.58 and 0.05 level is 1.96 with the degree of freedom 698. It may be revealed from table that there is a significant difference of Stress between Boys & girls high school student at 0.01 level. The obtained value of critical ratio found 2.97, which is significant at 0.01 level. But there is no significant difference of stress as Academic stress between of boys & girls high school students at 0.05 level. The obtained value of critical ratio found 1.31 which is not significant at 0.05 level.

The boy high school students have significantly high financial stress (critical ratio 4.72) than girls high school students at 0.01 level. The boy high school students have also significantly high vocational stress (critical

ratio 3.38) than girls high school students at 0.01 level. The boy high school students have significantly high social stress (critical ratio 2.27) than girls high school students at 0.05 level.

There is no significant difference of stress between Boys & girls high school students as Academic (critical ratio 1.31), family (critical ratio 0.90) and emotional stress (critical ratio 1.07) at 0.05 level. While there is a significant difference of stress between Boys & girls high school students as Financial (critical ratio 4.72), vocational (critical ratio 3.38) stress at 0.01 level. There is also significant difference of stress between Boys & girls high school students as social stress at 0.05 level, the obtained value of critical ratio found 2.27, which is significant at 0.05 level.

Thus, the null hypothesis “There is no significant difference of stress between Boys & girls high school students of Bundelkhand region.” is rejected. The Boys high school

students have significantly high financial and vocational stress than girls high school students at 0.01 level. The Boys high school students have significantly high social stress than girls high school students at 0.05 level. Although there is no significant difference of stress between boys & girls high school students as academic stress, family stress and emotional stress than girls high school students at 0.05 level.

### Conclusion

The present study reveals that the high school students are having moderate level of student stress. The boys's student's stress is higher than girl students. The boys also have financial, vocational and social stress significantly higher

than girl students. According to the study's findings, staying in touch with daily classes is a smart idea for high school students who are experiencing academic stress. Make an effort to attend and concentrate on lectures on a regular basis. Last-minute studying should be avoided, and remember that a normal seven-hour sleep cycle is required for the body to function properly. It is necessary to choose the optimum time and location for studying, which differs depending on the individual. Students are aware of the specific subjects that will be included in the examinations, and prior year's question papers should give you an indication of the exam format.

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## A STUDY OF PROBLEM-SOLVING ABILITY AND ACHIEVEMENT IN MATHEMATICS AMONG ELEVENTH STANDARD STUDENTS IN TIRUNELVELI DISTRICT

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### ABSTRACT

*The study aimed to find out the problem-solving ability and achievement in mathematics among eleventh-standard students in Tirunelveli District. The population for the present study consisted of 200 students (150 males and 50 females) from four government and four private schools conveniently selected schools of the Tirunelveli district at the higher secondary level. The investigator adopted the normative survey method for this study. It was found that there is a significant relationship between Problem solving ability and achievement in mathematics of XI standard students. The level of Problem-solving ability of female students is low and male students are high, and rural school students are either moderate or high; whereas the Problem-solving ability of urban school students is high. The level of achievement in mathematics for female students is low and male students is high, government school students are low and private school students are high and rural school student's achievement in mathematics is low, and urban school students are high.*

**Keywords:** *Problem-solving ability, achievement, achievement in mathematics, and eleventh-standard students.*

### Introduction

According to Kothari Commission (1964-66), "The destiny of India is now being shaped in the classrooms". It is the duty of the school to provide the student happy, challenging, self-confident, and Self-fulfilling life by solving their problems effectively. Problem-solving ability plays a very important role in human life. Achievement in mathematics and problem-solving ability of the students influences one's ability to succeed in coping with environmental demands and pressure.

### Need And Significance Of The Study

Discovering, analyzing, and solving problems are the mental process involved in the Problem-solving process. The ultimate goal of problem-solving is to overcome obstacles and find a solution that best resolves their issues. Individuals with high problem-solving ability know how to identify the problem, define the problem, forming a strategy, they will monitor the progress towards a solution and finally, they will evaluate the results of the problems that will result in successful output. Thus, the problem-solving ability allows the individuals

to see things differently and to do things in a different way: perhaps to make a fresh start and they approach the problems very interestingly and boldly. Always, they will be eager to face all the challenging problems in their life. Mathematics reveals hidden patterns in a numerical way that helps us to understand the world around us. Mathematics is called a tool subject it accesses the human behavior and the values of the objects. Achievement in mathematics makes the students think logically, and solve their problems effectively. Hence the investigator wants to study the problem-solving ability and achievement in mathematics among eleventh-standard students in the Tirunelveli district.

### Objectives Of The Study

1. To investigate the level of gender difference, type of school, and location of the school and Problem-solving ability of XI standard students.
2. To investigate the level of gender difference, type of school, and location of the school and achievement in mathematics of XI standard students.

3. There is no significant difference between rural and urban students in their Problem Solving ability of XI standard student
4. To find out the relationship between Problem-solving ability and their achievement in mathematics of XI Standard students.

### Hypotheses Of The Study

1. To investigate the level of gender difference, type of school, and location of the school, Problem-solving ability and their achievement in mathematics of XI standard students.
2. There is no significant difference between rural and urban students in their Problem Solving ability of XI standard student.
3. There is no significant relationship between Problem solving ability and their achievement in mathematics of XI standard students.

### Review Of Literature

Alexa Lamm, et.al (2012) conducted a study on that the influence of cognitive diversity on group problem-solving strategy.

The main aims of this study were to find out how arranging groups by problem-solving style influenced group problem-solving processes. Groups set up of members with heterogeneous or homogenous problem-solving styles were given a problem to solve as a class activity.

The investigator found the differences in how homogenous versus heterogeneous groups succeeded through the problem-solving process. How problem-solving style influences group dynamics, agricultural educators can be more proactive when assigning student workgroups, thereby enhancing student's abilities to work interdependently when creating successful solutions.

Meng-Jung, Tsai et. al (2012) conducted a study on the analyzed visual attention for solving multiple-choice science problems-An eye-tracking analysis.

The findings of this study revealed that successful problem solvers focused more on

relevant factors while unsuccessful problem solvers experienced difficulties in decoding the problem in recognizing the relevant factors and in self-regulating concentration.

Fan-Ray Kuo et. al (2012) conducted research on experimented with a hybrid approach to promoting student's web-based problem-solving competence and learning attitude.

The findings revealed that middle and low achievement students in the experimental group gained significant reviews of related literature and benefits from the hybrid approach in comparison with those who learned with the traditional approach.

### Method Of The Study

For assessing the Problem-solving ability of XI standard students about their achievement in mathematics, the investigator adopted the survey method for this study.

### Population And Sample

In the present study, the investigator selected the population as the 11th standard students are studying in the Tirunelveli district. The subjects consisted of 200 (150 males and 50 females) 11th standard students from four government and four private schools conveniently selected schools of the Tirunelveli district at the higher secondary level

### Tools For The Study

For analyzing the Problem-solving ability of the XI standard students, the investigator has prepared a draft tool containing 30 questions and for accessing the achievement in mathematics, the investigator has used the marks obtained by XI standard students in mathematics in the quarterly examination. The Problem-solving ability test was administered to 30 XI standard students randomly selected and after two weeks: the scale was administered to the same set of students. The test-retest reliability of the tool was found to be 0.71.

### Description Of The Research Tool

Problem Solving Ability scale for students has been constructed by the investigator. A lot of literature on Problem Solving Ability, tool



construction procedures were used for the construction of the tool. The Problem-Solving Ability scale was constructed after having discussions with teachers of schools and colleges, psychologists, and experts in the field of education. The tool was a Five-point rating scale based on Likert's type. The total number of statements is 30 and initially positive or negative statements were prepared in both Tamil and English.

The scoring procedure for positive statements on the tool is as follows: the option Strongly Agree is given 5; Agree is given 4; Undecided is given 3; Disagree is given 2, and Strongly Disagree is given 1. The minimum score for the tool is '30' and the maximum score of the tool is 150.

### Limitations Of The Study

1. This study is limited to higher secondary school students only
2. Only the Tirunelveli district of Tamil Nadu will be included in the sample.
3. Only higher school students from Government and Matriculation School are included in the sample

### Analysis Of The Data

To investigate the level of gender difference, type of school, and location of the school and Problem-solving ability of XI standard students.

**Table – 1 To investigate the level of gender difference, type of school, and location of the school and Problem-solving ability of XI standard students.**

		Low		Moderate		High	
		N	%	N	%	N	%
<b>Sex</b>	<b>Male</b>	<b>26</b>	<b>17.33</b>	<b>54</b>	<b>36.00</b>	<b>70</b>	<b>46.67</b>
	<b>Female</b>	<b>24</b>	<b>47.06</b>	<b>14</b>	<b>27.45</b>	<b>13</b>	<b>25.49</b>
<b>Types of School</b>	<b>Government</b>	<b>33</b>	<b>31.2</b>	<b>38</b>	<b>35.85</b>	<b>35</b>	<b>50.53</b>
	<b>Private</b>	<b>17</b>	<b>17.89</b>	<b>30</b>	<b>31.56</b>	<b>62</b>	<b>36.27</b>
<b>Location of school</b>	<b>Rural</b>	<b>47</b>	<b>27.49</b>	<b>62</b>	<b>36.26</b>	<b>62</b>	<b>36.26</b>
	<b>Urban</b>	<b>3</b>	<b>10.00</b>	<b>6</b>	<b>20.00</b>	<b>21</b>	<b>70.00</b>

From the above table, it is clear that the level of Problem-solving ability of female students is low and male students is high, and rural school students are either moderate or high; whereas the Problem-solving ability of urban school students is high.

To find the level of gender, Type of school, and location of the school achievement in mathematics of XI standard students

**Table-2 Level of Achievement in Mathematics in terms of gender, Types of School, and Location of School.**

	Male	Low		Moderate		High	
		N	%	N	%	N	%
Sex		35	23.33	50	33.33	35	15.69
	Female	32	62.75	11	21.57	8	43.33
Types of School	Government	48	45.28	31	29.25	27	25.47
	Private	19	20.00	30	31.58	46	48.42
Location of school	Rural	66	38.60	56	32.75	49	28.65
	Urban	1	3.33	5	16.67	24	80.00

From the above table, it is preferred that the level of achievement in mathematics for female students is low and male students is high, government school students are low and private school students is high, and rural school

student's achievement in mathematics is low, and urban school students are high. There is no significant difference between rural and urban students in their Problem Solving ability of XI standard students

**Table 3 Difference Between Urban And Rural Students In Their Problem Solving Ability**

Problem Solving Ability and its Dimensions	Rural (N= 480)		Urban (N = 520)		Calculated Value of 't'	Remarks At 5% level
	Mean	S.D	Mean	S.D		
Decision making	40.81	4.589	40.38	4.676	1.465	NS
Listening	31.48	3.920	31.47	3.684	0.058	NS
Reasoning	30.45	4.139	30.78	4.191	1.224	NS
Numerical	29.84	5.412	30.09	5.212	0.764	NS
Learning	31.31	4.052	31.48	3.785	0.704	NS
Problem solving	163.89	16.909	164.20	16.176	0.297	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table there is no significant difference between urban and rural students in their decision-making ability, listening ability, reasoning ability, numerical ability, learning ability and Problem-Solving ability.

There is no significant relationship between Problem solving ability and their achievement in mathematics of XI standard students.

**Table- 4 Relationship between Problem solving ability and achievement in mathematics of XI Standard Students**

Variables	N	Calculated 'R-Value	Table Value	Remark
Problem-Solving Ability Vs Achievement in Mathematics	200	0.536	0.138	Significant

Since the calculated 'r' value (0.536) is greater than the table value (0.138) for 199 degrees of freedom at a 5% level of significance, the null hypothesis is rejected.

and urban schools in achievement in Mathematic among the eleventh standard students at the 0.01 level of significance among the eleventh standard students at 0.01 level significance. This difference is in favor of, private schools and urban schools are superior to their counterparts.

**Findings Of The Study**

There is a mean significant relationship between Problem solving ability and achievement in mathematics among eleventh students.

There is mean a significant difference between male and female government and private schools. Rural and urban schools in Problem solving ability among the eleventh standard students at 0.01 level significance. This difference is in favor of male students, private schools and urban schools are superior to their counterparts.

There is mean a significant difference between government and private schools. Rural

**Conclusion**

It is concluded that the positive way of approaching, motivating teaching, and developing their attitude towards mathematics among students will improve their Problem-solving ability, and achievement in mathematics will also increase consequently. It is concluded that female students are lacking behind in their level of motivation and achievement, because of this reason their Problem-solving ability and achievement is low compared to boys.

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## INFLUENCE OF SOCIAL INTELLIGENCE ON THE ACADEMIC PERFORMANCE OF THE HIGHER SECONDARY STUDENTS IN TIRUVALLUR DISTRICT

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### ABSTRACT

*The aim of the study was found that the influence of social intelligence on the academic performance of the Higher Secondary Students in Tiruvallur district. The investigator adopted the descriptive survey method. The sample consisted of 300 XI standard students randomly selected from government and private higher secondary school levels in Tiruvallur District. A social intelligence test was administered to these selected students. Half-yearly examination scores have been taken as academic performance of students. In this study, the researcher has explained that social intelligence depends upon the factors such as social relationships and social understanding. These are the determinants of social intelligence. The findings of the study revealed that the mean score of Academic Performance, social relationship, and social understanding is above average. Students belonging to the private school scored more in social intelligence and academic performance compared to students belonging to a government school. Parent Education does not create a significant difference in social relationships. It has been found that Parent's Education creates a significant difference in social understanding. Social relationships and social understanding are significantly correlated with each other.*

**Keywords:** Social Intelligence- social relationship and social understanding, Academic Performance.

### Introduction

Education is to be the purposeful and systematic influence, exposed by the matured person upon the immature, through teaching, discipline, and overall development of Intellectual, physical, aesthetic, social, and moral power of the human being. Education helps the learners to acquire more knowledge in all subjects. Now the world is surviving on basis of human relationships, so the teachers should give more importance to teach about our society. Social intelligence test – constructed and validated by the investigator. It has 64 items to elicit information related to social relationships and social understanding.

### Social Intelligence

**Karl(2005)**, defined social Intelligence as the ability to get along with others, by wining to the interests and needs of others sometimes called social radar, an attitude of generosity and consideration, is a set of practical skills for interacting successfully with people in any setting . In this study, the researcher has also explained that social Intelligence depends upon a variety of factors. Social relationship and social understanding are the determinants of Social Intelligence. The social relationship is referring to the connections that exist between people who have recurring interactions that are

perceived by the participants to have personal meaning. In this study, social understanding means the skills that permit people to understand and infer our and others' mental states, such as intentions, desires, and emotions.

### Academic Performance

From Wikipedia Academic performance is to which a student, teacher, or institution has attained their short or long-term educational goals. In the present study, Academic performance means, the overall score obtained by the students in the half-yearly Examination.

### Objectives of the study

1. To find out the level of social relationship and social understanding and Academic performance
2. To find out whether there is any significant difference in the social relationship of higher secondary students in terms of gender, type of school, and parent's education.
3. To find out whether there is any significant difference in social understanding of higher secondary students in terms of gender, type of school, and parent's education.

4. To find out whether there is any significant difference in academic performance of higher secondary students in terms of gender, type of school, and parent education.
5. To find out the correlation between social relationship and social understanding, and Academic performance

**Null Hypothesis**

1. To find out whether there is any significant difference in the social relationship of higher secondary students in terms of gender, type of school, and parent's education.
2. To find out whether there is any significant difference in social understanding of higher secondary students in terms of gender, type of school, and parent's education.
3. To find out whether there is any significant difference in academic performance of higher secondary students in terms of gender, type of school, and parent's education.
4. To find out the correlation between social relationship, social understanding, and Academic performance

**Methodology**

For assessing the social Intelligence of XI standard students about their performance in subjects, the investigator adopted the descriptive survey method.

**Sampling**

**Table-1: Level of social relationship and social understanding and Academic performance**

Variables	N	Mean	S.D.
Social Relationship	300	58.70	11.45
Social Understanding	300	36.04	5.78
Academic Performance	300	65.38	16.21

Table- 1 shows the level of Social relationship and social understanding and Academic performance. It is known that the students have a high level of Social relationships as revealed by the mean value of 58.70. The table also

The sample consisted of 300 XI standard students randomly selected from government and private higher secondary school levels in Thiruvallur District. A social Intelligence test was administered to these selected students. Half-yearly examination scores have been taken as academic performance of students. The collected data were scrutinized with the help of scoring key and appropriate statistical techniques were applied to elicit the information.

**Tools Used**

Social Intelligence test – constructed and validated by the investigator. It has 64 items to elicit information related to social relationships and social understanding.

**Statistical Techniques used in the study**

After the collected and classified data, it has been analyzed by using appropriate statistical techniques through SPSS software. The following method of analysis has been applied in the study.

1. Descriptive analysis using Mean and Standard Deviation
2. Two-tailed 't' test
3. One-way Analysis of Variance.
4. Correlation analysis using Karl Pearson's Product moment method.

**Analysis and Interpretation of Data**

The descriptive data regarding the social relationship and social understanding was presented below.

shows that the students have a high- level of Social Understanding as revealed by the mean value of 36.04. The academic performance of the students has been found above average as revealed by the mean value of 65.38.

**Table-2: Result of 't' test the social relationship and social understanding and Academic performance based on Gender.**

S.No	Variable	Gender	N	Mean	SD	't' test	Sig (2-) at 1% level
1	Social Relationship	Male	146	59.82	11.21	1.66	0.097 (NS)
		Female	154	57.62	11.61		
2	Social Understanding	Male	146	35.73	6.15	0.885	0.377 (NS)
		Female	154	36.32	5.41		
3	Academic performance	Male	146	72.19	13.52	7.753	0.000 (S)
		Female	154	58.92	15.94		

Note. NS- Not Significant, S- Significant at 1% level.

Table- 2 shows that there is no significant difference in the social relationship and social understanding concerning their gender.

Whereas, there is a significant difference in the academic performance concerning their gender at a 1% level of significance.

**Table-3: Result of 't' test the social relationship and social understanding and Academic performance based on the type of school.**

S.No.	Variable	Type of school	N	Mean	SD	't' test	Sig (2-)
1	social relationship	Government	99	34.82	5.46	2.562	0.011** (S)
		Private	201	36.63	5.85		
2	social understanding	Government	99	53.76	53.76	5.480	0.000*** (S)
		Private	201	61.12	61.12		
3	Academic performance	Government	99	58.18	58.18	5.666	0.000*** (S)
		Private	201	68.92	68.92		

\*\*\*significant at 1% level, \*\* significant at 5% level

Table-3 shows the description for the variables such as social relationship and social understanding, and Academic Performance based on the type of school along with their mean, standard Deviations'' value, and level of significance. There is a significant difference in

the social relationship for their type of school at 1% level whereas there is a significant difference in the social understanding and Academic performance for their type of school at 5% level of significance.

**Table-4: Result of One way ANOVA based on parent's education**

Variables	Sources of variation	Sum of Square	Degrees of Freedom	Mean Square	F	Significant
Social relationship	Between the group	15.343	2	7.672		

	Within the group	9999.26	297	33.647	0.228	0.796 (NS)
	Total	10008.60	299			
<b>Social understanding</b>	Between the group	1671.41	2	835.702	6.602	0.002*** (S)
	Within the group	37595.60	297	126.584		
	Total	39267.00	299			

\*\*\*significant at 1 percent level, NS-Not significant, and S- Significant

Results of Table-4 show that there is no significant difference in the Social relationship for parent's Education but there is a significant

difference in the scientific vocabulary ability for their Parent's Education at 1% level.

**Table-5: Result of Post Hoc Test (Scheffe)- Social relationship in terms of Parent's Education**

Variable	Parent's Education	Parent's Education	Mean Difference (I-J)	Standard Error	Significance
<b>Social relationship</b>	Illiterate	School Education	-3.8558	1.13285	0.944 (NS)
		College Education	-0.81935	1.29007	0.817 (NS)
	School Education	Illiterate	0.38558	1.13285	0.944 (NS)
		College Education	-0.43378	0.83932	0.875 (NS)
	College Education	Illiterate	0.81935	1.29007	0.817 (NS)
		School Education	0.43378	0.83932	0.875 (NS)

NS- Not Significant

Table-5 reveals that the result of Post Hoc Testis used to test the difference between two specific Parent's Educations on Social relationships. The result indicates that there is

no significant difference in the scores of Social relationships for Parent Education.



**Table-6: Result of Post Hoc Test (Scheffe)- Social understanding in terms of Parent’s Education**

Variable	Parent’s Education	Parent’s Education	Mean Difference (I-J)	Standard Error	Significance
<b>Social understanding</b>	Illiterate	School Education	-1.34936	2.19729	0.828 (NS)
		College Education	-6.92473	2.50223	0.023** (S)
	School Education	Illiterate	1.34936	2.19729	0.828 (NS)
		College Education	-5.57537	1.62796	0.003*** (S)
	College Education	Illiterate	6.92473	2.50223	0.023*** (S)
		School Education	5.57537	1.62796	0.003*** (S)

\*\*\* Significant at 1% level, \*\*significant at 5% level, NS-Not significant, and S- Significant

Table-6 reveals that the result of the Post Hoc Test indicates that the **Social understanding** of higher secondary students for Parent's Education. Students whose parents are illiterate significantly differ from the students whose parents are belonging to collegiate education. It also indicates that the **social understanding** of higher secondary students whose parents is school education significantly differing from the students whose parents are belonging to collegiate education. But there is no significant difference in **Social understanding** of the students between illiterate and school-educated parents.

**Table-7: Correlation between Social Intelligence and Academic Performance**

Variables	Statistics	Academic Performance	Social Relationship	Social understanding
Academic Performance	Pearson correlation	1	0.048	0.206**
	Sig. (2-tailed)		0.404	0.000
	N	300	300	300
Social Relationship	Pearson correlation	0.048	1	0.377**
	Sig. (2-tailed)	0.404		0.000
	N	300	300	300

<b>Social understanding</b>	Pearson correlation	0.206**	0.377**	1
	Sig. (2-tailed)	0.000	0.000	
	N	300	300	300

\*\* Correlation at 1% level of significance (2-tailed)

Table-7 reveals that the correlation between **Social understanding** and Academic Performance is found to be 0.206 which is significant at 0.01 levels. It is concluded that there is a positive and significant correlation between scientific vocabulary ability and Academic Performance.

The above Table reveals that the correlation between **Social understanding** and Social relationships is found to be 0.377 which is significant at 0.01 levels. It is concluded that there is a positive and significant correlation between **Social understanding** and Social relationships and it is also revealed that there is no significant correlation between Social relationships and Academic Performance.

#### Major Findings of the study

1. The mean score of Academic Performance, **social relationship, and social understanding** is above average.
2. Students belonging to the private school scored more in Social Intelligence and academic performance compared to students belonging to a government school.
3. Parent Education does not create a significant difference in social relationships.
4. It has been found that Parent's Education creates a significant difference in **social understanding**

5. **Social relationships and social understanding** are significantly correlated with each other.

6. **Social understanding** and Academic performance are significantly correlated with each other.

#### Suggestions for future research

The present study is conducted in the Thiruvallur District only, hence the same study can conduct in other districts, and also it can be extended to populations like college students, and teachers. Another direction for future research is to compare rural student's level of social intelligence with urban student's level of social intelligence. Hence more research studies need to be conducted to gain a better understanding of the relationships between social intelligence and academic performance.

#### Conclusion

It is concluded that the positive way of approaching, motivating, and teaching is developing the students' attitude towards society will improve their social intelligence and best academic performance in schools. All teachers and parents are having the responsibility to encourage their children to achieve their potential and provide them with emotional and academic support when needed.

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## REALISTIC E-COMMERCE ENTERPRISE MARKETING MANAGEMENT DILEMMAS, KEY INCENTIVES, AND RESOLUTION STRATEGIES

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### ABSTRACT

*The e-commerce industry is getting increasingly competitive during this moment of economic transition. For e-commerce enterprises to execute transformation and development, adopting the business strategy of "cost reduction, efficiency increase, and quality improvement" has become an unavoidable direction and useful research. Customer acquisition expenses are rising, overall efficiency is dropping, and low operational efficiency incorporates e-commerce marketing. The fundamental cause of this problem is a lack of refined management, innovative research, and digital operations in e-commerce enterprise marketing management. Based on this, the author of this essay argues that e-commerce enterprises should restructure their marketing management systems, promote marketing model innovation, and increase the supply of high-quality people to improve their appeal, influence, and competitiveness truly.*

**Keywords:** E-Commerce Enterprise, Practical Dilemma, Marketing Management, Main Incentives, Coping Strategies.

### 1. Introduction

E-commerce enterprises face a major challenge in marketing because of the rising expense of acquiring new customers. The result is that e-commerce enterprises' "cost-cutting" effect is typically ineffective. E-commerce companies' unit online customer acquisition costs are relatively low, and e-commerce enterprises' marketing input-output ratio is relatively high, which means that many e-commerce companies established in the early stages of the industry's development have benefited from leaping opportunities in growth (Zhang, 2016). As a result, the online customer acquisition environment for e-commerce companies has gradually deteriorated. The competition for marketing methods, activities, and strategies has become increasingly fierce due to the release of the initial traffic bonus in the industry. E-commerce enterprises will have a tough time achieving their goal of reducing client acquisition expenses as online consumer acquisition costs continue to rise.

### 2. Enterprise Marketing Management in E-Commerce: A Real-World Challenge

Analyzing the practical challenge that exists in the marketing management of e-commerce enterprises entails a focused examination of the incentives, as well as the foundation and

implementation of countermeasures. This article examines e-commerce companies' current marketing management issues on three levels: marketing effectiveness, marketing acquisition, and operating efficiency.

### 2.1 Customer Acquisition Costs Have Increased in Marketing, and E-Commerce Companies' "Cost Reduction" Effects Are Generally Poor

The fundamental issue in the marketing management of e-commerce enterprises is the increase in customer acquisition costs. The direct result is that e-commerce enterprises' "cost reduction" effect is often inadequate. In the early days of the e-commerce industry's development, online customer traffic dividends were relatively high, e-commerce companies' unit online customer acquisition costs were not high, and the e-commerce enterprise's marketing input-output ratio was relatively high, allowing various enterprises established in the early stages of the industry's development to obtain leaping development opportunities (Zhang, 2016). E-commerce enterprises' online client acquisition environment has gradually degraded. Since the publication of the inaugural traffic bonus in the industry and the rise in online marketing competitors, competition for marketing

activities, tactics, and strategies has become increasingly tough. On the internet, customer acquisition prices are continuing to climb, making it difficult for e-commerce enterprises to accomplish their goal of lowering customer acquisition costs.

### **2.2 When it comes to E-Commerce companies' "Efficiency" goals, it's becoming increasingly difficult to meet them.**

The fall in total marketing effectiveness is a primary challenge in e-commerce marketing management, making it difficult for e-commerce enterprises to accomplish the goal of "increasing efficiency." (Wang et al., 2016). For e-commerce enterprises, the overall efficacy of marketing is dependent on two major links: first, the cost of marketing customer acquisition is low, and the effect is good; and second, the number of new customers is high. Second, customers can generate higher revenue for businesses through marketing services. As previously said, the challenge of acquiring customers for e-commerce enterprises is increasing due to the more strong marketing competition, and cost control is also becoming increasingly challenging. E-commerce enterprises now lack effective ways, means, and tools to improve consumer attention, activity, and stickiness in the marketing service segment, making it difficult to meet revenue-generating goals while also indirectly boosting customer satisfaction. Customer marketing costs for e-commerce businesses (Bao, 2017).

### **2.3 To meet "Quality Improvement" Requirements, E-Commerce Companies have low operational efficiency.**

The author analyzes the main reasons for the various marketing difficulties of e-commerce companies from the three aspects of refined, innovative exploration of marketing models, marketing management, and digital operation marketing tools, based on an analysis of the practical difficulties in the marketing management of e-commerce companies. To establish the groundwork for a focused investigation of countermeasures to solve the e-commerce marketing conundrum (Xie, 2019).

### **3. In E-Commerce Companies, Marketing Management Is Difficult Due to the Complexity of the Industry.**

The author analyzes the main reasons for the various marketing difficulties of e-commerce companies from the three aspects of refined, innovative exploration of marketing models, marketing management, and digital operation marketing tools, based on an analysis of the practical difficulties in the marketing management of e-commerce companies. To establish the groundwork for a focused investigation of countermeasures to solve the e-commerce marketing conundrum (Xie, 2019).

#### **3.1 E-commerce companies' marketing management systems are behind the curve because they lack refined management.**

For e-commerce businesses, a lack of advanced marketing management is a prevalent issue. The specific performance is as follows: first, e-commerce businesses lack scientific planning, marketing operations are unplanned, marketing objectives are unclear, and effective consumer analysis is lacking. Furthermore, e-commerce enterprises' marketing efforts are ineffective due to a lack of consistency in marketing operations and rigorous marketing content and technologies. Second, e-commerce enterprises have been harmed by a lack of rigorous, impartial, and timely evaluation of their marketing activities. Marketing flaws are difficult to spot, focused marketing weaknesses can't be fixed, and marginal marketing efficiency is difficult to boost. Third, e-commerce corporations' marketing divisions are vague, with no clear frameworks for tasks, authorities, or interests. Matching undermines the efficiency of marketing initiatives because it is so easy to produce friction in internal management.

#### **3.2 Marketing lacks innovative exploration, and e-commerce companies' marketing models are outdated.**

Marketing innovation is an essential and successful technique for e-commerce businesses to adapt to the Internet market's competition. However, from a practical standpoint, many e-commerce enterprises lack inventive marketing exploration, which

severely limits e-commerce companies' development. Of fact, many e-commerce organizations are hesitant to develop their marketing approaches to cut marketing expenditures. They enjoy following new marketing models and attempting to duplicate other organizations' marketing models to achieve marketing model innovation. However, in my experience, this method is tough to implement efficiently. A basic marketing model imitation, on the other hand, makes it difficult to improve marketing effectiveness and raises firms' operational expenses due to major disparities in resource endowments, industry features, and the overall strength of distinct enterprises.

### **3.3 E-commerce companies have a shortage of marketing talent due to a lack of digital operations.**

To build efficient, accurate, and sustained competitiveness, e-commerce enterprises must have Internet operation thinking, strengthen their data collecting, analysis, mining, and prediction, and formulate their management and management countermeasures based on an in-depth understanding of data. However, many e-commerce organizations lack this type of digital operation thinking and continue to operate as traditional retail businesses, making it impossible to employ digital technology and digital tools and preventing them from achieving genuinely precise, efficient, and intelligent marketing. The lack of comprehensive marketing talents for e-commerce companies, which hinders e-commerce enterprises' development potential, is, of course, a major issue that makes it difficult for them to undertake digital operations.

## **Countermeasures for Resolving the E-Commerce Enterprise Marketing Dilemma**

### **3.4 Rebuild the marketing management system and strengthen the improvement of all aspects of marketing effectiveness.**

The key method for resolving the challenge of e-commerce enterprise marketing management is to restructure the marketing management system, with the primary goal of improving the efficacy of all parts of marketing. To ensure

orderly and efficient marketing work, e-commerce companies must first explain the roles and responsibilities of various marketing positions; build a marketing management structure that effectively incentivizes and restricts marketing positions; Two things must be done to improve e-commerce enterprises' evaluation of advertising success, including both marketing reserves and planning linkages, together with the marketing process and output link: and third, e-commerce companies must strengthen the evaluation of marketing effectiveness, including both marketing reserves and planning links, as well as the marketing To improve their marketing effectiveness, they must boost individual customer revenue contribution, perform well in customer life cycle management, and provide varied marketing strategies to different customers at different phases.

### **3.5 Implement marketing model innovation and test a variety of online marketing strategies.**

Implementing marketing model innovation is a critical technique for resolving the e-commerce firm marketing management challenge, and one way to do so is to test alternative online marketing methods actively. The e-commerce model is a business model innovation for traditional retail businesses. Similarly, continual marketing model innovation is critical for e-commerce businesses; otherwise, it would be difficult to respond to changes in the market and industry, and eventually, it will be impossible to achieve a favourable competitive position. As a result, e-commerce businesses must innovate their marketing models. On the one hand, please follow the traditional online marketing model to ensure that marketing work is completed smoothly while actively optimizing the shortcomings of the traditional online marketing model to improve marketing efficiencies, such as BD, SEM, SEO, and other drainage models to optimize and reduce drainage costs; on the other hand, please follow the traditional online marketing model to ensure that marketing work is completed smoothly while actively optimizing the deficiencies of the traditional online marketing model to improve marketing efficiencies, such as BD, SEM, SEO, and other

drainage models to optimize In terms of aspects, we aggressively attempted new online drainage models, such as short video marketing, webcasting, and virtual reality marketing. We actively applied new marketing models and strategies centred on the new Internet format to increase marketing effectiveness continuously.

### 3.6 Accelerate the development of a pool of high-quality talent and promote enterprise-wide digital management

Accelerating high-quality talent reserve is a critical supplementary approach for resolving the e-commerce company marketing management challenge, and it is crucial to completely promote the organization's digital management by relying on the talent reserve. To begin, e-commerce companies must follow the high-quality talent reserve model of internal cultivation and external introduction to ensure that they can develop a diverse talent pool that understands the e-commerce business, is proficient in digital technology, and is knowledgeable about marketing strategies. Each commercial enterprise's operation link is incorporated into digital management, and the enterprise's operational efficiency is increased due to the digital operation. At the same time, it is advantageous to management to establish marketing directions and strategies; additionally, to supply e-commerce firms, it is required to increase customer behaviour analysis. Build a strong basis for your marketing efforts.

## 4. Conclusion

Overall, due to the rapid rise of industry participants and the transformation and expansion of offline businesses, e-commerce companies are confronting unprecedented competitive challenges. Simultaneously, as online consumer traffic rewards continue to be released, e-commerce firms' operational efficiency must be improved, or it will be hard to adapt to the "Red Sea" rivalry in the e-commerce market.

Based on a review of current e-commerce enterprises, this article finds that existing e-commerce organizations have obstacles such as "generic cost reduction" is generally bad, "efficiency" goals are difficult to achieve, and "quality improvement" needs are difficult to meet. The primary causes are e-commerce businesses. China's marketing management structure is behind the times with antiquated marketing practices and a scarcity of marketing personnel. The author recommends that e-commerce companies restructure the marketing management system, promote marketing model innovation, accelerate the high-quality talent reserve, and focus on strengthening the effectiveness of all aspects of marketing Promotion, actively try, based on the current e-commerce industry development trend and exhibition industry characteristics, as well as e-commerce companies' current basic operation status.

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**IMPORTANCE OF WEB REINFORCEMENT IN BEAM COLUMN JOINT CONNECTIONS****R. Chitra<sup>1</sup>, S.J. Mohan<sup>2</sup>**<sup>1</sup>Department of Civil Engineering, BIHER, Chennai, Tamil Nadu, India<sup>2</sup>Department of Civil Engineering, BIHER, Chennai, Tamil Nadu, India<sup>1</sup>chitraroopama@gmail.com, <sup>2</sup>drmohansjm@gmail.com**ABSTRACT**

The research topic is mainly focused on the adequate stirrups to ensure the shear failure. An attempt is made in this project to study the effect of beam-column joint frames subjected to concentrated loads. The dimension of the framed specimens prepared is 700mm x500mm, with the cross-sectional dimension of 200mm x100mm using M30 Grade concrete. The specimen was tested in the linear, non-linear range and up to ultimate load limit for a concentrated load. The load responses are measured with LVDT & Data logger in this experimental work. The code of practice recommends (Bureau of Indian standards-13920-1993) the bond, shear, and ductility, reinforcement for shear and moment carrying capacity. This code aim to satisfy the bond and shear requirements also. This paper presents a critical review and recommendations regarding design and detailing aspects of beam column joint connections. Analytical value of the load carrying capacity of the beam column joint was assessed using limit state method by eliminating the partial safety factors for the load and strength. The results were compared between experiments and analytical values and suggestions are presented in this paper.

**Keywords**— Beam column joint, LVDT, Data logger, bond, shear, detailing, reinforcement, moment carrying capacity.

**I. INTRODUCTION**

The beam column joint is the crucial zone in a reinforced concrete moment resisting frame. It is subjected to large forces during severe ground shaking and its behaviour has a significant influence on the response of the structure. The assumption of joint being rigid fails to consider the effects of high shear forces developed within the joint. Shear failure of beam-column joints is one of the main causes of collapse of many moment-resisting reinforced concrete frame buildings in recent earthquakes. Evidence from recent earthquakes indicates that deficient beam-column joints can jeopardize the integrity of the entire structure. The brittle joint shear failure also significantly reduces the overall ductility of structures, resulting in dangerous failure mechanisms. A variety of techniques have been developed to strengthen beam-column joints. These techniques include the use of steel and concrete jacketing. More than a decade ago, a new technique for strengthening structural elements emerged.

**II. METHODOLOGY****A. Materials**

Cement, sand, bricks and iron rods(which are used to make the steel moulds).

**B. Preparation of steel mould**

In this project the two specimens were used for casting all the specimens consists of mould prepared with sheets of 3mm thick plates with beam cross section of 100×200×500 and column cross section of 100×200×700 and connected using bolts and nuts.



**Fig 1: Preparation of mould**

**C.Beam column joint (IS 456:2000):**

Breadth - 100 mm  
 Depth - 200 mm  
 Length - 500 mm

$f_{ck}$  30 N/mm<sup>2</sup>

$f_y$  415 N/mm<sup>2</sup>

Clear cover - 5mm

Effective cover - 20+5 25mm

**D.BALANCE SECTION**

**[0.48d]:**

According to code IS 456:2000,

Clause 38.1,  $[x_u/d](limit) = 0.48$  for  $f_{e415}$

According to code IS 456:2000, ANNEX- G

1.1(a),  $[x_u/d] = [0.87 \times f_y \times A_{st[req]}] / [0.36$

$\times f_{ck} \times b \times d] 0.48 = [0.87 \times 415 \times A_{st[req]}] /$

$[0.36 \times 30 \times 100 \times 175]$

$A_{st[req]} = 251.267 \text{mm}^2$

**E.TENSION REINFORCEMENT:**

According to code IS 456:2000, Clause 26.5.1.1(a),

The minimum tension reinforcement should not be less than the following,

$$A_s = 0.85bd/f_y$$

$$A_s = 0.85 \times 100 \times 175 / 415$$

$$A_s = 35.84 \text{mm}^2$$

According to code IS 456:2000, Clause 26.5.1.1(b)

The maximum area of tension reinforcement shall not exceed 0.04bD

$$\begin{aligned} &= 0.04bD \\ &= 0.04 \times 100 \times 200 \\ &= 800 \text{mm}^2 \end{aligned}$$

Provide 2 no's of 10 mm diameter bar ( $A_{st} = 157.08 \text{mm}^2$ )

According to code IS 456:2000, ANNEX- G- 1.1(a)

$$\begin{aligned} [x_u/d] &= [0.87 \times f_y \times A_{st[provided]}] / [0.36 \times f_{ck} \times b \times d] \\ &= [0.87 \times 415 \times 157.08] / [0.36 \times 30 \times 100 \times 175] \\ [x_u/d] &= 0.30 \\ 0.30 &< 0.48 \end{aligned}$$

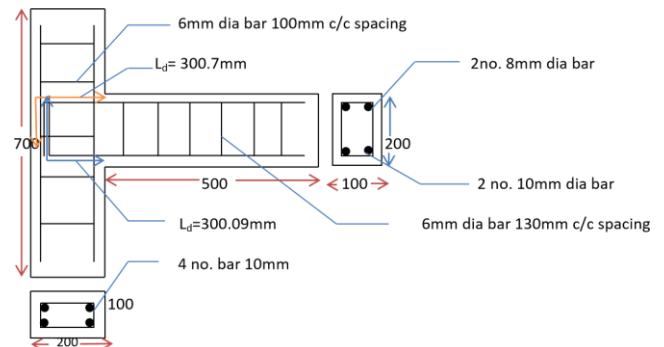
Hence design as under reinforced section

According to code IS 456:2000, ANNEX- G-1.1(b)

$$\begin{aligned} M_u &= 0.87 \times f_y \times A_{st} \times d [1 - (A_{st} \times f_y) / (b \times d \times f_{ck})] \\ &= 0.87 \times 415 \times 157.08 \times 175 [1 - (157.08 \times 415) / (100 \times 175 \times 30)] \\ &= 8.45 \text{KNm} < 10.56 \text{KNm} \end{aligned}$$

Therefore beam is under reinforced section.

**F. COMPRESSION REINFORCEMENT**



According to code IS 456:2000, Clause 26.5.1.2,

The maximum area of compression reinforcement shall not ex=0.04bD

$$= 0.04 \times 100 \times 200$$

$$= 800 \text{mm}^2$$

Provide 2 no's of 8 mm diameter bar ( $A_{st} = 100.53 \text{mm}^2$ )

**G.COLUMN DESIGN:**

**Longitudinal Reinforcement:**

According to code IS 456:2000, Clause 26.5.3.1 (a)

The cross-sectional area of longitudinal reinforcement shall be not less than 0.8 percent and not more than 6 percent of the gross cross-sectional area of the column.

Provide 4 no's of 10mm diameter bars

$$A_{st} = \frac{4 \times \pi \times 102}{4}$$

$$\text{Percentage of steel [Pt]} = \frac{100 \times A_{st}}{(b \times d)}$$

$$= \frac{100 \times 314.16}{(100 \times 175)} = 1.79$$

i.e.,  $0.8 > 1.79 < 6$ , Hence within the limit

#### Lateral Ties:

According to code IS 456:2000, Clause 26.5.3.2 (c)

The diameter of the polygonal links or lateral ties shall be not less than one-fourth of the diameter of the largest longitudinal bar, and in no case less than 8 mm.

Therefore, Adopt 8 mm diameter bar for the lateral ties which are greater than one fourth diameter of the longitudinal bar of 10mm diameter bar.

Provide 8mm diameter bars for lateral ties.

#### Spacing Of Lateral Ties:

According to code IS 456:2000, Clause 26.5.3.2 (c)

The spacing of transverse reinforcement shall be not more than the least of the following distances:

- i) The least lateral dimension of the compression members = 100 mm
- ii) Sixteen times the smallest diameter of the longitudinal reinforcement bar to be tied  
 $= 16 \times 10 = 160 \text{ mm.}$
- iii) 300 mm.

The least of the above three dimensions is 100 mm. Therefore the spacing should be less than or equal to 100 mm.

Provide 8mm diameter @100mm centre to centre lateral ties

#### FIG 2: Reinforcement detail of beam-column joint

#### H. CASTING OF BEAM COLUMN

The beam column were casted with the same dimensions which were obtained as per design



criteria with the framed specimens is 700mm x 500mm, with the cross sectional dimension of 200mm x 100mm

Fig 3: Casting of specimen

#### III Experimental Setup And Testing

The self-straining load frame and the Hydraulic loading jack along with Load cell are arranged in such a way to apply the concentrated force over the centre of the beam specimen care is taken to avoid eccentricity during loading. Linear Variable Differential Transformer (LVDT) is mounted where the deflections are required in the specimen. Specimen are placed on loading frame and subjected to central concentrated force and the corresponding deflections are measured within the elastic range using data logger.



FIG 4: LOADING FRAME & HYDRAULIC JACK ATTACHED TO SPECIMEN



**Fig 5: Cracks observed in specimen with Stirrups spacing -100 mm**



**Fig 6: Cracks observed in specimen with 70mm stirrups spacing**



**Fig 7: Cracks observed in specimen with 150mm stirrups spacing**

Failure is defined as the point when the specimen can no longer bear the load and the specimen collapses. The beam column specimen failed as shown in the figure.

#### **IV Results And Discussions**

**Experimental and Analytical Results of beam column joint with different spacing of stirrups were explained in Load Vs Deflection Figure and Tabular column.**

To evaluate the effect of three different spacing of stirrups in web reinforcement methods on behavior of a reinforced concrete beam-column connection, three test samples were loaded with the same load history and displacements from three different spacing of stirrups were collected. During testing, crack formations and failures pattern were noted and failure modes were explained.

The analysis of beam-column joint specimen is made and corresponding Deflection are obtained for the corresponding loads applied. The deflections were noted at mid span, of the beam for corresponding load Vs Deflection graph is plotted.. The main things we can get from the testing are load-deflection characteristics of a specimen and modes of failure. Load vs. deflection of the two specimens are given below:-

The **maximum deflection** in cantilever beam of span “l” m and loading at free end is “W” kN.

$$\text{Maximum deflection (y)} = \frac{Wl^3}{3EI}$$

Load Vs deflection of the three specimens is given below:-

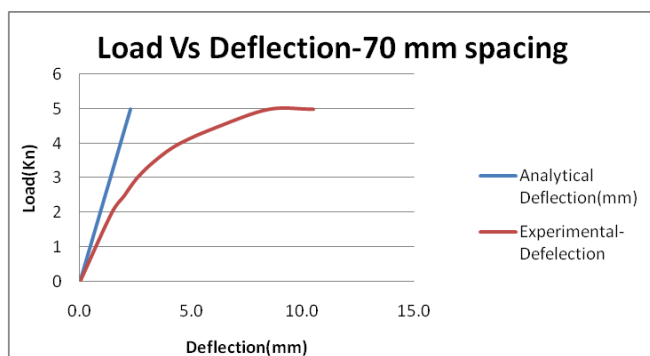
**Table: 1 Behavior of beam column joint with 70mm spacing of stirrups.**

Load (KN)	Experimental Deflection (mm)	Analytical Deflection (mm)
0	0	0
2.0	1.43	0.9125
2.5	2	1.1406
3.0	2.56	1.3688
3.5	3.36	1.5968
4.0	4.46	1.8250
4.5	6.23	2.0531
5.0	8.5	2.2813
5.0	10.5	2.2813

The specimen develops large displacement up to 4.0 KN and the specimen develops many cracks in tension Zone .The cover concrete of specimen develops many cracks and behavior is in the in-elastic range. No appreciable increment in the load was observed even though deflections were increasing continuously .Hence it was understood that the specimen has yielded completely approaching the failure state. Due to very large deflection beyond the Range of LVDT the testing was stopped.

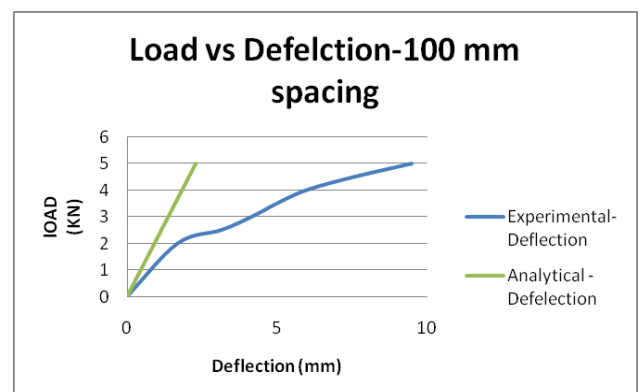
**Table: 2 Behavior of beam column joint with 100mm spacing of stirrups**

Load (KN)	Experimental Deflection (mm)	Analytical Deflection (mm)
0	0	0
2.0	1.69	0.9125
2.5	3.15	1.1406
3.0	4.16	1.3688
3.5	5	1.5968
4.0	5.98	1.8250
4.5	7.575	2.0531
5.0	9.5	2.2813
5.0	11	2.2813



**Fig-1 Graph shows Load Vs Deflection for 70 mm spacing of stirrups**

Fig.1 shows Load Vs Deflection Graph for the Experimental Specimen 70 mm spacing of stirrups (shear Reinforcement).The corresponding Load Vs Deflection profiles are shown in figure -1 The figure indicates that actual Deflection are more when compared to Analytical Deflections. Figure 1 also implies that the experimental deflection closely follows the Analytical Deflections up to 2.0 KN. The Variation is 5-8% and also follows the Linear Behavior up to 2.0 KN. After 2.0KN Load small minor hair cracks were observed and specimen behaviors non-Linearly w.r.t Load increments and shows Large Displacement up to 4.0 KN .

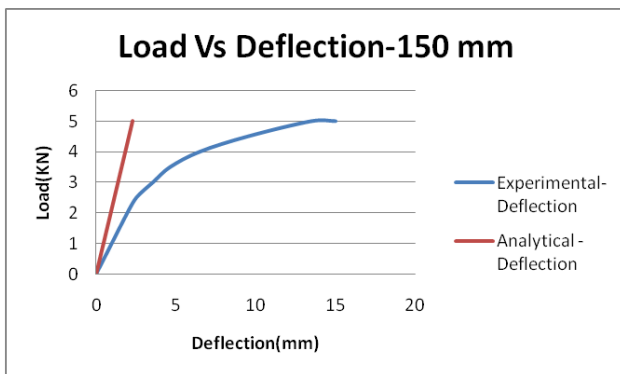


**Fig-2 Graph shows Load Vs Deflection for 100 mm spacing of stirrups**

Fig.2 shows Load Vs Deflection Graph for the Experimental Specimen having 100 mm spacing of stirrups (shear Reinforcement).The specimens behaviors similar to specimen 1,expect the variation of Theoretical deflections and Actual deflections was between 7-10%.Marginally more Specimen.

**Table: 3 Behavior of beam column joint with 150mm spacing of stirrups**

Load (KN)	Experimental Deflection (mm)	Analytical Deflection (mm)
0	0	0
2.0	1.95	0.9125
2.5	2.52	1.1406
3.0	3.56	1.3688
3.5	4.64	1.5968
4.0	6.5	1.8250
4.5	9.5	2.0531
5.0	13.5	2.2813
5.0	15	2.2813

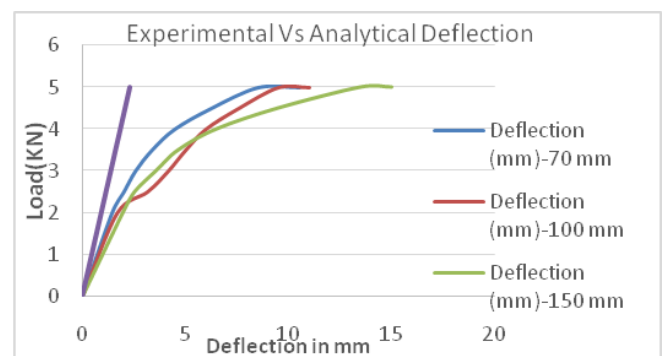


**Fig-3 Graph shows the Load Vs Deflection for 100 mm spacing of stirrups**

Fig.3 shows Load Vs Deflection Graph for the Experimental Specimen 3 having 150 mm spacing of stirrups (shear Reinforcement).The specimens behaviors similar to specimen 1& 2,expect the variation upto Maximum of 10%.

	Experimental 70 mm spacing of stirrups Deflection (mm)	Experimental 100 mm spacing of stirrups Deflection (mm)	Experimental 70 mm spacing of stirrups Deflection (mm)	Analytical Deflection (mm)
0	0	0	0	0
2.0	1.43	1.69	1.95	0.9125
2.5	2	3.15	2.52	1.1406
3.0	2.56	4.16	3.56	1.3688
3.5	3.36	5	4.64	1.5968
4.0	4.46	5.98	6.5	1.8250
4.5	6.23	7.575	9.5	2.0531
5.0	8.5	9.5	13.5	2.2813
5.0	10.5	11	15	2.2813

**Table: 4 Comparative Load Vs Deflection (70 mm, 100mm &150 mm spacing of stirrups)**



**Fig-4 Comparative Load Vs Deflection (70 mm, 100mm &150 mm spacing of stirrups)**

Figure 4 shows the Analytical and Deflections of profiles of all the specimens (spacing of stirrups 70mm,100mm,150mm)so it was observed that the

specimen 1 is close to Analytical values and followed by the specimen .The specimen 3 determine more from the Analytical values. The slope of the curves which represents the stiffness of the specimen -1very much near to Analytical value of stiffness .The specimen 2 & 3 having lesser stiffness than specimen -1.This may be an indication of the specimen reduces its stiffness due to increasing of the spacing of more the stirrups.

The specimen 2 &3 may be more flexible than specimen 1,however specimen 3 is having large displacement when compared to specimen 2, hence specimen 2 may having more flexibility and tolerable level of stiffness also.

The cracks observations of tested specimen indicated the specimen 1 having less cracks width when compared to other 2 specimen .the specimen 3 crack width was found to be more when compared specimen1&2 Hence spacing of shear reinforcement in specimen 1 may be recommended to improving the shear strength of the beams.

#### IV Conclusion

The following conclusions are drawn from the test results.

1. When shear reinforcement increased by 25% the beam column joint become more stiffer than normally reinforced specimen.
2. When the shear reinforcement reduced by 25% beam column joint become more flexible than normally reinforced specimen.
3. However the capacities of beam column joint found to be marginal variations among all the specimens.
4. Experimental results shows that the load applied to the 70mm spacing stirrups is more compared to the normal reinforcement.

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## A STUDY ON THE CUSTOMER'S SATISFACTION TOWARDS CORE BANKING SOLUTION IN MUMBAI CITY.

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### ABSTRACT

*A core banking solution is providing advanced banking culture to the banks and better banking services to their customers. The research paper is emphasizes on the customer satisfaction towards the software like a core banking solution in Mumbai city. The objectives of the study were: to study the role of CBS in providing banking services to the customers and to know the satisfaction level of the customers towards a core banking solution. The study is based on primary and secondary data. Two-tailed Mann-Whitney U test and fisher exact test have been used to analyze the hypotheses. Two-tailed Mann-Whitney U test was significant based on an alpha value of 0.05,  $P = .031$ . This suggests that the distribution of CBS scores for the female group was significantly different from the distribution of CBS scores for male category. Fisher's exact test was significantly based on an alpha value of 0.05,  $P < .001$ , suggesting that overall banking services satisfaction and gender are related to each other.*

**Keywords:** Core Banking Solution, Customer Satisfaction, Mumbai City.

### Introduction

Core banking solution is application software that provides services by a grouped network bank branch. Bank customers/ deposit holders may access their accounts, funds and other simple transactions at any branch of the respective bank.

Initially, banking operations such as maintaining records, maintaining customer's information, interest calculation on loans and deposits, etc. were done manually, but due to advanced information and communication technology and software like core banking solution banks can have the benefit of advanced banking operations. Core banking solution gives real time banking services, hence it is known as 'CORE- Centralized online real time Environment'. Centralized data centre helps a bank's branches to connect and access banking transactions over the bank. Various servers all together like application server, database server, antivirus server, internet banking database server, internet banking application server, proxy server etc. are essential for providing smooth flow of banking operations under core banking system. CBS has changed the bank's working culture and also brought better banking services to the customers. In a competitive banking world, the Bank's customer plays a vital role in stabilizing the banking business of the bank. CBS has

brought plenty of banking services to the customers. The customer is no longer the customer of the branch but customers became the customer of the bank. Various banking services like any branch banking, anywhere banking, ATM banking, internet banking, mobile banking, etc. have been used by the customers under the core banking system. Although the banks are providing advanced banking services and digital products to the customers, it is also imperative to understand the perception and their satisfaction level towards a core banking solution, whether they are satisfied with the advanced services and advanced solution like core banking solutions.

### Review of Literature-

- 1. Selvaraj N. & Santhanamari.R (2019)-** Stated that customers are the pillars of banking business; hence banks have started to set up particular departments to safeguard the interest of customers. The study noted that the success of core banking is not only depends on technology, but it also depends on the attitude, commitment and involvement of banking staff those worked under core banking system.
- 2. Dr.S.Prince Jebaraj/ N. Shylalja(2020)-** Recommended that CBS is providing a number of banking facilities with its benefits to both customers and bank employees. The study concluded that as per the recent banking environment, banks need to bring add-on

solutions to meet various new technological requirements like ATM switching, SMS Banking, E-commerce, financial inclusion, etc.

**3. Malathy.K/Dr.Subhashini srivatsa (2017)-** Researchers concluded that after the introduction of new economic policy, advanced solutions such as core banking solution has emerged in the Indian banking industry. The bank's customers are satisfied with advanced banking services that are served through CBS. It has stated that the adoption and implementation of CBS are difficult tasks, but it provides convenient banking and increases the ecstasy of the customers.

Similar to this many studies have been undertaken in the past by the researchers, however the above literature review reveals that no work has exclusively focused on customer's satisfaction towards a core banking solution in Mumbai city therefore researcher has carried the present study.

### Objectives of the Study

- 1) To study the role of CBS in providing banking services to the customers.
- 2) To know the satisfaction level of the customers towards the core banking solution.

### Hypothesis of the Study

#### Hypothesis 1:

H<sub>0</sub>: There is not a statistically significant difference in the CBS Scores by the categories of the Gender.

#### Hypothesis 2:

H<sub>0</sub>: There is no statistically significant relationship between the Overall Banking Services satisfaction by the categories of the Gender.

### Research Methodology-

**Result-**The result of the two-tailed Mann-Whitney *U* test was significant based on an alpha value of 0.05,  $U = 3336$ ,  $z = -2.15$ ,  $p = .031$ . The mean rank for group Female was 82.39 and the mean rank for group Male was 67.30. This suggests that the distribution of CBS Scores for group Female was significantly

The present study is focused on the customer satisfaction towards core banking solutions in Mumbai city. The study is based on both primary and secondary data. The questionnaire had been circulated among the customers of Mumbai city to accomplish the objectives of the study.

**Sampling Design-** The scope of the study is to extent only to Mumbai city so the respondents were selected only from Mumbai city. The random sampling method has been used to collect data from the customers. The researcher has collected data from 149 customers of Mumbai city.

**Statistical tools and techniques-** The collected data were tabulated and analyzed with the help of frequencies and percentages. A two-tailed Mann Whitney rank sum test has been used to examine whether there is a significant difference in CBS scores between the levels of gender. Fisher exact test has been used to examine whether overall banking service's satisfaction and gender were independent.

### Hypothesis 1:

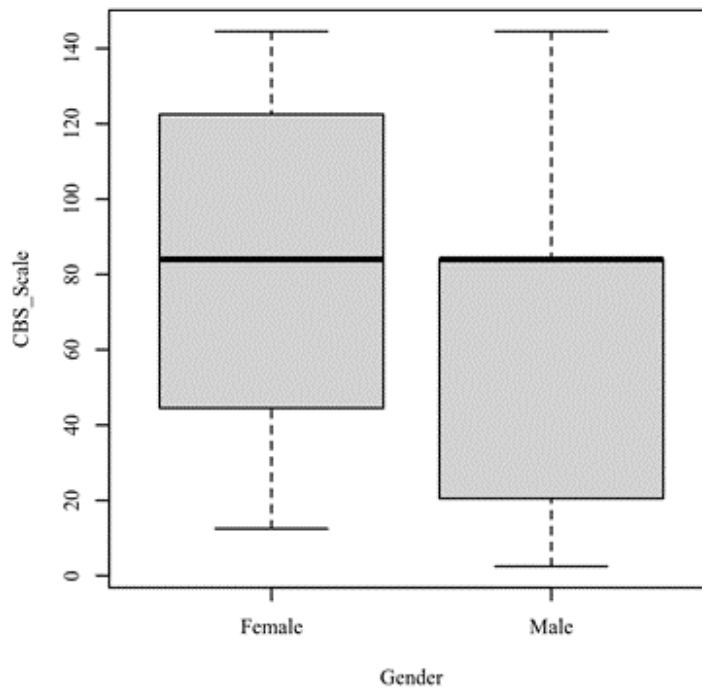
**H<sub>0</sub>: There is not a statistically significant difference in the CBS Scores by the categories of the Gender.**

**Two-Tailed Mann Whitney Rank Sum Test for CBS Scores by Gender-**A two-tailed Mann-Whitney two-sample rank-sum test was conducted to examine whether there were significant differences in CBS Scores between the levels of Gender. The two-tailed Mann-Whitney two-sample rank-sum test is an alternative to the independent samples *t*-test, but does not share the same assumptions (Conover & Iman, 1981). There were 76 observations in group Female and 73 observations in group Male.

different from the distribution of CBS Scores for the Male category. The median for Female ( $Mdn = 26.00$ ) was significantly lower than the median for Male ( $Mdn = 26.00$ ). Table 7 presents the result of the two-tailed Mann-Whitney *U* test. Figure 2 presents a boxplot of the ranks of CBS Scores by Gender.

Variable	Mean Rank		U	Z	P
	Female	Male			
CBS Scores	82.39	67.30	3336.00	-2.15	.031

Ranks of CBS Scores by Gender



**Hypothesis 2:**

**H0:** There is no statistically significant relationship between the Overall Banking Services satisfaction by the categories of the Gender.

**Fisher Exact Test between Overall Banking Services satisfaction and Gender-** A Fisher's exact test was conducted to examine whether Overall Banking Services satisfaction and Gender were independent. There were 4 levels in Overall Banking Services satisfaction:

Dissatisfied, Neutral, Satisfied, and Highly Satisfied. There were 2 levels in Gender: Female and Male.

**Results-** The results of the Fisher exact test were significant based on an alpha value of 0.05,  $p < .001$ , suggesting that Overall Banking Services satisfaction and Gender are related to one another. The following level combinations had observed values that were greater than their expected values: Gender (Male): Overall Banking Services satisfaction (Dissatisfied), Gender (Male): Overall Banking Services satisfaction (Neutral), Gender (Female):

Overall Banking Services satisfaction (Satisfied), and Gender (Female): Overall Banking Services satisfaction (Highly Satisfied). The following level combinations had observed values that were less than their expected values: Gender (Female): Overall Banking Services satisfaction (Dissatisfied),

Gender (Female): Overall Banking Services satisfaction (Neutral), Gender (Male): Overall Banking Services satisfaction (Satisfied), and Gender (Male): Overall Banking Services satisfaction (Highly Satisfied). Table 6 presents the results of Fisher's exact test.

**Table Observed and Expected Frequencies**

Overall Banking Services satisfaction	Gender		
	Female	Male	P
Dissatisfied	0[2.55]	5[2.45]	< .001
Neutral	4[10.20]	16[9.80]	
Satisfied	58[49.99]	40[48.01]	
Highly Satisfied	14[13.26]	12[12.74]	

**Note. Values formatted as Observed [Expected].**

**Limitations of the Study:**

The present study is based on primary and secondary data. The intention of the researcher was to study customer’s satisfaction towards a core banking solution in Mumbai city. The study is restricted to Mumbai city only.

**Conclusion**

The study was aimed to understand the satisfaction of customers towards a core banking solution in Mumbai city. Two-tailed Mann-Whitney U test was significant based on alpha value of 0.05, P= .031 this suggests that the distribution of CBS scores for female group was significantly different from the distribution of CBS scores for male category. Fisher’s exact test was significantly based on an alpha value

of 0.05, P<.001, suggesting that overall banking services satisfaction and gender are related to each other. The majority of the respondents (89.93%) are agreeing with the statement that CBS provides faster banking services and (80%) respondents are agree that CBS provides convenient banking services. The majority (85.91%) respondents stated that advanced banking services are increased due to core banking solutions. (79%) respondents agreed that service efficiency of the bank is increased due to CBS. Among all E-banking services, ATM banking and mobile banking are frequently used by the customers. The study noted that the customers are facing connectivity problems during banking transactions so banks need to find a way for smooth banking services that helps banks to stabilize their banking business in the competitive banking industry.

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## BEYOND NUCLEAR WARFARE: A STUDY ON CHEMICAL, BIOLOGICAL AND CYBER WEAPONS

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### ABSTRACT

*Beyond nuclear conflict, the study will look into the usage and consequences of chemical, biological, and cyber weapons. Long before the division, India waged a long struggle of independence against British colonialists. There are several conflicts between India and its neighbours. The disputed Kashmir area had a role in national security issues in the country. Pakistan has committed numerous military engagements, the first of which occurred in May 1948. Kashmir has never been resolved, and relations between India and Pakistan might be considered a never-ending saga in general. Asian regional superpowers India and China have a long history of distrust and war, and tensions have erupted numerous times. The world's two largest nations and nuclear-armed neighbours have never even agreed on the length of their "Line of Actual Control" boundary, which runs across the strategically critical Himalayan region. India, China, and Pakistan are engaged in a strategic weapons race predicated on the Balance of Power theory and a chaotic international order. A nuclear war is a situation in which nuclear weapons are utilised on a big scale and clearly for military purposes. Full-scale nuclear war can be seen as the worst possible outcome. The use of nuclear weapons is devastating to human lives. The study signified that, in addition to nuclear weapons, there will be additional weapons of mass devastation. India's chemical warfare (CW) capacity is hardly documented in the open domain. India boasts one of the world's major chemical industries. The sophistication of India's indigenous chemical industry considerably enhances the country's potential to create chemical weapons. India's decision to abandon chemical weapons demonstrates its faith in the conventional weapons system at its disposal. India has biological weapons and is capable of defensive biological warfare (BW). India has undertaken research towards the prevention of diseases such as brucellosis, smallpox, and plague. India is theoretically capable of producing biological weapons due to its big and sophisticated pharmaceutical sector. India is capable of producing aerosols and a range of delivery systems, ranging from simple crop dusters to sophisticated ballistic missiles. India falls into the third tier of countries in terms of cyber warfare capabilities. In conclusion, chemical, biological, and cyber weapons are anticipated to be more accessible, capable, selective, and reliably low- or nonlethal, as well as more difficult to attribute than current versions.*

**Keywords:** nuclear weapons, chemical weapons, biological weapons, cyber weapons.

### 1. Introduction

Throughout the Cold War, the United States' primary security worry was the Soviet Union's military capability. Potential threats from China and regional governments such as North Korea were seen to be minor considerations that could be handled using the assets deployed to defeat the Soviet menace. The global security situation in the modern era is markedly different.

The principal national security challenge now facing the India is the conflicts with neighbour countries such as Pakistan and China. Governments have demonstrated a readiness to acquire progressive weapons or weapons of mass destruction (WMD) to avoid or to deal with such situations. This study explores the evolution of thinking about weapons and the role these weapons play in national security planning. The present study also provides a comprehensive analysis of how current

approaches to weapons have evolved. In short, the study is aimed to explore the use and impact of chemical, biological and cyber weapons beyond nuclear warfare. In order to understand the need of weapons and available options of mass destruction it is necessary to study the relationship of specific nation with the other countries.

There are a number of conflicts between India and neighbour countries.

India and China, Asia's regional powerhouse, have a long history of distrust and violence along their extensive border, and tensions erupted this week with their first lethal collision in more than four decades. The world's two most populous countries and nuclear-armed neighbours have never even agreed on the extent of their "Line of Actual Control," which traverses the strategically vital Himalayan area. Numerous skirmishes have

occurred along the border in recent decades, including a short but devastating war in 1962.

### 1.1 Conflicts between India and China

#### ▪ Nehru's 1959 Beijing visit

India inherited its boundary issue with China from its British colonial masters, who convened a 1914 border conference with the Tibetan and Chinese governments. The border conflict originally erupted in 1959, during a visit to Beijing by India's first Prime Minister, Jawaharlal Nehru. Nehru questioned the limits shown on official Chinese maps, causing Chinese Premier Zhou Enlai to respond that his country did not recognise the colonial boundary.

#### ▪ 1962 Sino-Indian War

In 1962, following a disagreement over the border's delineation, Chinese forces flooded across the disputed borderline with India. Beijing held control of Aksai Chin, a crucial region that connects Tibet and western China. India continues to claim sovereignty over the whole Aksai Chin area, as well as the adjacent China-controlled Shaksgam valley in northern Kashmir.

#### ▪ 1967 Nathu La conflict

Another flashpoint was Nathu La, India's highest mountain pass, located in northeastern Sikkim state, which is bordered by Bhutan, China-ruled Tibet, and Nepal. Following a series of engagements, including an exchange of artillery fire, New Delhi reported the deaths of around 80 Indian forces and up to 400 Chinese.

#### ▪ 1975 Tulung La ambush

This skirmish was the last time gunfire were fired over the disputed line. Along the dividing line in Arunachal Pradesh, four Indian troops were ambushed and killed. Beijing has denied New Delhi's accusation that it crossed into Indian territory.

#### ▪ 2017 Doklam plateau standoff

India and China were locked in a months-long high-altitude stalemate in Bhutan's Doklam region after India's army sent soldiers to prevent China from building a road in the area. The Doklam plateau is strategically crucial because it provides China with access to India's so-called "chicken's neck" — a narrow strip of territory linking the nation's north-eastern

states to the rest of the country. China and Bhutan, an ally of India, both claim it.

#### ▪ 2020 Ladakh confrontation

India confirmed on Tuesday that 20 of its troops were killed in a violent clash with Chinese forces a day earlier in the strategically vital Galwan Valley on the Himalayan border, a stunning escalation that marks the first combat deaths between Asian countries since 1975. India disclosed that attempts to end the standoff amicably had failed miserably, with both parties blaming the other. Beijing reported that there were casualties in this conflict but provided no other information.

In a nutshell, the two nations fought a war in 1962, during which India suffered an embarrassing loss. However, simmering tensions threaten escalation - which may be catastrophic given that both sides are established nuclear powers.

### 1.2 Conflicts between India and Pakistan

The conflict in Jammu and Kashmir, India and Pakistan have only been resolved today since it disintegrated in 1947 and the following rigidities have escalated over a conflicted area. With regard to military capabilities, the two countries were able to compete with others in 1991 when the Soviet Union collapsed.

India fought a protracted war of independence against British colonialists long before enacting the division, according to More (2004). After Sir Sayed Ahmed Khan of India started pushing for a separate Muslim state in 1867, the tensions between Muslims and Hindus for segregating themselves arose resulting in the concept of "Pakistan" being formally announced by Ch. Rahmat Ali in 1933.

The disputed Kashmir region had a hand in the country's national security concerns. The first military action taken by Pakistan was in May 1948, leading to the Second India-Pakistan War. Kashmir has never been settled until today because of the rivalry between the two countries (Ghosh, 2003).

United Nations Security Council that has played a key role in causing India and Pakistan to reach a resolution in the Kashmir War, especially during the first Kashmir War when the United Nations Security Council introduced the ceasefire agreement on January 1, 1949. (Sathasivam, 2017). When Pakistan and India invaded Kashmir in 1965-second India-



Pakistan war (Kalyanaraman, 2015), it was an attempt to seize control of the region by both countries. Full scale war broke out as a result of the attack on the city of Lahore in Pakistan. Third India-Pakistan War erupted. Independence occurred in 1971 as a result of this time period, although the UN was not involved (Sathasivam, 2017). After the 1971 Third India-Pakistan War, Bangladesh became independent. Till today, terrorists in Kashmir have committed an insurgency to push for a breakaway Kashmir state from India, Pakistan, and China. That has made South Asia a continuing hotspot for insecurity (Sathasivam, 2017). As a result, India-Pakistan relations in a broad sense can be measured to be a never-ending saga where millions of people have lost their lives.

Recent studies have shown that the trend towards developing Mass Destruction Weapons (MDW) especially nuclear weapons is actually increasing in India and Pakistan. India and Pakistan have their own security strategy in order to fulfil their military objectives of dominating Kashmir and preserving their sovereignty.

Sathasivam (2017) writes that India views strategic security in the north-west and north-east of the country as their main priority. The Southeast Asia, Arabian Peninsula, Afghanistan, Iran, Tibet, and the southern regions of the Indian Ocean are second on the list of priorities when it comes to the use of military force, under the 'outer ring' approach. Finally, the third ring, made up of the world's greatest powers, closes the second phase of the interphase period. In order to keep India as a dominant regional power in South Asia, India shuns all outside powers and influences that could hinder Indian primacy and enable the South Asian subcontinent to pursue greater freedom of action.

India, China and Pakistan have been involved in a strategic arms race. In contemporary moral philosophy, nuclear war and nuclear deterrence have received substantial attention. It should come as no surprise given that nearly everyone views a full-scale nuclear war as the foulest possible outcome.

## 2. Nuclear Warfare

A nuclear war would be a situation in which nuclear weapons are used in a large-scale and plainly military capacity. The goal of nuclear deterrence is to influence the behaviour of other nations, even if they have nuclear weapons. Additionally, it is a policy of putting in place incentives for other nations to refrain from doing military activities that could lead to nuclear war, in particular not to start an international nuclear war. In short, nuclear deterrence is a tactic of threatening to use nuclear weapons in response to another nation using weapons of mass destruction.

It's difficult to imagine how one could defend the morality of nuclear warfare. While it's true that everyone—hawks and doves, enemies or allies—agrees that nuclear war is so disagreeable that it must be avoided at all costs, we don't need to imagine an argument about the benefits of nuclear war in order to identify the inherent risks of engaging in war with the United States.

A state has the desire to develop nuclear weapons to obtain the status of a "nuclear power," which could only be done by buying them from other nations like the US, Russia, or China. India and Pakistan have been involved in a strategic arms race which is built on the Balance of Power theory and the chaotic international system. Arms races between India and Pakistan can be described with concepts such as Security Dilemma, which governments attempt to survive, and Neo-realism, which focus on structure of the international system. In John Herz's (1979) theory, the concept of security dilemma describes governments' incentive in raising their military expenditure and bolstering their defensive capacity in order to secure themselves against the possibility of their rivals' hostile intents. Additional support for the idea that the security challenge can be quantified by regional military arsenals comes from Barry Buzan (2008), who also contributed to the article in Security Studies. The countries in an area have formed guarantee procedures to help avoid potential risks due to their neighbours posing a security challenge.

The security situation in the region was shown to be an issue of regional importance when the countries wanted to protect their sovereignty. Consequently, we can see that to protect India's

territorial sovereignty from Pakistan and China, India's national security policy is to increase the military spending of these countries each year.

Nuclear weapons are the world's most lethal weaponry. Through its long-term devastating repercussions, one may ruin a whole metropolis, perhaps killing millions and threatening the natural ecosystem and the lives of future generations. The hazards associated with such weapons are inherent in their mere existence. Although nuclear weapons have been used in battle just twice—in the 1945 bombs of Hiroshima and Nagasaki—approximately 13,400 are believed to remain in our globe today, and over 2,000 nuclear tests have been performed to far. While disarmament is the greatest safeguard against such hazards, accomplishing this aim has proven very difficult.

In short, the study signified that if a true nuclear war occurs it can cause massive destructions. The use of nuclear weapons is devastating to human lives. Beyond nuclear weapons there are also other future weapons of mass destructions.

### 3. Chemical Weapons

India's chemical industry is one of the world's biggest. However, the accessible literature has little information on India's capabilities for chemical warfare (CW). India has a major civilian chemical and pharmaceutical sector and exports significant amounts of Schedule 2 and 3 compounds to other nations each year. The chemical industry is one of India's oldest indigenous businesses, having made a substantial contribution to the country's industrial and economic progress since independence in 1947. Nearly 70,000 commercial items are manufactured by the chemical industry today, ranging from cosmetics and toiletries to plastics and insecticides. The broad and varied range of goods includes inorganic and organic (commodity) chemicals, medications and pharmaceuticals, plastics and petrochemicals, dyes and pigments, fine and specialised chemicals, pesticides and agrochemicals, and fertilisers.

In recent years, India's pesticide sector has grown dramatically, generating more than

1,000 tonnes of pesticides every year. India is the world's thirteenth biggest exporter of pesticides and disinfectants and the twelfth largest producer of chemicals in terms of volume. The agrochemical, petrochemical, and pharmaceutical industries in India are among the fastest developing sectors. With an estimated value of \$28 billion, it contributes for 12.5% of overall industrial output and 16.2% of total manufactured exports in India.

The Indian government actively promotes and advances the indigenous chemical sector, with a specific emphasis on modernisation. Since 1991, the Department of Chemicals and Petrochemicals has been a subordinate of the Ministry of Chemicals and Fertilizers. It is responsible for the industry's policy, planning, development, and regulation. Numerous private sector groups, such as the Indian Chemical Manufacturers Association, the Chemicals and Petrochemicals Manufacturers Association, and the Pesticides Manufacturers and Formulators Association of India, all seek to support the industry's development and export of Indian chemicals. For example, the Indian Chemical Manufacturers Association represents a large number of Indian companies that manufacture and export a variety of chemicals that have legitimate commercial applications but also have the potential to be used as precursors and intermediates in the production of chemical weapons.

The expertise of India's own chemical sector significantly enhances its capabilities to create chemical weapons. Numerous state-owned and private-sector organisations manufacture a diverse range of dual-use chemicals that might be used as chemical weapons precursors and intermediates. India ratified the Chemical Weapons Convention (CWC) in 1992, declaring that it lacked chemical weapons and lacked the capability or desire to produce them. India ratified the CWC on 2 September 1996, becoming one of the initial signatories in 1993 (Member State-India 2017). According to India's former Army Chief General Sunderji, a nation capable of producing nuclear weapons does not require chemical weapons, since fear of chemical weapons can be instilled only in countries without nuclear weapons. Others said that India's discovery of chemical weapons was a sign of its confidence in the conventional

weaponry at its disposal. India reported its chemical weapons stockpile (1,045 tonnes sulphur mustard) in June 1997 (Dominican Today, 2013; Smithson et al., 2012). By the end of 2006, India had destroyed more than 75% of its chemical weapons/material stockpile and had been given an extension until April 2009 to destroy the remaining stockpiles, with the goal of achieving 100% destruction within that time period (Dominican Today, 2013). In May 2009, India told the UN that it has destroyed its chemical weapons stockpile in accordance with the international Chemical Weapons Convention. India now joins South Korea and Albania as the third nation to do so (Zee News, 2009). This information was verified by United Nations inspectors.

India has a sophisticated commercial chemical sector and manufactures the majority of the chemicals it consumes domestically. Additionally, India has a sizable civilian chemical and pharmaceutical sector and exports significant amounts of chemicals to nations such as the United Kingdom, the United States, and Taiwan on a yearly basis (NTI, 2010).

The stockpile of unitary chemical warfare agents and ammunition (Hogendoorn, 1997)

#### **Asia**

**North Korea:** Since the 1960s, programme has grown to be one of the biggest in the area. Possesses the ability to manufacture "vast amounts" of blister, blood, and nerve agents.

**South Korea:** Possess chemical infrastructure and technological capabilities for the production of chemical agents; formerly possessed a chemical weapons programme.

**India:** Had CW stocks and weapons.

**Pakistan:** Has chemical-weapons-capable artillery rounds and rockets.

**China:** China has developed a sophisticated capacity for chemical warfare, including ballistic missiles.

**Taiwan:** Developed an "active high-priority programme to build offensive and defensive capabilities," was developing chemical weapons capability, and it may have been operational by 1989.

**Burma:** Its programme, which began in 1983 and is still under progress, may or may not be operating today. It has chemical weapons and artillery capable of delivering them.

**Vietnam:** In 1988, Vietnam was either in the midst of deploying chemical weapons or already had them. Additionally, it seized significant quantities of US riot control agents during and after the Vietnam War.

#### **4. Biological Weapons**

Since India ratified the Biological and Toxin Weapons Convention (BWC) on July 15, 1974, it has attempted to enhance its biotechnology capabilities, mostly for peaceful purposes. India has a well-developed biotechnology infrastructure, which makes use of highly skilled scientists with expertise in infectious illnesses, as well as various pharmaceutical manufacturing facilities and biocontainment labs (including BL-3). Certain facilities in India are devoted to the development of defence measures against biological assaults, and these same facilities might potentially offer offensive agents as well. The Defense Research and Development Establishment (DRDE) at Gwalior is the focal point of India's extensive biotechnology infrastructure. The DRDE is the principal facility for toxicological and biochemical pharmacology research, as well as the creation of antibodies against a variety of bacterial and viral pathogens. The focus of this work is on preventing the spread of disease threats such as anthrax, brucellosis, cholera, plague, smallpox, viral hemorrhagic fever, and botulism. Additionally, the Indian government has created directorates for nuclear, biological, and chemical (NBC) warfare in each of the military services, as well as an inter-Services coordination council to oversee the programme. Additionally, the Indian Army has created an NBC cell at Army Headquarters to do research on the impacts of NBC warfare.

Although certain public intelligence estimates indicate that India has biological weapons, open-source information on a prospective Indian biological weapons programme is very scarce. India has defensive biological warfare (BW) capabilities and has performed research on disease countermeasures such as plague, brucellosis, and smallpox. Additionally, India has a large and sophisticated pharmaceutical sector, making it theoretically capable of manufacturing biological weapons. In January 2003, the Indian government announced modifications to the country's nuclear use

policy, stating that the new stance enables India to "retain the option of retaliating with nuclear weapons" in the case of a significant biological or chemical strike against India or Indian troops elsewhere. Earlier in December 2002, Indian Defense Minister George Fernandes said that "the government has taken essential efforts to assure defence against nuclear and biological attacks." However, there are few, if any, evidence that India is developing an offensive biological warfare capability.

India has a robust biotechnology infrastructure, with multiple pharmaceutical manufacturing facilities and biocontainment labs (including BSL-3 and BSL-4) for dealing with fatal diseases. Additionally, it employs scientists who are experts in infectious illnesses. Several of India's facilities are being utilised to conduct research and development for the defence of biological weapons (BW). India has ratified the Biological Weapons Convention (BWC) and has committed to complying with its provisions. There is no conclusive proof, circumstantial or otherwise, that an offensive BW programme exists. India does, in fact, possess the scientific expertise and infrastructure necessary to initiate an aggressive BW programme. India also has the capacity to manufacture aerosols and a variety of delivery systems ranging from crop dusters to sophisticated ballistic missiles (NTI, 2011). There is no evidence in the public domain that the Indian government is interested in delivering biological agents through these or any other methods. To underscore the latter argument, former President A. P. J. Abdul Kalam said in October 2002 that "India would refrain from developing biological weapons. It is inhumane to humans" (NTI, 2011).

### 5. Cyber Weapons

India is a third-tier country in terms of cyber warfare capability. The International Institute for Strategic Studies (IISS) ranked countries on a range of cyber capabilities, ranging from the strength of their digital economies and the maturity of their intelligence and security functions to the degree to which cyber facilities were integrated into military operations. The research, released by the ISS, comes in the aftermath of a series of hacking activities that

highlighted the rising danger of hostile state cyber espionage. Indonesia, Japan, Malaysia, North Korea, Iran, and Vietnam compose the third tier, along with India.

Additionally, the survey discovered that only the US is classified as a "top tier" cyber power, while China, Russia, the United Kingdom, Australia, Canada, France, and Israel are classified as "second tier" cyber powers. Additionally, the report noted that China's cyber capability is at least a decade behind that of the US.

According to the IISS, China and Russia have shown proficiency in conducting offensive cyber operations against the US and its allies, including online eavesdropping, intellectual property theft, and misinformation campaigns. Both nations, however, were held back by "rather lax cybersecurity in comparison to their counterparts."

Numerous nations, including the United States, Israel, Russia, China, North Korea, Syria, and Iran, now possess offensive cyber capabilities. Their range and complexity vary significantly, according to the Observer Research Foundation's paper *The Case for Cyber and Cyber-Physical Weapons: India's Grand Strategy and Diplomatic Objectives (ORF)*. No two cyber weapons are likely to be identical, since they are developed and deployed for a particular goal or objective.

However, using or maintaining an arsenal of such weapons does not always imply the establishment of a cyber policy. For example, whereas the US has multiple formal instructions guiding its cyber-offensive activities, it is unknown if China or Syria, both of which have limited capability in this area, have equivalent tactics.

No Asian nation, in particular, has disclosed its cyber capabilities or philosophies for managing cyber and cyber-physical weapons. Given this lack of clarity, Indian military and policy planners should determine if geopolitical tensions in Asia will spill over into cyberspace or whether the interconnected nature of digital networks elevates the economic stakes for a cyber war to an unacceptably high level.

Without established international norms or rules of engagement, governments are likely to use their cyber capabilities in low- and high-intensity conflicts alike. Governments may also

be tempted to use them more often in combat because to the lower danger of fatalities. As a consequence, the cyber-physical arms race has the potential to significantly deteriorate Asia's regional stability.

India's strategic plan for cyber and cyber-physical weapons must be directed toward three goals.

- 1) Facilitate indigenous development, including the acquisition of such weapons where required.
- 2) Articulate a national security doctrine to guide their use.
- 3) Contribute to the establishment of a non-proliferation framework in Asia that restricts the deployment of cyber and cyber-physical weapons.

## 6. Conclusion

The international community's long-standing efforts to keep weapons of mass destruction (WMD) out of international rivalry and war may be jeopardised in the future years. Proliferation of these weapons is expected to be more difficult to block, implying that they will become more ubiquitous. According to the report, nuclear weapons are expected to play a greater role in the worldwide security environment, and present limits on the spread

and deployment of chemical and biological weapons may erode. There will be more opportunities for WMD-related terrorism, while it is impossible to anticipate the frequency or severity of future WMD usage. Beyond chemical, biological, radiological, and nuclear weapons, new forms of WMD are unlikely to emerge in the future, but cyber weapons will almost certainly be capable of wreaking such widespread havoc that nations may become as reliant on the threat of imposing unacceptable costs to deter large-scale cyberattacks as they are on the threat of using WMD.

Chemical, biological, and cyber weapons are likely to be more accessible, more capable, particularly in terms of defeating existing or emerging defensive countermeasures; more discriminate; that is, more precisely targeted and/or more reliably low- or nonlethal; and more difficult to attribute (utilising previously unknown agents and/or delivery mechanisms) than the traditional forms known today. The future growth and features of countries will be more wealthy, technologically competent, and linked, but with more competitive and unsettled international relations.

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## INTELLECTUAL CAPITAL AND FIRM PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

**Purpose-** Intellectual capital has been a domain captivating researcher, business organizations and academicians. The purpose of this paper is to review the literature available on intellectual capital and its relationship with bank performance. Further, the paper identifies direction and scope of research in the domain of intellectual capital and explores main themes undertaken by researchers in the top 30 cited documents.

**Design/methodology/approach-** Scopus database was explored for research articles including the keywords "Intellectual Capital" OR "Knowledge Assets" OR "Knowledge Based Resources" OR "Intangible Assets" AND "Bank Performance" OR "Firm

Performance" OR "Financial Performance" OR "Bank Financial Performance" OR "Bank Market Performance" and in the final inquiry 489 papers were extracted for processing. Bibliometric analysis was done using VOS-Viewer software (version 1.6.17) and thematic analysis was undertaken for the 30 most cited papers. Preferred reporting items for systematic reviews and meta-analyses (PRISMA) standard was used to filter out the most appropriate articles from Scopus database.

**Findings-** Findings revealed that the said domain gained attention of the researchers in the last decade as the quantum of studies increased manifold during the last ten years. USA is the country with maximum publications, however India remains at sixth place in the list. The existing studies have laid emphasis on linkages of intellectual capital with financial performance, firm performance, human capital, knowledge management and structural capital. It is recommended that the future researchers can focus on less explored areas including study of relational capital, profitability, innovation, industrial performance, corporate social responsibility, corporate reputation, productivity, performance assessment, corporate governance and competitive advantage with respect to intellectual capital.

**Originality/value-** This literature review article adds to the existing body of knowledge by identifying key areas undertaken by prominent researchers which enables future researchers to explore the trends and gaps in literature. The present article also provides direction for future research by specifically pointing out the least explored areas in the said domain.

**Limitation-** The present literature review paper is based on documents extracted from Scopus database only and excludes other databases such as Web-of-Science (WoS)..

**Keywords:** Intellectual capital, Firm performance, Systematic literature review, PRISMA, Bibliometric analysis, Thematic analysis.

### 1 Introduction

During the last few decades, numerous aspects of human life have registered growth and development, with human intellectual power driving enormous advancements in the areas of science, research, technology, and overall economic advancement (Singh et al., 2016). Rich intellectual resources, and the means of recognizing and recording these, have provided additional competitive edges for organizations and nations. As per the definition specified by various researchers, Intellectual capital is the economic value of the intangible assets of an organisation, specifically the human capital, structural capital and relational capital.

“Intellectual capital (IC) represents the collective knowledge that is embedded in the personnel, organizational routines and network relationships of an organization” (Stewart, 1997; Bontis & Choo, 2002; Kong, 2008). Also, it is considered as an important means to gain competitive advantage by an organization which can be sustained over in the long run (Chen, 2008; Kong & Prior, 2008; Schiuma & Lerro, 2008). However, in order for a firm to gain sustained competitive advantage, it is imperative that there must be a difference among the structural, human and relational capital of that firm in comparison with other firms in the industry as argued by strategic analysts. And the resources that are benefiting

a particular firm are unique to it while other firms are unable to access those resources.

Human capital, structural capital (also known as internal capital), and customer/relational capital are the three key components of intellectual capital. Employees' educational qualifications, knowledge, skills, experience, capacities, and expertise are all part of their human capital, and they depart with them when they leave the company. It's the intangible knowledge that an employee gains through learning, training, and development through time. Processes, strategies, information systems, patents, concepts, and administrative plans are all examples of structural (internal) capital. In other words, it is the firm's non-human knowledge resources that outlast the departure of an employee. "Relational (External) Capital is the blend of relationships with external parties (incorporating customers, suppliers, government, competitors and other stakeholders) and the reputation of the organization based on its transactions, products and services provided to these parties" (Jardon and Martos, 2009; Curado et al., 2014). These sub-components of intellectual capital do not work in isolation rather its effect can be seen when all the three components are channelised to create synergy within an organisation. The efficacious interplay among the Human, structural and relational capital results in generating value for an organisation and gaining competitive advantage, and thus resulting in sustainable corporate performance.

**2. Research questions**

The primary objective of this study is to identify the direction and scope of research in

Criteria	Acceptance	Rejection
Language	English	Other languages
Source of document	Journal	Book, conference
Paper type	Article	Book chapter, conference paper, review papers, conference reviews, notes

**Table 1. Criteria for acceptance and rejection of documents**

the domain of intellectual capital and its interconnection with performance (financial and market performance) of banks in the last 30 years. The present paper addresses the following research questions:

- Q1. What is the nexus between intellectual capital and bank performance?
- Q2. What are the main areas in which intellectual capital is explored?
- Q3. Who are the eminent authors in the field of intellectual capital?
- Q4. Which countries are focussing on research in the said domain?
- Q5. What are the main themes undertaken by researchers in the top thirty most cited documents?

**3. Research methodology**

In the primary inquiry, a total of 622 documents available in the Scopus database were extracted using the keywords "Intellectual Capital" OR "Knowledge Assets" OR "Knowledge Based Resources" OR "Intangible Assets" AND "Bank Performance" OR "Firm Performance" OR "Financial Performance" OR "Bank Financial Performance" OR "Bank Market Performance" for a period of 30 years, i.e. from the year 1990 till 2020.

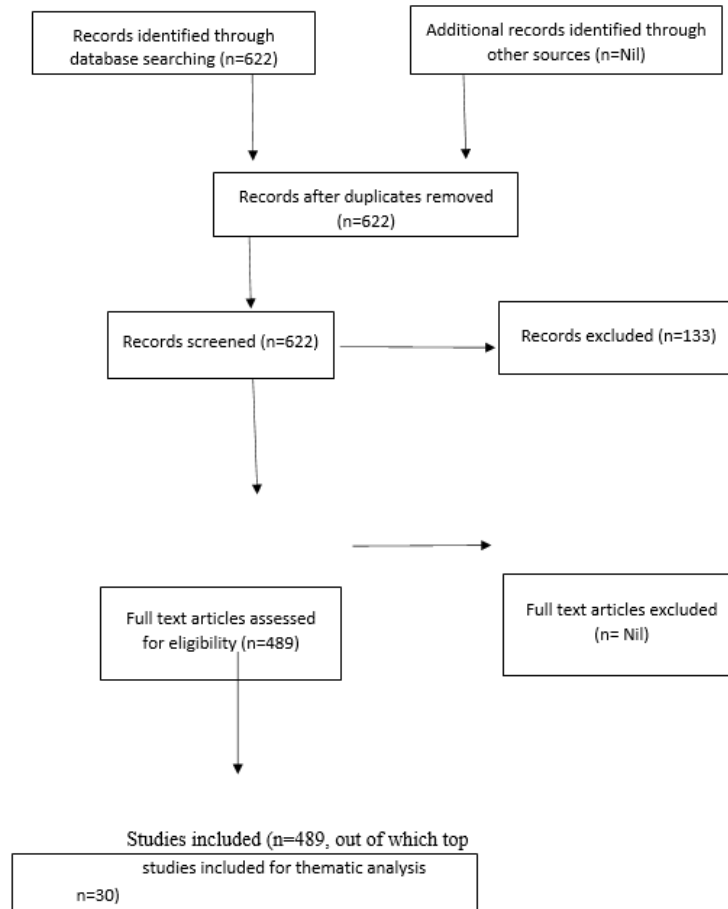
In the secondary inquiry, a total of 489 papers were extracted by applying necessary filters and limiting the documents to 'articles' published in English language and sourced from journals. Therefore, out of the 622 documents, 489 documents were accepted for systematic literature review and bibliometric analysis. The selection criteria is given in Table1.



**Analysis**

An analysis of 489 documents has been presented in the following section. The first part of this section provides descriptive

statistics, second part focusses on bibliometric analysis and the last part focusses on thematic analysis of the top 30 cited documents.



**Figure 1. PRISMA Chart**

Source(s): Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

**4. Data analysis and interpretation**

Scopus database is used and descriptive statistics analysis, bibliometric and network analysis is employed to draw interpretations.

**4.1 Descriptive Statistics**

Table 2. Annual publication (intellectual capital and bank performance)

Year	Number of articles	Year	Number of articles
2020	79	2009	15
2019	64	2008	12
2018	46	2007	13

The year wise publications in the field of intellectual capital and bank performance has shown an upward trend with the number of studies increasing with the passage of time. The maximum number of contributions have been made in the year 2020 (79), followed by years 2019 (64), 2018 (46), 2017 (32), and 2016 (34). However, least publications can be seen during the decade 1996 to 2006 with absolutely no publications for three consecutive years, i.e., 1997,1998 and 1999. The annual publication is shown in Table 2 and Figure 2 below.

2017	32	2006	5
2016	34	2005	12
2015	38	2004	2
2014	32	2003	10
2013	30	2002	2
2012	24	2001	3
2011	23	2000	2
2010	10	1996	1

Source : Scopus database; 1996 to 2020 and Authors’ own compilation.

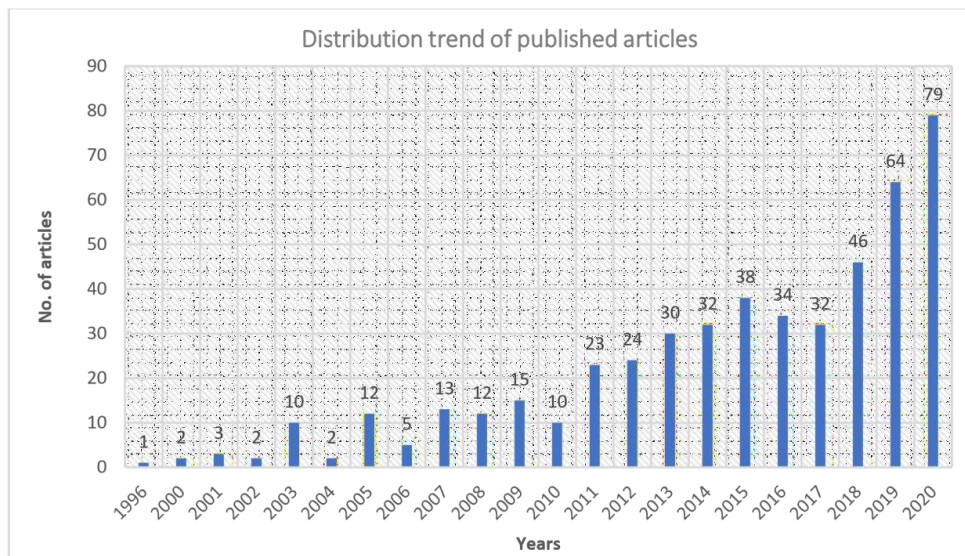


Figure 2. Yearly distribution trend

Source : Scopus database and authors’ own compilation.

The journal wise publications ranging from 1996 till 2020 are presented below. A list of top 15 journals has been identified and shown in figure 3. The journal wise list is a potential

source of relevant information synthesized together for the researchers interested to work in this domain and explore specific journals.

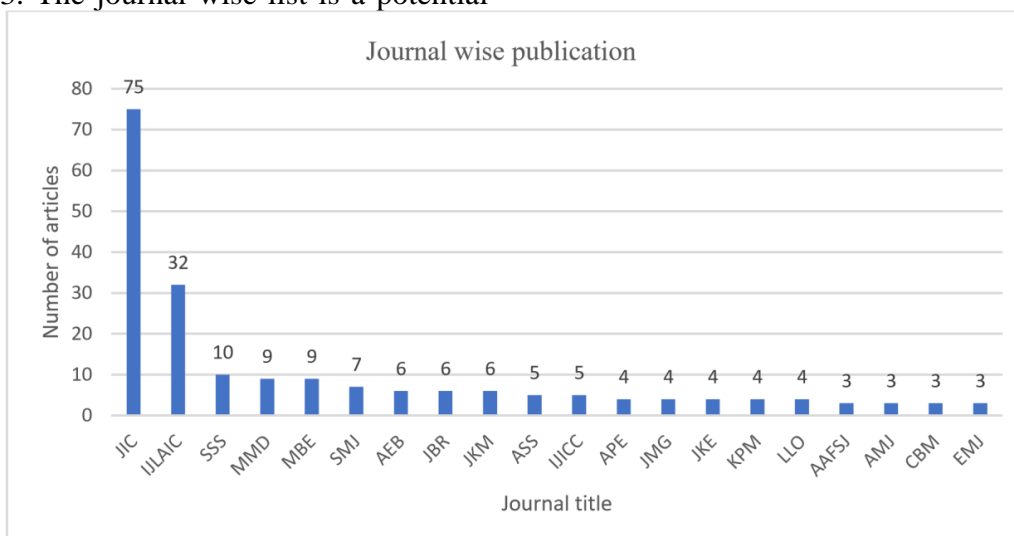


Figure 3. Journal wise publication

Source: Scopus database; 1996 to 2020 and Authors’ own compilation.

The journals publishing the most in this area are the Journal of Intellectual Capital or JIC (75), International Journal of Learning and Intellectual Capital or IJLAIC (32), Sustainability Switzerland or SSS (10), Management Decision or MMD (9) and Measuring Business Excellence or MBE (9).

The affiliation-wise publication is shown in figure 4. The topmost (10) universities working towards intellectual capital are Universitas Airlangga (10), Qingdao Agricultural University (9), Università della Calabria (8), McMaster University (8), DeGroote School of Business (8), Islamic Azad University (6), University of Kragujevac (6), Guru Jambheshwar University of... (5), Universiti Utara Malaysia (5) and Universiti Teknologi MARA (5).

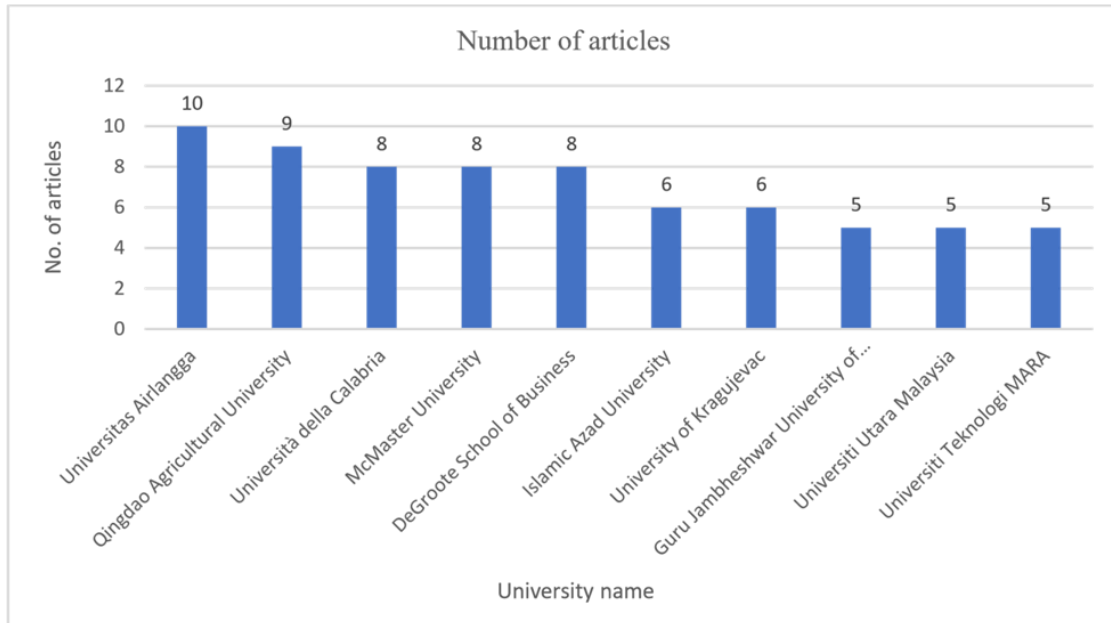


Figure 4. Affiliation-wise publication

Source : Scopus database; 1996 to 2020 and Authors' own compilation.

The country wise statistics is presented in figure 5. There are many countries that are working towards intellectual capital, the leading ones being United States (63), Italy (47), Indonesia (35), Malaysia (35) and Taiwan (35).

(35). India stands at sixth position in terms of contributing articles from 1996 till 2020 with total 34 publications only. This reflects the pressing need for channelizing research efforts towards IC in India.

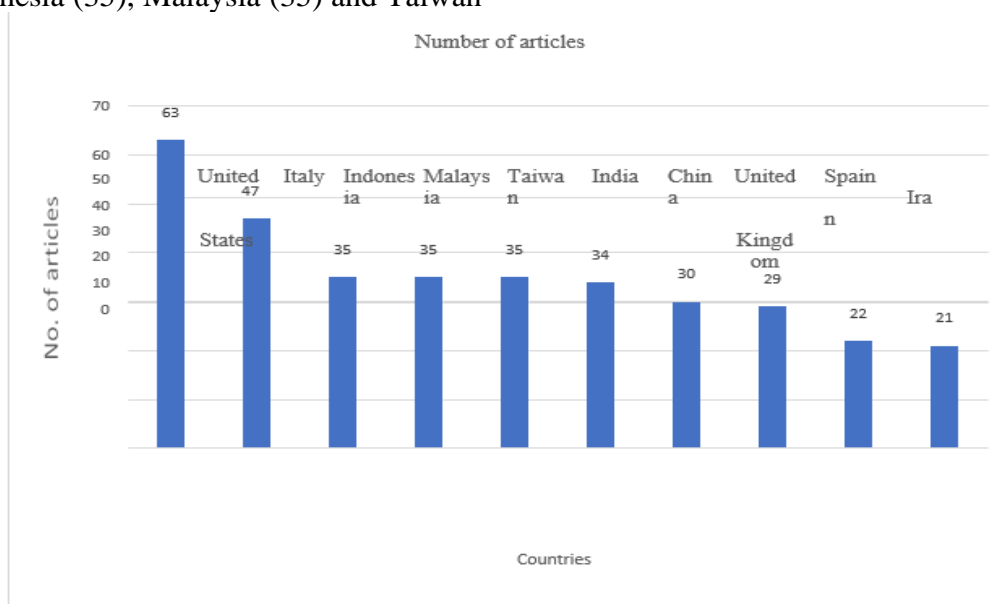


Figure 5. Country-wise publication

Source : Scopus database; 1996 to 2020 and Authors' own compilation.

The field of IC is such that it falls under the purview of every subject. Since its application can be seen in almost every field. The subject-wise classification is presented in figure 6

below. The top contributing areas are Business, Management and Accounting (379), Social Sciences (146), Economics, Econometrics and Finance (113), Decision Sciences (40) and Computer Science (37).

Table 3. Subject-wise publication

Subject	Number of articles	Subject	Number of articles	Subject	Number of articles
Business, Management and Accounting	379	Arts and Humanities	22	Biochemistry, Genetics and Molecular Biology	3
Social Sciences	146	Energy	15	Materials Science	3
Economics, Econometrics and Finance	113	Agricultural and Biological Sciences	9	Chemical Engineering	2
Decision Sciences	40	Psychology	6	Medicine	2
Computer Science	37	Mathematics	5	Dentistry	1
Engineering	32	Multidisciplinary	4	Earth and Planetary Sciences	1
Environmental Science	29	Pharmacology, Toxicology and Pharmaceutics	4	Veterinary	1

Source : Scopus database; 1996 to 2020 and Authors’ own compilation.

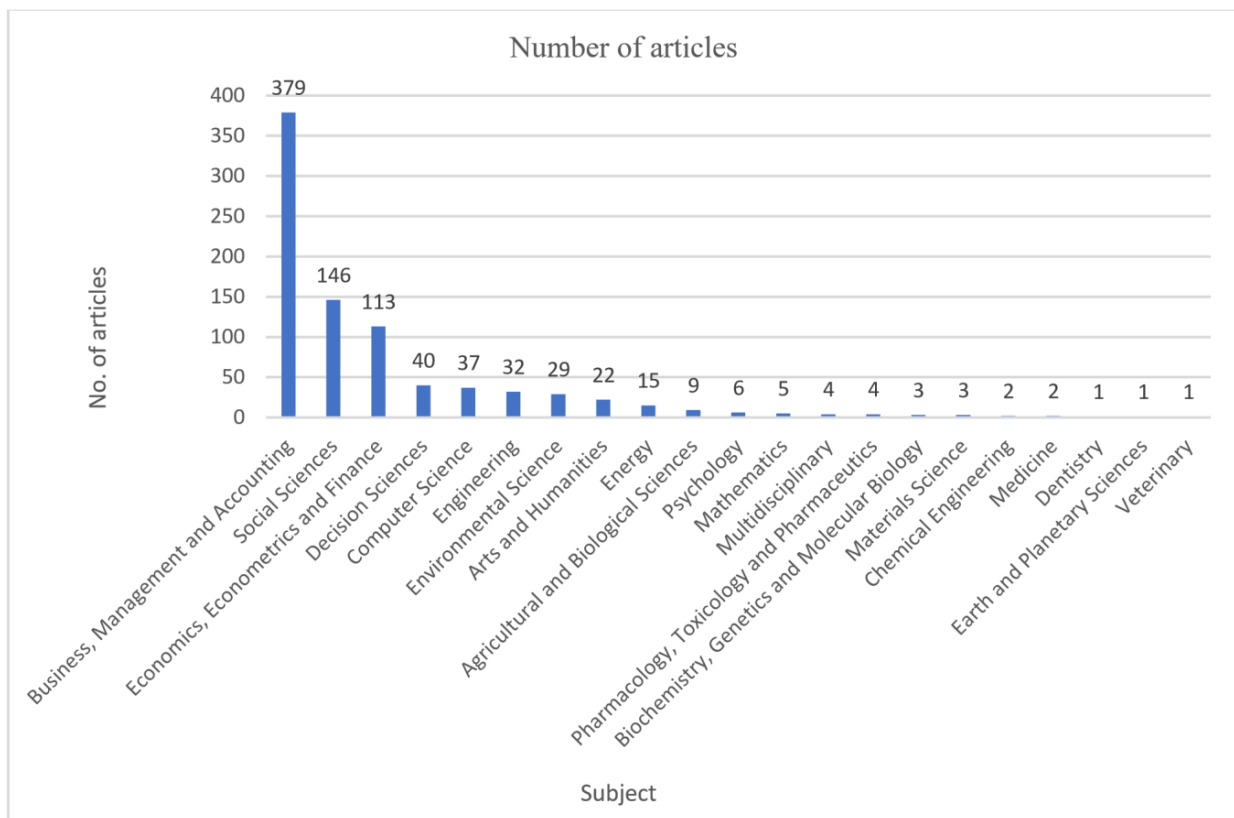


Figure 6. Subject-wise publication

Source : Scopus database; 1996 to 2020 and Authors’ own compilation.

The presence of a funding sponsor is a major achievement for researchers. The review of agencies and institutions providing funding facilities in the last 24 years is presented in figure 7 below. The results highlight that many foundations, institutions, and sponsors are funding research related to IC in the form of research projects, consultancy projects, doctoral and postdoctoral academic

fellowships, and other related activities. Majorly, National Natural Science Foundation of China (5), Fundação para a Ciencia e a Tecnologia (4), Ministry of Education of the People's Republic of China (4), Ministacrio da Educaasalo e Ciaancia (4) and National Science Council (4) have provided funding in the last 24 years.

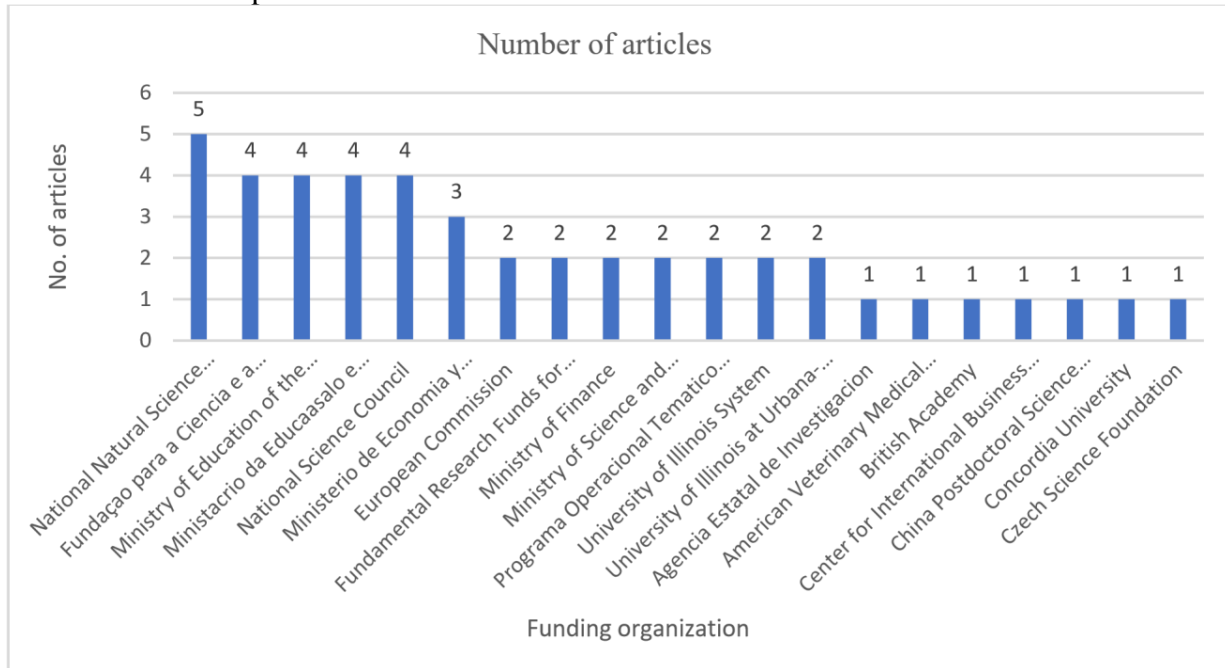


Figure 7. Funding sponsor wise-publication

Source : Scopus database; 1996 to 2020 and Authors’ own compilation.

**4.2 Bibliometric Analysis**

a) Keyword statistics: Out of 796 total keywords, 54 meet the threshold limit of 4 for co-occurrence analysis. So, further analysis is

fortified using these 54 keywords. The table-4 below provides detail of the keywords along with the cluster classification, occurrence and total link strength.

**Table 4. Keyword statistics**

Sr. No.	Keyword	Occurrence	Total Link Strength	Cluster
1.	Intellectual capital	135	297	5
2.	Financial performance	64	153	3
3.	Firm performance	39	87	4
4.	Intangible assets	30	57	2
5.	Human capital	28	109	3
6.	Performance	26	41	5
7.	Knowledge management	24	81	1
8.	VAIC	17	47	5

9.	Structural capital	17	74	3
10.	Relational capital	14	61	3
11.	Organizational performance	9	14	1
12.	Profitability	8	36	6
13.	Innovation	8	21	1
14.	Industrial performance	8	28	2
15.	India	8	30	5
16.	Corporate social responsibility	8	18	1
17.	Value added intellectual coefficient	7	35	2
18.	Corporate reputation	7	21	4
19.	ROA	6	17	5
20.	Productivity	6	33	6
21.	Performance assessment	6	24	1
22.	Knowledge	6	15	1
23.	Human capital efficiency	6	23	6
24.	Corporate governance	6	16	4
25.	Banks	6	18	5
26.	Social capital	5	21	1
27.	Managers	5	21	4
28.	Investment	5	18	1
29.	Intellectual capital efficiency	5	13	3
30.	Intangibles	5	5	3
31.	Industry	5	23	2
32.	Firm value	5	16	4
33.	Finance	5	25	4
34.	Competitive advantage	5	14	3
35.	Capital employed efficiency	5	21	6
36.	Value added	4	15	2
37.	Structural equation modeling	4	23	4
38.	Structural capital efficiency	4	18	6
39.	Smes	4	7	6
40.	Return on assets	4	16	2
41.	Resource-based view	4	7	2
42.	Research and development	4	14	1
43.	Physical capital	4	21	3
44.	Organizational learning	4	8	1
45.	Management	4	7	1
46.	Knowledge-based view	4	4	1
47.	Indonesia	4	11	6
48.	Human	4	17	1
49.	Data envelopment analysis	4	11	5
50.	Corporate performance	4	11	2
51.	Competition	4	20	2
52.	Company performance	4	13	4

53.	Capital	4	18	1
54.	Article	4	18	1

Source: Authors’ compilation using Vosviewer 54 items were divided into 6 clusters with 415 links and 896 total link strength. Cluster 1 contains 15 items, cluster 2 contains 9 items, cluster 3 contains 8 items, cluster 4 contains 8 items, cluster 5 contains 7 items and cluster 6 contains 7 items. The most prominent words that came up in the analysis with the highest occurrence include : intellectual capital (135), financial performance (64), firm performance (39), intangible assets (30), human capital (28), performance (26), knowledge management (24), VAIC (17), structural capital (17) and relational capital (14).

The main study area of the paper, i.e. IC has the highest link strength in network with a value of 297 TLS and occurring 135 times in keywords cited and searched in SCOPUS. IC has been studied by different authors from different perspectives. An insight into the same shows that IC is majorly studied in connection to financial performance (Roberts & Dowling (2002); Miller & Shamsie (1996); Delios & Beamish (2001); Wang, Wang & Liang (2014); Nimtrakoon (2015); Mondal & Ghosh (2012); Joshi et al. (2013); Wu & Chen (2014); Alipour (2012); Bontis, Janosevic & Dzenopoljac (2015); Chu, Chan & Wu (2011); Pal & Soriya (2012); Kianto, Andreeva & Pavlov (2013) as portrayed by the link strength of 45. In depth study of linkages of financial performance reflect that it is mainly studied in relation with human capital, knowledge management, VAIC, firm performance, structural and relational capital. However, less emphasis is laid on corporate governance, competitive advantage, profitability, productivity, firm value and its linkages with banking sector.

Secondly its association with firm performance (Hsu & Wang (2012); Clark, Seng & Whiting (2011); Inkinen (2015); Hsu & Sabherwal (2012); Phusavat et al. (2011); Black, Carnes & Richardson (2000); Raithel & Schwaiger (2015); Sydler, Haeffliger & Pruksa (2014); Ling (2013) is seen (link strength 21).

Further, IC has been studied with the focus on human capital synonymously human capital efficiency (Medina, Cabrales & Cabrera

(2011); Phusavat et al. (2011); Sydler, Haeffliger & Pruksa (2014); Chu, Chan & Wu (2011) as the main component and its role in value addition to IC. Although IC has been divided mainly into three or four components by different academicians and researchers, results of bibliometric analysis suggest that greater focus is on human capital aspect (link strength 23), followed by structural capital synonymously physical capital (link strength 14), relational capital (link strength 11) and capital employed efficiency

(link strength 5). This also suggests that human, structural and relational capital are the two most important elements in today’s era as an organization’s success largely rests on its ability to utilize the knowledge, skill, expertise, innovation, technological competence and adaptability of its human resources along with the exploitation of relationship building capacity of an organization (with its stakeholders – customers, suppliers, shareholders, government) and efficient investments in advertising and R&D.

Also, various studies have analyzed role of IC in performance (link strength 17) of organizations in domain of banking (Isola, Adeleye & Olohunlana (2020); Weqar, Khan & Haque (2020); Soewarno & Tjahjadi (2020); Buallay (2019); Insurance (Mutiasari & Rizki (2020); pharmaceutical (Chattopadhyay & Bercovitz (2020); and textile industry (Afroz et al. (2018); hotel industry (Sardo, Serrasqueiro & Alves (2018) etc.

The next set of studies can be seen as focusing on the knowledge management (link strength 14) perspective of Intellectual capital. (Hsu & Sabherwal (2012); Crhova, Matoskova & Pavelkova (2018); Durst & Wilhelm (2012). These studies reflect on issues like the supportive role played by KM towards ICM, strategies that enterprises follow to create a synergy between these, development of IC models for management of knowledge-based resources, and growth of IC assets by rethinking resource transformations in new ways.

Also, it can be seen from the bibliometric analysis that research efforts have been

channelized in quantifying value of IC in organizations by using the VAIC and its synonym value added intellectual coefficient method (link strength 19). (Abdulsalam, Qaheri & Khayyat (2011); Shahwan, Fathalla & Abdullah (2006). Surprisingly, among the various methods of capturing IC such as Tobin's Q (Tobin, 1969), economic value added and market value added (Stewart, 1991), calculated intangible value (Stewart, 1995), balanced scorecard (Kaplan & Norton, 1996), Skandia's IC navigator (Edvinsson & Malone, 1997), intangible asset monitor (Sveiby, 1997), intellectual capital services' IC-index (Roos & Roos, 1997), and value added intellectual coefficient or VAIC (Pulic, 1998), only VAIC method has been used majorly by the researchers.

In the Indian context, the studies are mainly related to IC, financial performance, human capital, structural & relational capital. (Kulkarni, Bharathi (2020); Akbar, Ningsih (2020); Mondal & Ghosh (2012). But there is a dearth of studies of IC in the banking sector in India. The analysis of IC and banks show that it is studied in context of financial performance, knowledge management, firm value, IC efficiency, intangible assets and human capital.

Overall, the studies conducted focused on varied aspects with significant findings. Roberts & Dowling (2002) concluded that superior-performing firms have a greater chance of sustaining superior performance over time if they also possess relatively good reputations. Miller & Shamsie (1996) found that both property- and knowledge-based resources that are hard to buy or imitate contributed to performance: to returns on sales, operating profits, and market share.

Morgan, Miles and Covin (2000) concluded that there is strong support that being a good environmental steward helps create a reputational advantage that leads to enhanced marketing and financial performance. Clarke, Seng and Whiting (2011) found that there is a direct relationship between VAIC and

performance of Australian publicly listed firms, particularly with CEE and to a lesser extent with HCE. Wang, Wang & Liang (2014) stated that tacit KS significantly was found to contribute to all three components of IC, namely human, structural and relational capital, while explicit KS only has a significant influence on human and structural capital. Human, structural and relational capital, enhance both operational and financial performance of firms. The effect of KS on firm performance is mediated by IC.

Inkinen (2015) demonstrated that IC influences firm performance mainly through interactions, combinations and mediations. Also, there is a great deal of evidence on the significant relationship between IC and firm's innovation performance. Medina, Cabrales & Cabrera (2011) indicated a positive relationship between IC and market value, confirming that firms with greater IC tend to have greater market value. Likewise, a positive relationship between IC and financial performance measures is confirmed. Phusavat (2011) et al. stated that IC positively and significantly affects a manufacturing firm's performance. Joshi et al. (2013) found that value creation capability of financial sector in Australia is highly influenced by human capital. About two thirds of the sample companies have very low levels of intellectual capital efficiency. The performance of various components of VAIC and overall VAIC differs across all subsectors in the financial sector. Investment companies have high value VAIC due to higher a level of human capital efficiency, as compared to banks, insurance companies, diversified financials and RIETs. Insurance companies are more focussed on physical capital rather than human and structural capital leading to lower VAIC.

The figure 8 below shows the result of co-occurrence analysis of all keywords carried out in VosViewer.



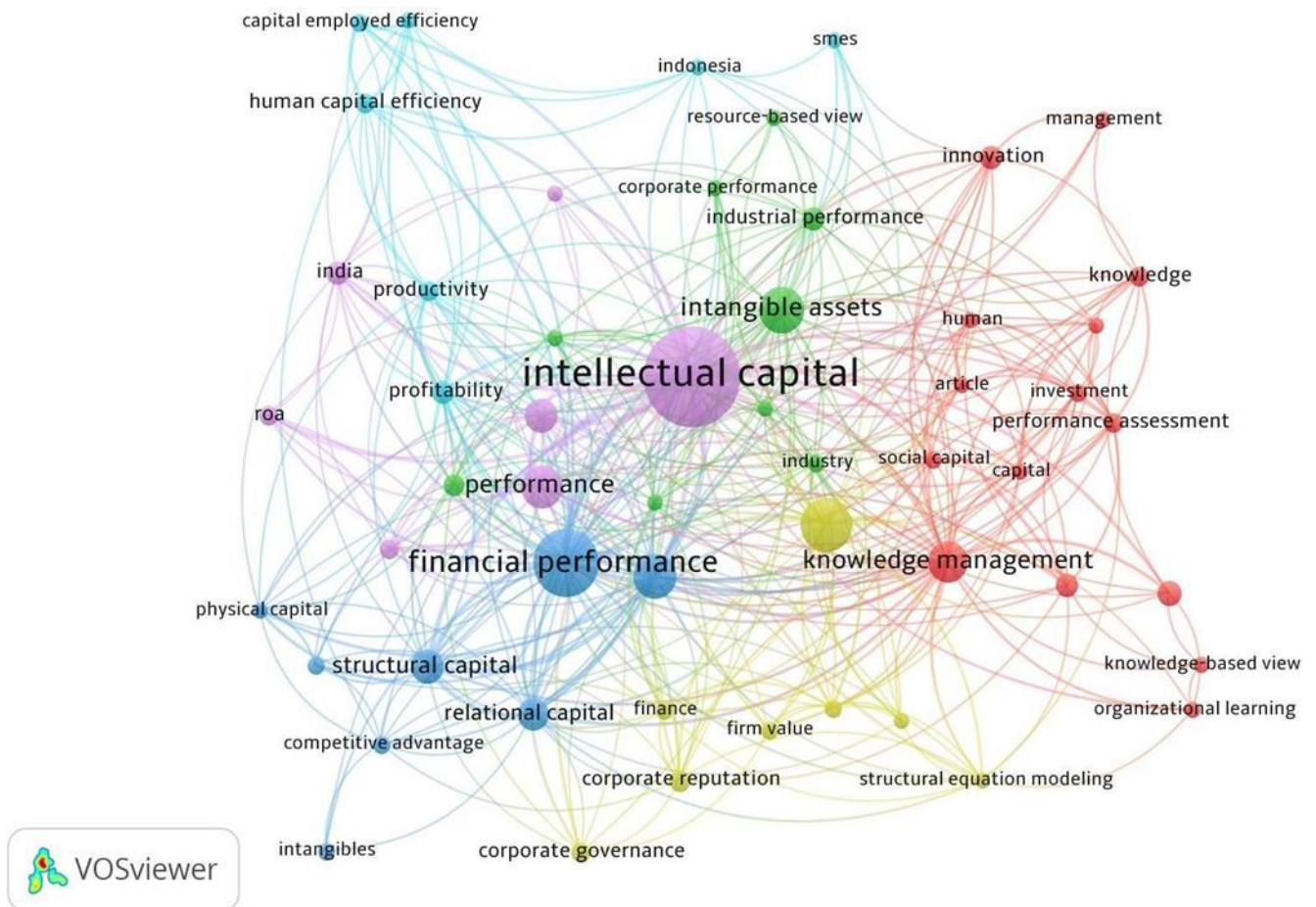


Figure 8. Co-occurrence analysis Source: Author

(b) Citation analysis: Out of 253 documents, 149 documents meet the threshold limit of 5 for citation analysis. However, as per results of the largest set of connected items, 71 documents came up in the network. So, further analysis is fortified using top cited documents

out of these 71 documents. The table-5 below provides detail of the top 34 documents out of these 71 documents along with citations received by them. Each of these documents have a citation of 50 or above.

**Table 5. Citation analysis (documents)**

Sr. No.	Documents	Citations	Sr. No.	Documents	Citations
1.	Roberts P.W. (2002)	1280	18.	Wu I.-L. (2014)	105
2.	Miller D. (1996)	877	19.	Black E.L. (2000)	102
3.	Konar S. (2001)	642	20.	Alipour M. (2012)	96
4.	Delios A. (2001)	497	21.	Raithel S. (2015)	95
5.	Miles M.P. (2000)	470	22.	Sydler R. (2014)	95
6.	Hsu L.-C. (2012)	201	23.	Iazzolino G. (2013)	88
7.	Clarke M. (2011)	199	24.	Durst S. (2012)	88
8.	Wang Z. (2014)	192	25.	Ling Y.-H. (2013)	82
9.	Inkinen H. (2015)	165	26.	Kianto A. (2013)	82
10.	Cabello-Medina C. (2011)	155	27.	Palacios-Marqués D. (2015)	78

11.	Nimtrakoon S. (2015)	147	28.	Bontis N. (2015)	77
12.	Shu C. (2012)	137	29.	Chu S.K.W. (2011b)	74
13.	Hsu I.-C. (2012)	131	30.	Pal K. (2012)	68
14.	Mondal A. (2012)	122	31.	Lin C.-S. (2015)	62
15.	Phusavat K. (2011)	117	32.	Cozza C. (2015)	54
16.	Joshi M. (2013)	114	33.	Wang Z. (2016)	53
17.	Jardon C.M. (2012)	114	34.	Lee J. (2012)	53

Source: Authors' compilation using Vos-viewer

The highest cited document in the list is by Roberts & Dowling (2002) with total 1280 citations in scopus and titled "Corporate reputation and sustained superior financial performance" published in the year 2002. The second most cited document is by Miller & Shamsie (1996) titled "The resource based view of the firm in two environments: the Hollywood film studios from 1936 to 1965" published in 1996 with total 877 citations. The third most cited paper is by Konar & Cohen (2001) titled "Does the market value environmental performance?" published in the year 2001 with 642 citations. Subsequently, fourth highest cited document is by Delios &

Beamish (2001) titled "Survival and profitability: the roles of experience and intangible assets in foreign subsidiary performance" published in 2001 with total 497 citations in scopus. And the fifth highest cited paper is by Miles & Covin (2000) titled "Environmental marketing: a source of reputational, competitive and financial advantage" published in the year 2000 with 470 citations.

The figure 9 below shows the result of citation analysis of documents carried out in VosViewer.

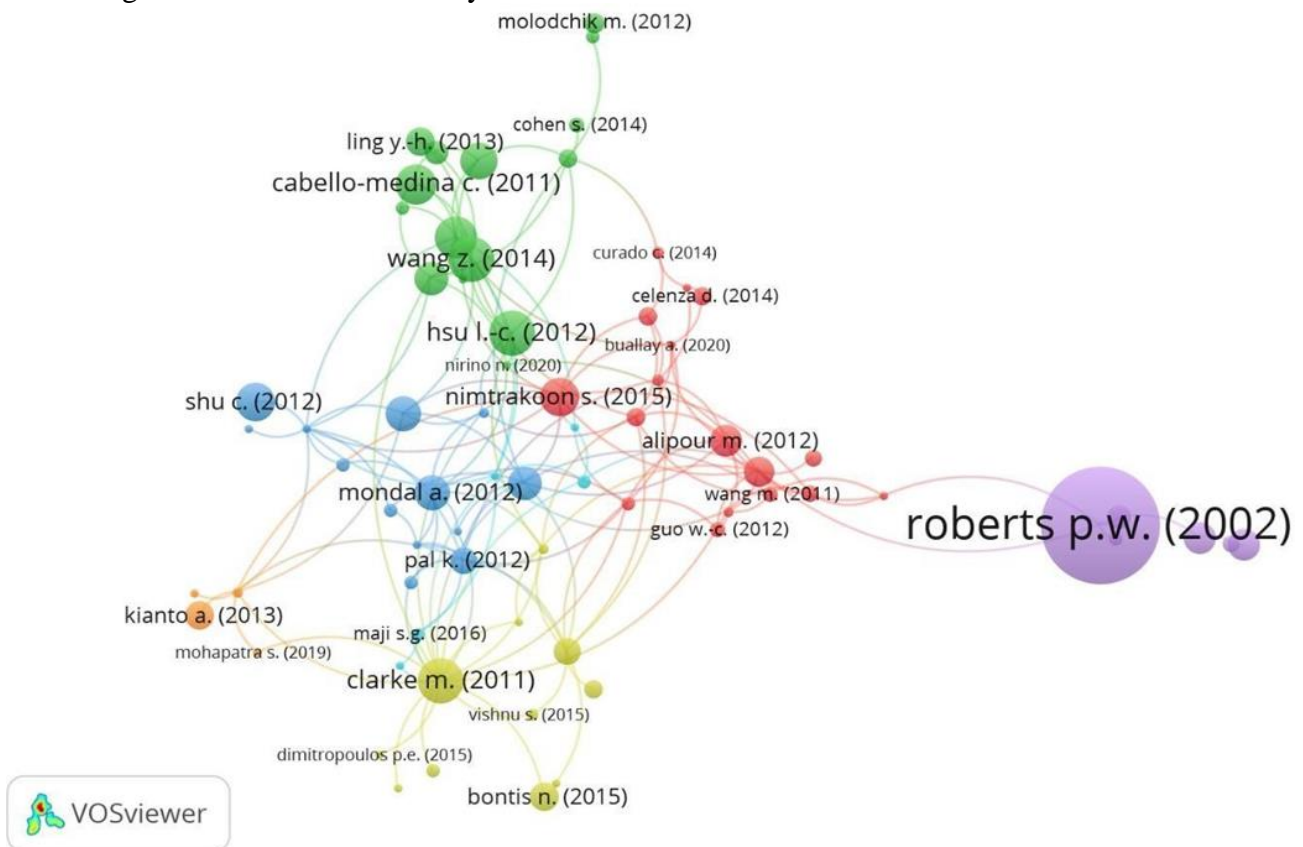


Figure 9. Citation analysis Source: Author

(c) Thematic Analysis: A list of top 30 documents out of the above listed 34 documents (as per citations received) is extracted and further thematic analysis is conducted for these papers. The top 30 publications focussed on linkages between intellectual capital or intangible assets with financial performance, environmental performance, human resource management

practices, market valuation, managerial ties (including business and political links), knowledge management, organizational culture, competitive advantage and global performance of firms. The table 6 below presents themes undertaken by these researchers.

Table 6. Themes of top 30 cited documents

Citations	Themes
<p>P. W. Roberts and G. R. Dowling;                      Danny Miller and Jamal Shamsie;                      Andrew Delios and Paul W. Beamish; Hsu &amp; Wang;                      Martin Clarke, Dyna Seng and Rosalind H. Whiting; Zhining Wang, Nianxin Wang, Huigang Liang; Henri Inkinen; Sirinuch Nimtrakoon;</p> <p>Amitava Mondal and Santanu Kumar Ghosh;</p> <p>Kongkiti Phusavat, Narongsak Comepa, Agnieszka Sitko-Lutek and Keng-Boon Ooi;</p> <p>Mahesh Joshi, Daryll Cahill and Jasvinder Sidhu; Ing-Long Wu and Jian-Liang Chen; Mohammad Alipour;</p> <p>Renato Sydler, Stefan Haefliger, Robert Pruksa;</p> <p>Nick Bontis, Stevo Janošević and Vladimir Dženopoljac; Samuel Kai Wah Chu; Kin Hang Chan and Wendy W.Y. Wu; Karam Pal and Sushila Soriya. Ya-Hui Ling (global performance)</p> <p>Aino Kianto<sup>1</sup> Tatiana Andreeva<sup>2</sup> and Yaroslav Pavlov (how ICM affects performance)</p> <p>Nick Bontis, Stevo Janošević and Vladimir Dženopoljac                      Samuel Kai Wah Chu,                      Kin Hang Chan and Wendy W.Y. Wu                      Karam Pal and Sushila Soriya</p>	<p>Intellectual capital and financial performance</p>

Source: Authors' own compilation

Study of intellectual capital or intangible assets is undertaken by various researchers in different contexts. Robert & Dowling (2002);

Miller & Shamsie (1996); Delios & Beamish (2001); Hsu & Wang (2012); Inkinen (2015); Wang, Wang & Liang (2014); Mondal & Ghosh (2012); Phusavat et al. (2011); Joshi et

al. (2013); Wu & Chen (2014); Alipour (2012); Sydler, Haefliger & Pruksa (2014); Ling (2013); Kianto, Andreeva, Pavlov (2013); Bontis, Janosevic & Dzenopoljac (2015); Chu, Chan & Wu (2011); Pal & Soriya (2012) study the effect of intellectual capital on organisational performance, specifically financial performance. Konar & Cohen (2001); Miles & Covin (2000) study the relationship between environmental performance and intangible assets. Medina, Cabrales & Cabrera (2011) study human resource management practices and its effect on intellectual capital. Nimtrakoon (2015); Black, Carnes & Richardson (2000); Raithel & Schwaiger (2015); Karam Pal and Sushila Soriya study the effect of intellectual capital on market valuation of organisations. Shu, Page, Gao & Jiang (2012) study the indirect influence of managerial ties on firm innovation including knowledge exchange and knowledge combination as mediators. Hsu & Sabherwal (2012); Aino Kianto1 Tatiana Andreeva2 and Yaroslav Pavlov study how Intellectual Capital Management affects performance and examine how IC and KM affect each other. However, I-Chieh Hsu and Rajiv Sabherwal study the effects of the organization’s culture on IC and

KM. Jardon & Martos (2012) analyze relationships among components of intellectual capital within a model of competitive advantage. Iazzolino & Laise (2013) undertake a review of value added intellectual coefficient method (VAIC), its strengths and weaknesses. Durst & Wilhelm (2012) study the knowledge loss/attrition that occurs in an organisation due to employee exit. Marques, Merigo & Acosta (2015) study the effect of online social networks on firm performance and how this technology can help to create value.

(d) Co-citation analysis: Co-citation analysis describes how independent citations of articles are inter-connected. And thus makes it convenient to extract colligate interpretations. The analysis is carried out using VosViewer software. Out of 13544 authors, 50 meet the threshold limit of 40 for co-citation analysis. The final image received after cluster update gave an output of 50 items divided into 6 clusters with 1244 links and 43398 total link strength. Table 7 below lists these 50 co-cited authors.

Table 7. Co-citation analysis of authors

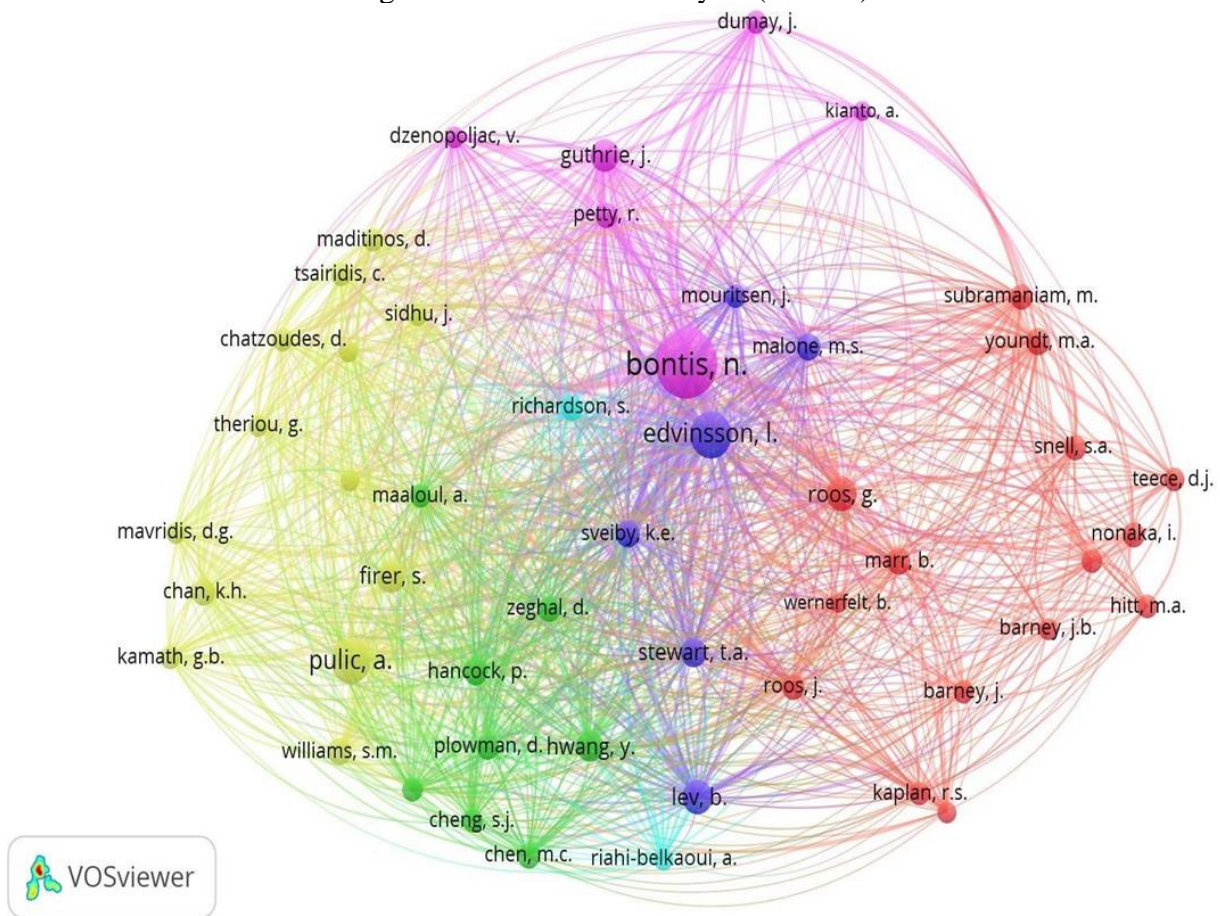
Sr. No.	Author	Citations	Total Link Strength	Cluster	Sr. No.	Author	Citations	Total Link Strength	Cluster
1.	Bontis, N.	433	9671	4	26.	Teece, D.J.	55	892	1
2.	Edvinsson, L.	200	4802	5	27.	Barney, J.	54	789	1
3.	Pulic, A.	187	4610	2	28.	Kamath, G.B.	54	1536	2
4.	Roos, G.	111	2854	1	29.	Dumay, J.	53	1185	4
5.	Lev, B.	109	2575	5	30.	Hitt, M.A.	52	690	1
6.	Guthrie, J.	101	2499	4	31.	Maaloul, A.	52	1360	3
7.	Firer, S.	99	2531	2	32.	Cheng, S.J.	51	1305	3
8.	Hwang, Y.	90	2264	3	33.	Mouritsen, J.	50	1321	5
9.	Stewart, T.A.	80	1968	5	34.	Kaplan, R.S.	49	1022	1
10.	Sveiby, K.E.	72	1762	5	35.	Tan, H.P.	49	1402	3
11.	Williams, S.M.	72	1718	2	36.	Tsairidis, C.	49	1350	2
12.	Youndt, M.A.	71	1581	1	37.	Chatzoudes, D.	48	1308	2
13.	Malone, M.S.	68	1650	5	38.	Grant, R.M.	48	847	1

14.	Chan, K.H.	67	1955	2	39.	Maditinos, D.	48	1300	2
15.	Hancock, P.	64	1738	3	40.	Mondal, A.	47	1442	2
16.	Marr, B.	64	1522	1	41.	Norton, D.P.	47	943	1
17.	Nonaka, I.	63	758	1	42.	Barney, J.B.	46	713	1
18.	Plowman, D.	63	1720	3	43.	Dzenopoljac, V.	46	1230	4
19.	Zeghal, D.	63	1719	3	44.	Theriou, G.	44	1202	2
20.	Roos, J.	62	1683	1	45.	Joshi, M.	43	1291	2
21.	Richardson, S.	59	1500	6	46.	Riahi-Belkaoui, A.	42	1002	6
22.	Snell, S.A.	59	1180	1	47.	Sidhu, J.	42	1239	2
23.	Subramaniam, M.	59	1392	1	48.	Mavridis, D.G.	41	1227	2
24.	Chen, M.C.	56	1415	3	49.	Kianto, A.	40	986	4
25.	Petty, R.	56	1436	4	50.	Wernerfelt, B.	40	711	1

Source: Author’s own compilation using VosViewer

The figure 10 below shows the result of co-citation analysis of authors carried out in VosViewer.

Figure 10. Co-citation analysis (authors)



Source: Authors’ own compilation using Vosviewer

(e) Country-wise Citation Analysis : Out of 62 countries, 56 countries meet the threshold limit of having at least 1 document per country and 1 citation per document for conducting citation analysis. However, as per results of the largest set of connected items, 47 countries

came up in the network. The description of country-wise analysis is presented below. Table 8 below provides the list of countries working in the domain of Intellectual capital.

Table 8. Citation analysis (country-wise)

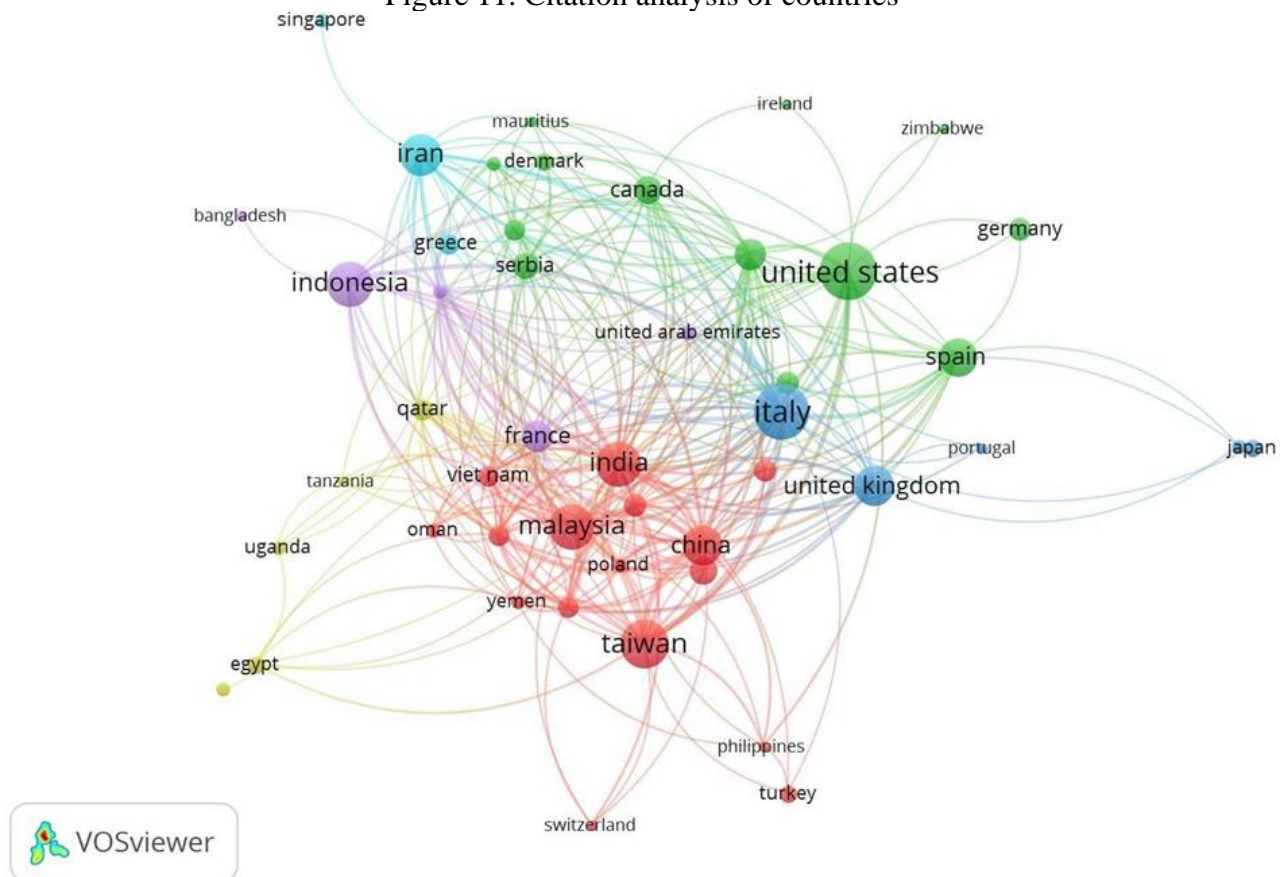
Sr. No.	Country	Documents	Citations	Total Link Strength	Sr. No.	Country	Documents	Citations	Total Link Strength
1.	United States	29	3497	50	29.	Pakistan	5	27	18
2.	Australia	9	1468	56	30.	Denmark	3	26	9
3.	Canada	7	1016	32	31.	Sweden	2	24	0
4.	Taiwan	21	767	69	32.	Japan	3	22	2
5.	Spain	13	491	36	33.	Turkey	3	20	4
6.	Italy	27	484	102	34.	Uganda	2	19	5
7.	India	19	339	101	35.	South Africa	2	17	9
8.	China	15	328	92	36.	Bocconi University	1	16	0
9.	Finland	5	310	36	37.	Department Of Management	1	16	0
10..	United Kingdom	15	298	33	38.	Management	1	16	0
11.	Thailand	4	264	49	39.	Portugal	1	16	5
12.	Malaysia	19	261	83	40.	Nigeria	2	15	1
13.	New Zealand	2	210	51	41.	Singapore	2	15	1
14.	Russian Federation	5	149	14	42.	United Arab Emirates	2	15	12
15.	Hong Kong	4	136	24	43.	Bahrain	4	14	35
16.	Serbia	6	134	23	44.	Viet Nam	4	13	28
17.	Iran	16	131	41	45.	Czech Republic	1	9	0
18.	Poland	2	126	19	46.	Netherlands	1	9	0
19.	Germany	5	105	3	47.	Bangladesh	1	8	2
20.	France	9	99	37	48.	Oman	2	6	9
21.	Switzerland	1	95	6	49.	Mauritius	1	4	8
22.	Liechtenstein	1	88	0	50.	Philippines	1	4	10
23.	Belgium	2	56	4	51.	Ireland	1	3	2
24.	Yemen	2	53	19	52.	Tanzania	1	3	8
25.	Indonesia	18	47	36	53.	Egypt	3	2	10
26.	Greece	4	41	5	54.	Zimbabwe	1	2	2
27.	South Korea	7	34	14	55.	Chile	1	1	0
28.	Qatar	4	33	35	56.	Tunisia	1	1	0

Source: Author's own compilation using VosViewer The top 5 countries as per the highest citations received are United States (3497), Australia (1468), Canada (1016), Taiwan (767) and Spain (491).

India falls at seventh position in the list with 19 documents and 339 citations which portrays that India still lags behind in terms of research in the field of IC.

The figure 11 below shows the result of citation analysis of countries carried out in VosViewer.

Figure 11. Citation analysis of countries



Source: Authors' compilation using Vosviewer

## 5. Discussion and conclusion

A deep dive into top 30 papers cited and analyzed in above section shows that Robert Miller & Shamsie (1996) concluded that there is stability of financial performance in case of property based resources in predictable environment whereas knowledge based resources ensures it in unpredictable environment. Konar & Cohen (2001) found that bad environmental performance is negatively correlated to intangible asset value of the firm. Delios & Beamish (2001)

considered another dimension i.e. foreign and host firm performance through the role of experience and intangible assets.

Studies conducted in early 2002 talked about corporate reputation and its impact on financial

performance. Dowling (2002) found positive relationship between corporate reputation and financial performance. Corporate reputation helps in ensuring sustainable profits. Miles & Covin (2000) explores the relationship between reputation, environmental performance, and financial performance, and looks at the contingencies that impact environmental policy making. Similarly, Ervin et al. (2000) concluded non-financial information related to reputation adds to market value.

In the recent decade the academic interest in more into measure the impact of intellectual capital on financial performance. Clark, Seng & Whiting (2011) studied the impact of intellectual capital measured by VAIC on performance and found direct relationship. Medina, Cabrales & Cabrera (2011) found

direct relationship of IC with innovation which leads to financial performance. Jardon and Maria Susana Martos (2012) concluded IC as a tool of competitive advantage in emerging clusters in Latin America. Similarly, Hsu & Wang (2012) found that dynamic capability does not completely mediate the effect of intellectual capital measured by human capital and rational capital on performance. Considering mediating role of IC, Wang, Wang & Liang (2014) investigated the impact of knowledge sharing on firm performance. It was found that explicit knowledge sharing has a greater effect on financial performance than operational performance. Phusavat et al. (2011), Mohammad Alipour (2012), Joshi, Cahill, Sidhu & Kansal (2013), Bontis et al. (2015), Inkinen (2015), Nimtrakoon (2015) and also found significant positive relationship between IC and financial performance in financial sector, insurance sector, hotel industry, manufacturing sector, large firms respectively. Whereas, Hsu & Sabherwal (2012) concluded that IC affects knowledge management and dynamic capabilities. Ya-Hui Ling (2013) concluded that combination of knowledge management with right type of IC will enhance firm's performance. Gianpaolo Iazzolino, and Domenico Laise (2013), Renato et al. (2014) examined the various tools for measuring IC. Chu et al. (2011) found positive relationship between IC and profitability. Particularly, top cited papers also include studies on Indian firms. Mondal & Ghosh (2012) found varied relationship between IC and financial performance. It was concluded that IC is vital for competitive advantage in

Indian banking sector. In Indian pharmaceutical and textile industry, Karam Pal and Sushila Soriya (2012) found that IC and profitability are positively associated.

Overall, it is concluded that the corporate reputation is critical as it creates value and helps in maintaining competitive edge. Further, intellectual capital is highly discussed in the sphere of knowledge management. The data of last 30 years shows that the year wise publications in the field of intellectual capital and bank performance has shown an upward trend with the number of studies increasing with the passage of time particularly from 2016 onwards. The journals publishing the most in this area are the Journal of Intellectual Capital or JIC, International Journal of Learning and Intellectual Capital, Sustainability Switzerland, Management Decision and Measuring Business Excellence. The topmost universities working towards intellectual capital are Universitas Airlangga, Qingdao Agricultural University, Universita della Calabria, McMaster University and DeGroote School of Business. There are many countries that are working towards intellectual capital, the leading ones being United States, Italy, Indonesia, Malaysia and Taiwan. In Indian context, the studies are mainly related to IC, financial performance, human capital, structural & relational capital. But there is a dearth of studies of IC in the banking sector in India. India stands at sixth position in terms of contributing articles from 1996 till 2020 with total 34 publications only. This reflects the pressing need for channelizing research efforts towards IC in India.

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**BEHAVIOURAL CHANGES NEEDED IN INDIAN ELECTION SYSTEMS**

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**ABSTRACT**

*It is time to think of behaviour beyond thinking legally. The concept is admired by the recent novel idea put forward by our Hon. P.M.Shri Narendra Modi on behavioural change for environment protection. Is this not true that challenges to the free and fair election will never end unless we the all, voters, the community as a whole, the political parties, the administration, the empowered institute for election ECI, the legislature, required changes in our approach, i.e. behaviour in the prospect of an election? Policies, laws, rules, and orders are there to resolve elections hurdles and achieve free, fair, transparent, and fearless elections, ultimately strengthen the roots of democracy. Thus, they have their compulsion, importance, and significance. But there is something beyond these words. One of the most powerful ways to fight against the virus and vices of the elections is our behavioural approach. India (Hindustan) has the world oldest culture and best philosophy inherently, and one of the basic principles of ethical approach is none but behaviour. The visible change in behaviour changes the scenario of any event, process, or management result into faith, confidence and save our resources and energy. The pandemic situation of Covid-19 and the lockdown period compelled us to change our many habits, which ultimately benefitted and are well experienced globally. Behaviour change and election are not related to each other. If we co-relate behaviour with laws, rules, and orders, behaviour is a catalyst that does not directly involve the election process but certainly aids in giving true direction and shape of free and fair to the election, the success to democracy institute. With this object to formulate the election reforms, study and review of the behaviour of all organs involved in the process election have its great importance.*

**Keywords:** Election, Behavioural change, India.

**1. Introduction**

We are proud to be the largest democracy in the world. For more than seventy years, we have witnessed successful elections, peaceful changes of government at the Centre and in the States. Seventeen general elections for House of the Parliament and more than five hundred general elections of the State Legislative Assemblies numbers of by-elections for both the Houses, we the electors have faced till now. All elections were grossly peaceful as against the world critics doubts. Turnout is also increasing in good percentage. 2002 Gujarat election was most crucial after communal disharmony on account of the Godhra Tarin incident; the same was an excellent achievement of the ECI and Gujarat administration.

The election democracy by which the citizens make political choices by electing the representatives through whom participate in the country's governance. The expectation and aspirations, beliefs and doubts, trust and distrusts of the people are given expression at the interval of regular period are expressed through an election. The hallmark of a sound and functioning democracy is the free, fair, transparent, and fearless election. One can

proudly say that India is on the path to achieving the above goals.

As rightly by the first precedent of the country, the one amongst Constitution framer team Dr. Rejendraprasad that no system is ever perfect, it depends on who handles and executive the system. Every system requires changes as time goes on; the scenario is changing, the situation is changing, and accordingly, perception also changes.

To strengthen the root of democracy, the system and all the organs involved in the system are responsible, and accordingly, they are expected for their approach, commitments, and behaviour.

In the election process, the legislature, the administrator, the election commission of India, the political parties, the contesting candidates, the community, the media, and the voters are equally involved, and our committed approach, positive attitude impart success.

**2. Legislature**

The basic and broad concept of elections is settled by our legend constitution framers in the Constitution itself under the various articles. Constitution empowers the legislature, i.e. the Parliament, to make required laws

concerned with the elections of the House of People and the State Legislative Assemblies under article 327 and the State Assemblies empowers for state local bodies elections under Article 328. In a way, the legislature is the structural engineer and architect of the election module. The legislature has enacted a dedicated self-code statute, the Representation of People Act, 1950 and 1951. In consultation with the ECI, framed rules for the RP Act for elections are framed under The Conduct of Election Rules, 1961 consultation with the ECI. The allotment of symbols Act 1968 is also an important ancillary act to the election process. This is the legislature's constitutional duty, and it is fulfilled. This provides the complete basic infrastructure of the election process, which is most important for any democratic country.

It is of great importance that how we behave in fulfilling our duties. The election is the only toolkit that strengthens the roots of democracy in a country. As we know, India is the largest democracy globally, and our uniqueness is diversity with unity. (*vividhta me ekta*) Immediately at the time of independence, we were was struggling with poverty and illiteracy. By the time of dispatch, both these factors are under sizable control. But still, evils of money power, muscle power, corrupt practices, and criminalization in elections persist. The legislature required a strong political will to pass an appropriate legislature to fight against these evils so that elections are free, fair, transparent, and fearless. In power politics, strict legislation often reduces the political parties' ease and chances of capturing and retaining power.

The ruling party is always expected to have strong commitments in enacting or amending the existing election statutes and rules immediately as per the need of an hour to achieve a free, fair, fearless, and transparent election. Equally, the opposition party in the legislature is to play a crucial role in the democratic system. Strong & positive opposition has an impact and compels the ruling party to do whatever is in the country's interest. Just to oppose any action of the ruling party as an opposition party is not the expected behaviour for the opposition.

As we experience criminalization of politics even after the various bold judgments and the directions of the judiciary followed vigorously by the ECI, the numbers of the members in the legislature Houses having a history of criminal antecedents and facing various serious charges of murder, attempt to murder, rape financial frauds, corruptions, etc., are very disappointing. Both ruling and opposition parties are singing for decriminalization in public and even in their election manifesto, but no result appeared on the floor.

Many committees have been appointed by the government, and the valuable reports are on the table of Houses, but a lack of political will, such recommendations are not put in action. Since 1977, our country is often governed by a coalition government, and parties to the coalition have their political agenda and vested interests. The scare of instability alters the priority of both ruling and opposition parties. One more reason is the broad concept of justice to all, and equality is part of our Constitution's basic structure, requiring timely amendment keeping its values intact as the situation changes. The Constitution process also requires the political will and commitments of the ruling and the opposition party in the House.

Even after the term of the elected legislature is determined in the Constitution and the statute, since 1970, if we look at the numbers of elections, bye-elections that a country is a threat to the roots of democracy and also adversely affects the development and economy of the country. In this concern, the concept of 'One Nation One Election.' Put forward by Hon. Modiji requires to give a positive approach.

These required the change in the attitude of the elected bodies in power and opposition in the House to make necessary laws and rules which leads the elections in a right way to achieve the free and fair election. The promise publicly in one way defer in executing the same in the House is the routine practice of our politics. This required a change in behaviour that even if any legislation or rules seems damaging to their political interest but needed for the betterment of the election and democracy, it is

the duty of election box elected bodies to enact such laws and rules.

No system is ever perfect; it requires finding out the gaps and fill them timely. It is human nature to find ways out and misuse the lacuna of legislation. In a nutshell, if the legislature change behaviour positively only to make the elections free and fair and simultaneously all the opposition delegates with full responsibility support such required legislation, it is not impossible to make the election as much as what requires for strong democracy, which ultimately results in the welfare of the citizen of the country.

### 3. Administration

The elections are conducted and monitored by the election commission of India under Article 324 of the Constitution. Still, it is executed through the government's administrative office, starting from the delimitation of constituencies, preparation of electoral rolls, and filing of nominations until the declaration of the result requires a huge number of administrative manpower of the different government offices. The largest section of the election workforce stays on for the shortest period. This includes returning officers, polling staff, counting workforce general and expenditure observers, etc. Also, there is an electoral registration workforce and recently additional work staff of the cadre of Booth level officers (BLO) (one BLO for about each 1200 approx. voters) they involve in the election process for about a year. Apart from this, maintaining the law in order and a fearless atmosphere during the election of huge police manpower has to be deployed. In sensitive areas, various branches of the Central Armed Police Forces are deployed. In the 2014 elections, 1,155 companies of these forces and Special Armed Police were transported by 234 special trains. That year, 75,237 villages were identified as vulnerable, and 218,227 "intimidators" were acted against. In areas where there is little chance of trouble, the local police and sometimes even home guards manage the crowds.

Thus the real drivers of the election vehicle designed through the legislature and superintended and monitored by ECI the real implementation and operated by the executives

only. Thus, the major part of the success of the system and process largely depends on the administrators.

Election duty is an additional duty for the executives and other work staff. But it is crucial as a peaceful and successful election can stabilize the government and politics for the next term and good governance of the future.

Adhering to laws and rules, interpreting them in the interest of democracy, maintain the general law and order, their voter's friendly and impartial approach is deeply expected. Administration ought to be the joining link among the ECI -political parties-candidates and more to voters. Appropriate implementation of the process, marinating fearless atmosphere, increases voters' faith in the election and democracy.

It is said that citizens should celebrate election as festival and for that, the role of administration have great importance and expected to change their behaviour in a manner and within statutory limitations.

### 4. The Election Commission Of India

The Election Commission of India is an autonomous constitutional authority under Article 324 of the Constitution, responsible for administering Union and State election processes in India. The body administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India and the offices of the President and Vice President. In addition, the election Commission of India's superintendents directs control and monitor the entire process of conducting elections to Parliament and Legislature of every State and the President and Vice-President of India.

Over and above subject to the provisions of the constitutions and insofar as provisions in that behalf is not made by the Parliament, the legislature of a state may from time to time by law make provisions concerning all matters relating to, or in connection with, the election to the House or either House of the legislature of the State including the preparation of electoral roll and all other matters necessary for securing the due Constitution of such House or Houses. In a nutshell, the election commission of India enjoys plenary powers under the Constitution related to the election. The sole

intention of the constituent assembly to constitute an autonomous constitutional body for election and empowering with plenary of powers is to achieve the impartial, free and fair election without the undue influence of the ruling party at the time of election.

Since the first general election, the Commission has very successfully performed its role and functions. In the seventy years, almost all the elections are largely conducted peacefully and successfully because of the constitutional powers. The election commission is always vigilant against the evils of money-power, muscle-power, undue influence of communalism, and castism. Providing a polling station for a single voter has fulfilled the object that not a single eligible voter left out to cast his vote as desired by the Constitution [At banaj of Gir Somnath in Gujarat] In the process of decriminalization of politics, its positive role and prompt actions has provided remarkable contribution. It has put its sincere efforts to control the money power strict monitoring of the election expenditure incurred by the candidate. To control enormous black money by the candidate and the political party, the Commission deployed a team of static surveillance and video-recording during the election campaign. But it lacks some statutory powers and has to depend on the government and administration for the required manpower and infrastructure; the ECI cannot achieve the desired goals.

Being a master controlling institute of the election process state has to effectively achieve free, fair, and transparent elections. The technology is developing with the rocket speed commission is expected to adopt more and more technologies to make the process easy for the voters. Often, the losers of the elections and some so-called activists criticize the partiality of the ECI in favour of the ruling party, and for that Commission is required to take much care in their behaviour. To execute the directions of the judiciary ECI in hurry issues orders, circulars but often it is found it creates confusions and unnecessary hurdles to all. Within its constitutional power and statutory limits, the ECI expected to make the election process comfortable, smooth, transparent so that citizen participates maximum and thereby

real desired representative enters in the legislature.

### 5. Judiciary

The judiciary's role is to fulfill the preamble promises mentioned in our Constitution by providing justice to all and equality before the law. The election is an important toolkit in democracy. It is the battle of procuring power and is being fought like a war. The disputes of the election begin from the electoral roll issues and continue to the declaration of results. It is routine that the loser is unhappy with the results but has been losing candidates for many years, and parties being aggrieved rush to the judiciary for justice. Sometimes the grievances are politically motivated shows. The tolerance and passion experienced during the immediate period of independence are not seen now. The numbers of election disputes and other general disputes relating to the election process are increasing in numbers. Our Constitution has provided a system of separation of power and judiciary to resolve the election disputes or even review the statutes, rules, or orders related to each election within the restriction of article 329(a) and (b). Only because the judiciary even Constitution has been amended and provision like article 329(A) has been removed. Even our judiciary declared sections 8(4) ultra virus and section 33B as unconstitutional in a series of cases or judiciary established right to know your candidate as a fundamental right under Article 19 (a). In the absence of proper legislature in decriminalisation properties, the Supreme Court pronounced landmark judgments as a watchdog to the election. The only problem of the long pendency of election disputes is expected to resolve. Sometimes, the election petition remains pending, and the tenure of the returned candidate is over. Recently the Supreme Court is strictly monitoring the timely disposal of disputes related to the election, asking for sa report from the high courts of pending cases and issuing required instructions for its disposal.

### 6. Political Parties

Political parties are an essential concomitant of elections in a representative parliamentary democracy. The origin and growth of political

parties in India can be traced to the days of the struggle for freedom. The overriding passion with the fighters for India's freedom and the founding fathers of the Constitution was to build a united country and an integrated society while retaining its rich diversity and pluralism. They expected that an ideologically oriented healthy party system would soon evolve as a strong democratic, independent India and contribute to societal integration, nation-building, and strengthening the edifice of democracy. But, unfortunately, it does not realize fully. During the post-independence period, the source of many of our troubles has been our failure to evolve a healthy multi-party system based on a just and nation-first agenda. In the Constitution, we have adopted the multi-party system, increasing the number of political parties in Indian politics. There is a provision for the registration of a political party, but the registering authority can not deregister any political party. Unfortunately, in the last many years, several provincial political parties are entering into national politics, which causes government instability at the national level. Political parties abide by the model code of conduct but not following meticulously and honestly all honestly manipulate and find the ways out for the breach of the provisions of Mauliku, which is approved by the consciousness of all political parties. A very disappointing fact that political parties are not complying with the information required by the ECI. For example, all political parties call 25 reports just to set up candidates with criminal antecedents. The latest reported data of ADR is shocking.

Funding of political parties is also a burning problem. The use of enormous unaccounted money by the political parties during the election affects the healthy and fair election and adversely affects the country's economy.

It is a fact that election is a tool to capture power, governance in a democratic system, but more than that, political parties must keep in mind that victory in the election is only for the betterment of the country and people, not for the personal agenda and interest.

In the absence of strict regulatory laws and rules for political parties, self-discipline, morality, ethical politics are deeply required for the free and fair election, strengthening the

democracy, betterment of the nation, and thereby welfare of the people.

Observance of certain minimum ethical standards but parties by adopting self-regulation and self-discipline can go a long way in improving election and election process.

## 7. Political Candidates

Country can be democratic only when its elections constitute a real competition among numerous political party-backed and/or independent candidates. Voters need to have a free and informed choice among various policy options and candidates to determine their post-election representatives. Only very few countries are small enough to practice direct democracy in any or all public policy decision-making processes, and most democracies must find ways to organize an effective and democratic system of representation. Candidates are actors tasked with the electorate's trust and counted on to perform the representative function of government.

Candidates are key stakeholders in elections. They compete for public office, carry out election campaigns, and attempt through party issue-based electoral platforms to convince eligible voters to vote for them. Ultimately, the possibilities for party-affiliated candidates to campaign, assume public office, or form a credible opposition depend on the country's legal, political, and cultural environment and the administration and outcome of the elections. From another perspective, the final validation of the election result is in practice in the hands of the political parties and candidates. If they do not accept the results due to real or perceived electoral fraud or irregularities, the legitimacy of the resulting legislature or government is threatened. Likewise, the voting public-whether affiliated with a particular party through membership or not-must perceive and believe that the results officially declared after Election Day are valid and represent the expressed will of the electorate.

On the other hand, candidates are also actors that have the potential to be destructive. Practices of vote-buying or illegal party finance, the proliferation of defamation and hate speech in campaigns, voter intimidation

by party workers, corruption in decision-making, and the systematic exclusion of certain sectors constitute examples of where political parties threaten the functioning of democratic systems rather than support it. Therefore, laws and regulations regarding campaigning, funding, and functioning of political parties are developed to minimize the potentially disruptive influence of political parties while still allowing them enough freedom to contest elections.

Some principles can guide candidates. For the electoral competition to be fair and peaceful, candidates and other electoral actors need to agree on the game's rules. Such rules may include refraining from practices of hate speech, electoral violence, and defamation. This agreement can be informal, through a voluntary Code of Conduct, and/or supported through a legal framework with enforceable sanctions and is usually contained with the Electoral Code. Money is a key element in modern political campaigning, and legal frameworks and administrative practices often regulate party and campaign finance. Regulations may cover possible access to public funds, restrictions on misuse of public resources (by the incumbent candidate), provisions for candidates' finances to be transparent, or prohibitions on certain sources of funds.

The candidate must be clear in his mind that he is contesting election to represent his constituency and not for his agenda or interest. The whole constituency is putting blind trust for the entire next term of fulfilling their hopes, desires, development, and welfare. The candidate abides by the statutes and rules more than this; it is his moral duty and obligation to be away from the use of any evils like money, bribery, threatening, corrupt practices during the campaign and even after elected. It is also expected that the rival candidate is not an enemy, should be respected as a composite candidate, and personal attack on his character and other factors are to be avoided. Immediately after independence, this kind of behaviour from the candidate was not seen, but it is experienced largely for the last many years, which is not healthy for democracy.

## 8. Voter's Behaviour

In the battle of an election, the candidates, political parties are fighting to get the victory, but the trigger of the gun is in the hands of a voter who elects the representatives by just pressing a button of India EVM. From the day of issuance of the election notification until counting, the voters are on the decision chair. This puts a great responsibility on the shoulder of the electors. Electors not only elect a candidate but elect the future governance of the country.

Elections occupy a prominent place in the democratic government. It is a means through which people express and enforce their political opinion and regulate society's political organization. However, the behaviour of a voter is influence by several factors such as religion, caste, community, language, money, policy or ideology, the purpose of the polls, the extent of the franchise, and the like political parties and groups make use of these variables for the sake of winning the battle of the ballot box. It is, therefore, imperative that the use of these determinants should be avoided, and elections should be conducted in a very free and fair manner. It also depends upon whether the system allows freedom of thought, expression, and association to the people. The mere presence of an electoral system does not make a political system democratic. People's will is expressed through voting in elections; therefore, all undemocratic and unfair means like manipulating and rigging need to be avoided. No such action is taken which would in any way undermine the popular will expressed through elections.

The behaviour of a voter is influence by several factors such as religion, caste, community, language, money, policy or ideology, the purpose of the polls, the extent of the franchise, and the like political parties and groups make use of these variables for the sake of winning the battle of the ballot box. Despite making their professions for enlightened secularism, politicians can be found invoking appeals to the people's religious and communal sentiments; they can also be found involved in exploiting the factors of language or money to achieve the purpose of emerging successful in the war of votes. Appeals are issued, and canvassing campaigns are conducted in the



name of a particular policy or ideology for the same purpose. The voters' interest and, accordingly, their behaviour at the time of voting is also influenced by the nature or purpose of the elections or the extent of the suffrage. The force of charisma has its part to play whereby voters are influenced en masse by the slogan of "Garibi Hatao" by Mrs Indira Gandhi and 'Sab ka Sath Sab ka Vikas in 2014 & 2019 by Shri Narendra Modi' gave their party dumping majority. It is also experienced that many voters avoid voting under the depression and perception that my single vote has no importance.

In the above-discussed facts, the behaviour of a voter is full of responsibility and wisdom. His one vote can change the nation's future, so it is the primary duty and obligation to meaningfully use his statutory right of voting. The concept of compulsory is also a novel idea, but the voluntary voter's expected behaviour must cast his pious vote. The votes reflect the costs people desire, so electors are supposed to use this right full of wisdom and away from any influence of money, bribery, communal, castism and fear. Bribery in any form shall not work for the lifetime, but if a wrong candidate is elected by the voter, what damage will it cause to the people and the country. The master key of the battle of an election in the form of a vote is with voter and what a miracle can vote do if deserved candidates are sent to govern the nation.

### 9. Community Behaviour

Voting behaviour is a set of personal electoral activities, including participation in electoral campaigns, turnout at the polls, and choosing whom to vote outlines the comprehensiveness of the study of voting behaviour. In that light, attempts have been made to understand national voting behaviour and various factors influencing voters in determining voter's choice. Works have been done on holding a free and fair election system, factors that influence voter's choices such as voter's ethnic-religious identity, voting simulation models, and voting patterns and trends. What factors determine one large section of the voters to vote, and what factors discourage other sections of the voters not to get engaged in electoral activities? This section attempts to

understand the factors that motivate some voters to engage in voting-related activities and the factors that dissuade or discourage others-the not engaged voters-to engage themselves in voting-related activities.

Sociologists look at the socio-economic determinants such as support of political parties, occasions, ethnicity and gender, the correlation between the classes, age, and vote. While, political scientists focused on the influence of voting behaviour of political factors such as political programs, electoral campaigns, issues and popularity of leaders of the political parties contesting elections.

Based on some facts and trends, some community behaviour observed in the election.

- The community as a whole many times calls for community by-coat of election for various reasons.
- The community leaders insist and pressure the political parties to select a candidate of their community based on caste or locality.
- The community leaders influenced by political parties or their promises for the betterment of a particular community appeal for the vote the candidate of that party.

This kind of behaviour is not expected from the community in the election, which harms the integrity of the society and causes disharmony amongst the citizens. Though the community as a whole is not directly involved in the process of the election, the positive approach and behaviour in the process of election of much importance

### 10. Media

In the area of free media and press on the grounds of the fundamental right of expiration of opinion puts much of responsibility on their behaviour. Media is supposed to be the people's voice without any bias and free from its personal agenda and vested interest. For the last many years, electronic media influence the election much more; no doubt the alertness of the media shares the information helps the voters build up the opinion, but when viewers rely on the informations and built opinion, the responsibility gets much more of media. During the campaign period, all the electronic media bombards the election-related news,

programs, debates, exit polls round the clock, which is required for a healthy democracy, but it must have correctness, unbiased, and fairness with decorum and in a respectful manner. Paid news is the current issue appearing in the elections in the last few years. ECI is vigilant for this evil and puts its best effort to control it, but media must itself, as a part of self-discipline, avoid this kind of practice in the interest of fair and transparent election.

### 11. Conclusion

It is thus clear that democracy in India faces certain serious challenges. These are causes of serious concern to all. In fact, the leadership of the freedom movement and especially the framers of the Indian Constitution themselves were very much aware of these issues. They made several constitutional provisions to address the same. Since independence, governments have taken various measures to respond to many of these challenges. There have been significant improvements in some of these. However, lots still have to be done. For that, efforts are going on. There is a need for collaboration among governmental agencies, political parties, civil society and citizens media.

All the fraternities who directly or indirectly but indirectly concerned with the process of election form the beginning to an end, say; Legislature, Administration, The Election Commission Of India, Judiciary, Political Parties, candidates, community as a whole, voters, play memorable roles to impart the election process great success and thereby dreams of our constitution framers realize. Thus, in a true sense, India becomes the largest as well as the strongest democratic country.

All the organs are doing their best, but the journey is long away, hurdles persist, and India's goals need much more actions.

The machinery of laws, rules, orders, orders, policies, structures, arrangements are there, but these all are shared amongst the concerned fraternities, but we all have our approach from outside, which only can not. Still, without a proper and true approach, the election's success is not possible, and this proper approach in the right directions is none but the behaviour and whatever change in our behaviour we feel ought to be changed. For our behaviour, none

of the above fraternity needs any constitutional or statutory support. It requires inner awakens, and if all organs of the election behave accordingly, nothing can stop Indian elections free and fair, which is singing globally.

Our Hon . P.M. Shri Narendra Modi has given us instruments and techniques for which we do not have to pay any cost, only to awake our conscious and change our routine behaviour/approach for the election and with joint efforts of changed behaviour India will become the Vishwa Guru again under his visionary leadership.

At the same time, the people who are citizens in a democratic system like India cannot and ought not to remain passive and treat themselves as governed. In fact, a democracy can be successful and vibrant only when citizens imbibe and reflect in their mindset, thinking and behaviour the basic values like equality, freedom, secularism, social justice, accountability and respect for all. Moreover, they have to appreciate the opportunities for their desired roles and play proactive roles to actualize the goals of democracy.

For a successful working of democracy, citizens' participation is a must. The corrective measures to meet the challenges can be actualized only when citizens play a proactive role. The citizens must respect the law and reject violence. Every citizen must respect their fellow citizens' rights and dignity as human beings, and one should denounce a political opponent as evil just because of holding different views. People should question the decisions of the government but not reject the government's authority. Every group has the right to practice its culture and control its own affairs, but each group should accept that it is a part of a plural society and democratic State. When you express your opinion, you should also listen to other people's views, even people you disagree with. Everyone has a right to be heard. When you make demands, you should understand that in a democracy, everyone can't achieve everything one wants. Democracy requires mutual cooperation. Groups with different interests and opinions must be willing to sit down with one another and negotiate. If one group is always excluded and fails to be heard, it may turn against democracy in anger

and frustration. Everyone willing to participate peacefully and respect the rights of others should have some say in the way the country is governed. It is also important that citizens assert their opinion, as in a democracy, not asserting your opinion also means that you agree with the decision you may consider improper.

We need to change in terms of our behaviour as well. For example, suppose every stakeholder in the election process, i.e. legislature, administration, ECI, political parties, candidates, voters, communities, etc., changes their behavioural terms. In that case, we can attain the ideal and moral democracy that we espouse to become.

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## TECHNOLOGY OF REPRODUCTION OF THE MANGOSTEEN TREE OF THE LANDSCAPE HERBS PLANT IN THE CONDITIONS OF UZBEKISTAN

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### ABSTRACT

*Garcinia mangostana*, commonly referred to as mangosteen. As you know, they are a steep, slow-growing, tropical tree with a pyramidal crown, located mainly in the tropical forests of Malaysia and Indonesia. It produces fruits of mandarin size, which are called mangosteen, they are the best tasting fruits in the world in many circles. Unfortunately, this tree is very difficult to grow outside of its habitat due to its unique and uncompromising cultural requirements. At present, mangosteen is grown mainly in Malaysia, Southeast Asia, Indonesia and the Philippines. There are several obstacles in the adaptation of mangosteen to the conditions of Uzbekistan. In this article, information on the technology of reproduction of the mangosteen tree of the landscape medicinal plant in the conditions of Uzbekistan and the necessary work to adapt them to the environment of our country will be discussed.

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**Keywords:** mangosteen tree, conditions of Uzbekistan, tropical climate, adaptation, medicinal plant, reproduction technology.

### Introduction

Mangosteen grows mainly in Thailand, Vietnam, Burma, the south-west of India and the Philippines. The origin of this tropical fruit tree is unknown, but according to assumptions it originated from the islands of the Sunda and Molukka. It is known that the adaptation of some plants and trees from one environment to another is considered rather laborious. For example, in the production of the technology of reproduction of the mangosteen tree in the conditions of Uzbekistan, it will be necessary to take into account the climatic conditions of our country and many other aspects. The reason is that attempts to grow mangosteen in some countries, including Florida, California and Hawaii, have almost failed, there are so many wonderful trees and plants that most of us have never heard of, because they bloom only in certain latitudes.

### Main part

One such tree is called mangosteen. What is mangosteen and is it possible to multiply the mangosteen tree? What is mangosteen? Mangosteen (*Garcinia mangostana*) is a real tropical fruit tree. It is unclear where the fruit trees of mangosteen

appeared, but some assume that their origin came from the islands of Sunda and Molukka. Wild trees can be found in the forests of Kemaman, Malaya. The tree is grown in Thailand, Vietnam, Burma, the Philippines and the south-west of India. Attempts to grow it in the USA (California, Hawaii and Florida), Gonduras, Australia, tropical Africa, Jamaica, West India and Puerto-Rico were carried out with very limited results. The mangosteen tree grows slowly, steep in the habitat, with a pyramid-shaped crown. The tree grows to a height of 20-82 feet (6-25 m), the outer bark is almost black, the GUM located inside the bark and bark, very bitter latex. At the top of this evergreen tree are oblong and bright, at the bottom there are yellow-green and pale bald stems, dark green leaves.

1. Choose firm and moist seeds from the ripened mangosteen fruit with a white to off-white center.
2. Soak the seeds in water for 24 hours before planting.
3. Sow them 1-inch deep in garden soil.
4. They will germinate in 18-24 days.

5. Protect the seedlings from winds and extreme temperature fluctuations.

6. As mangosteen is a very slow-growing plant, young plants will require two years to reach 12-18 inches height.

In mangosten, methods of propagation such as shield budding and patch budding are known to be very difficult. Such difficulty could be part of the reason why fewer growers are willing to grow mangosteen, since if they were to do so it has to be from seeds and that will probably take up to about 15 years to come into bearing. Recent attempts to propagate them by methods other than seeds, offer growers more options to be considered in growing mangosteen. There are many techniques of budding some are simple, others are more complicated. Nevertheless, each has been designed to overcome certain difficulties in the propagation as well as in the growth of the tree. One of the simplest methods, yet less popular is chip budding. It is an ancient method but only recently it has been proven superior in its performance as compared to most other budding techniques 8, Since then, it is widely used in a range of species of tree fruits, ornamentals and forest species.

Under the heading of patch budding come all methods of bud grafting, with a single eye or bud, in which the rind of the scion replaces a part of the rind of the rootstock. Considers the patch budding is more difficult than the chip budding, but is greatly employed in propagating walnut, pecan, rubber and many other tropical subjects. Wedge (top cleft) and side cleft grafting. Except for shield budding, grafting apically is the most common method of joining plants. Under this heading come all those methods, such as wedge grafting, in which both scion and rootstock are joined at their end. Plants can also be propagated by side graft, where the scion is placed in the side of the rootstock.

In fact, the fruit of mangosteen is often called the "Queen of tropical fruits". Finding the answer to the question "How to grow mangosteen fruit trees" definitely requires scientific research, research and experience. As already mentioned above, many attempts to

reproduce the tree were carried out without luck around the world. This tropical loving tree is considered a bit fragile, that is, it does not even get used to all environments and conditions. It does not tolerate a temperature below 40 degrees (4 C) or a temperature above 100 F (37 C). Even seedlings can dry up to 45 degrees. Mangostines are selected in height, humidity and require precipitation of at least 50 inches (1 m) per year without drought. Trees grow on deep, rich organic soil, but survive on sandy soil or in mud containing coarse material. While standing water kills seedlings, adult mangostines can survive and even grow in areas where their roots are covered with water throughout the year. However, they should be protected from strong wind and salt spraying.

Basically, mangosteen should be an excellent storm of components when growing fruit trees. Reproduction is carried out through seeds, but experiments have been conducted on grafting. Seeds, of course, are not real seeds, but hypocotyls are tuberculosis, since there was no sexual fertilization. For reproduction, the seeds must be used within five days after receipt of the fruit and germinate within 20-22 days. The resulting seedlings are difficult to transplant because of the long, thin root root, if it is impossible, then it is necessary to start it in a place where there will be at least a few years left before planting. The tree can bear fruit from seven to nine years, but most often it is 10-20 years old, enters the first fruit. Mangostines should be placed at a distance of 35-40 feet (11-12 m) from each other and planted in pits of 4 x 4 x 4 ½ (1-2 m) enriched with organic matter for 30 days before planting. The tree needs a well-watered place. However, before flowering, dry weather produces good fruit. Trees should be planted in a partial shade and fed regularly.

Propagation by stem cutting is seldom being practiced in most tropical fruit species. Only quite recently more attempts have been made to apply this method on tropical fruits. It did make an attempt to propagate mangosteen by cutting but failed even after keeping them for 14 months.

**Materials and Methods.** The first experiment was on chip and patch budding and done one month earlier than experiments on grafting and stem cutting. The reason of such timing was to enable shoots from the rootstocks to be collected and used in the propagation by stem cutting. Rootstocks and scions used in this experiment were from the same batch and the same stock plant respectively, as described in the earlier experiment. Shoots of about 5-6 cm long were collected and leaves removed leaving the ones near the tip and they were cut by one half.

When growing mangosteen in the conditions of Uzbekistan, it is required first to choose hard and moist seeds from ripe mangosteen fruit to medium-white to dark white, and then soak the seeds in water for 24 hours before planting. Then it will be necessary to plant them at a depth of 1 inch on the garden soil. Seeds germinate in 18-24 days. It is necessary to keep seedlings from wind and extreme temperature changes. Since mangosteen is a very slow-growing plant, it takes two years for young plants to reach a height of 12-18 inches. In general, when adapting to the climate and conditions of our country, it is necessary to definitely study the conditions of the place where mangosteen is accustomed. Consistent watering of young plants of mangosteen requires keeping the soil moist. After the tree has achieved good growth, you do not need to take as much care that it will be self-sufficient.

Also, mangosteen can be enriched with a new tree in landscape design by cultivation in Uzbekistan. As you know, mangosteen as a plant grows on a tree with several attractive properties. Mangosteen, which is a tropical always green plant, has attractive thick, skin-like dark green leaves, which have a glossy appearance on the surface. In addition to the need for moist soil throughout the year in the conditions of Uzbekistan, mangosteen trees should be regularly fed with a balanced fertilizer. After about five years, the tree may need to be cut from time to time to maintain the desired shape. Mangosteen is rarely attacked by insects because of the fact that a bitter substance is released from their inner shell.

The good side of this tree is that it is also less common for various diseases. If the soil is too wet or well dry, root rot can kill them. It is very important to ensure that the soil is moist, but not moist. Of course, it is necessary to take this into account when growing up in our qualification in this regard. Although it is reported that mangosteen has healing properties, the production of the drug here is not developed. Their specific growth conditions are usually tested by those who have tasted the fruit and are happy to have a constant supply.

**In conclusion,** one of the obstacles to the cultivation of mangosteen in the conditions of Uzbekistan and adaptation to this climate is the fact that in our country often in winter the weather falls below 0 degrees. In addition, the sudden warming of the air, mainly in the summer, also causes problems with the growth of mangosteen and its adaptation to the climate of Uzbekistan. Therefore, taking into account the above, the end of spring or the beginning of summer is considered the best time to grow mangosteen. In addition to that situation, when growing mangosteen, special attention is required to it. By adapting mangosteen to the climate of Uzbekistan, it will help to introduce a special innovation in the landscape design of our country and enrich it with another new tree.

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## IMPORTANT ISSUES OF FORMATION OF INFORMATION CULTURE AT YOUNG PEOPLE

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### ABSTRACT

*The article provides a socio-philosophical analysis of the processes associated with the formation of information culture in young people. Based on the fact that in today's era of globalization, the formation of an information culture among young people is an important factor in maintaining the spirituality of the nation, conclusions and recommendations have been developed.*

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**Keywords:** *information, education, information culture, social development, globalization, social, crisis, information crisis*

### Introduction

At the heart of the global spiritual and cultural crises in the world, the information crisis is becoming a major factor and is exacerbating socio-political processes, covering all spheres of society. Indeed, information is becoming an area of historical competition on the world stage, and a form of active struggle called "information warfare" is emerging, which shows that this struggle can be overcome only through the formation of an information culture in people. In this regard, the issues related to the development of modern trends in the development of information culture in the population, especially among young people, the identification and improvement of methods of information security are of great importance. Important theoretical and fundamental research in world science today is carried out by leading higher education institutions and research centers, which allows a comprehensive analysis of the phenomenon of information culture. In particular, the philosophical and pedagogical aspects of the formation of information culture of young people in the informatization of education and the widespread introduction of media education technologies, the impact of harmful information on human health and spirituality, information warfare, information terrorism, information weapons, legal and psychological mechanisms of information security. scientific research devoted to the further development of its essence and socio-political orientations is noteworthy today. At the same time, there is a need for a socio-philosophical study of the socio-cultural and

socio-technical features of the formation of a modern information culture. The large-scale reforms being carried out in our country show that the upbringing of young people with a mindset that ensures the necessary adaptation to social changes and a worthy place in the information environment has become a key priority of public policy. "The upbringing of the younger generation has always been important and relevant. But in the 21st century we live in, this issue is really becoming a matter of life and death. "[1] Therefore, the scientific and theoretical study of the conceptual framework, methods and mechanisms of effective protection against information attacks, which today have a negative impact on the education of young people, especially aimed at capturing their minds and hearts, shows objective importance.

According to the experiments achieved by world civilizations, according to the logic of scientific knowledge, humanity can solve (at least mitigate) the existing system of global problems based on the historical heritage of the transformation of information culture. Indeed, a complex of alternative philosophical doctrines on the history of information culture can create a system of generalized and concise knowledge, theoretical and methodological teachings on the genesis of global problems, retrospective foundations, laws of development, because humanity has its own scientific, technical, technological, intellectual potential. the role of factors that determine the laws and trends of historical development, the collection of information on the objective assessment of its

functional significance, "selection", generalization of experiences, the creation of transformation technology, loses prospects. After all, they are the structural elements of the information culture of society and the features of its manifestation.

### **Analysis of the relevant literature**

The need to analyze concepts related to information culture is ever expanding. E. Giddens, a Western theorist, states that "as a result of globalization, a new order of preparation, dissemination, reception and use of information has been formed in the world" [2]. The main aspects of the problem raised by the above author are expressed in the research works of foreign scholars Bernard Holkner, Geoff Romeo, Brown, Milligan, Tay Vaughan, who studied the philosophical and pedagogical aspects of shaping the information culture of youth in the informatization of education and the widespread introduction of media education technologies. Research on information security and culture is currently being conducted in the Russian Federation (Moscow State University), the United States (Department of Homeland Security, Cybersecurity and Communications), and the United Kingdom (National Cybersecurity Center of the United Kingdom). CIS scientists GA Atamanov [3], OM Manjueva [4], Zakharov M.Yu [5], the impact of harmful information on human health and spirituality, information warfare, information terrorism, information weapons, information security - Scientific research on the interaction of psychological mechanisms, the virtual world and human lifestyle. Scientists of the Republic have analyzed the information society during the years of independence and its main categories from a socio-philosophical point of view, and developed a description of the priorities for improving the information culture of citizens. Also, the strategic features of informatization of modern society, the formation of information culture in modern society, working mechanisms and personal characteristics of the spiritual and practical development of information culture in modern society, the development of information education as the most important basis for information culture, spiritual and ideological

protection Issues such as strengthening immunity have been analyzed in detail by U.Kushaev [6], M.Quronov [7]. In the philosophical literature, it is relatively common to divide the information culture into two major periods in connection with the scientific and technological revolution, namely, the division of pre-capitalist - spontaneous and socialist - conscious levels of development. the conclusion was a priority. T. Juraev [9], Sh. . An important feature of the dissertation, which differs from the results of this research and analysis, is that it considers and analyzes the socio-philosophical foundations of the formation of information culture among the youth of Uzbekistan.

### **Research methodology**

The article uses scientific methods of knowledge such as historicity and logic, comparative analysis, analysis and synthesis, observation, inquiry.

### **Analysis and results**

Man can analyze the history of media culture in general, which is a condition of his existence and a legitimate result of social activity, in particular, its transformation and globalization, on the basis of alternative theoretical and methodological teachings of philosophy, ensure sustainable development of society and save it from inevitable destruction. Factors that stimulate socio-political processes aimed at ensuring the sustainable development of the media culture of any society and the future of civilization, according to their functional significance: 1) generalization of experience in the development of information culture and creative use of national historical heritage; 2) functional harmonization of alternative methods and means, motives, mechanisms of ensuring stability of the information society - conceptual and theoretical bases; 3) coordination of the activities of national and international organizations responsible for the organization, management and control of the globalization of information culture - organizational and institutional framework; 4) realization of the potential of spiritual, intellectual and physical adaptation of the subjects of information culture for adaptation to the information space -

pedagogical and didactic bases; 5) constructive and rational solution of theoretical, methodological, practical issues of ensuring the effectiveness of the creation, development and use of information culture - the intellectual basis; 6) integration of technical and technological bases of mass media, communication and infrastructure development of transformation of universal information culture into mass is of great practical importance. As the criteria for assessing changes in media information forms, directions, methods of transformation, technology, functional significance and paradigms are constantly changing, the national-individual functional significance of these foundations is manifested in a specific social space, historical time. In this context, the effectiveness of any framework that has an independent impact on the global information culture depends on the interdependent features of other foundations, i.e., their complexity, their commonality. In the heritage of Central Asian philosophy, on the one hand, ethnocultural values arising from universal social needs are reflected in the level of development of information culture, which is the basis of the divine nature of man, his social existence, perfection. On the other hand, in the process of global transformation of information culture is based on the fact that the existence of the system "nature - society - man" can create, exacerbate and condemn internal conflicts. This philosophical idea must be recognized as the substantial-imperative essence of the transformation of information culture, the driving mechanism. Because this conclusion is reflected in the beliefs of all secular religions about the end times and the resurrection as reflected in the holy books.

For example, one of the great representatives of the philosophy of anthropology M. Scheler (1874-1928) in his philosophical doctrine, in the organizational hierarchy of the foundations of human life, is characterized by the development of living organisms: the instinct of natural selection and reproduction; reflex and psycho-emotional reaction to external influences; rational-pragmatic and irrational-positive social activity; associative memory and practical perception; unity of theoretical and everyday consciousness; the idea that he is a "sick animal" capable of striving for innovation and adapting

to a changing situation is the content of his philosophical teachings [11]. However, in his view, man (an "animal" striving for innovation in an informed society) differs from an animal in that he consciously seeks to change the natural and social being he lives in, that is, the animal is unconscious or dependent on the natural environment in which he lives. although it is a being, it relies on its own existence and social activity, on the driving forces, motives, and mechanisms required by its vital material and spiritual needs [12]. Potential of intellectual and material-technical potential of Uzbekistan (objective conditions, complex of subjective factors). It is adapting to the global information culture environment, creating opportunities for active integration into the development process. There is no alternative way to find rational ways, constructive means to combine the national development strategy with regional and global strategic tasks to make these opportunities a reality.

The main task is to determine the criteria and indices for an objective assessment of the consequences of globalization of information culture, to ensure the unity of the system "need-goal-means-result" in the coordination of its directions by various socio-political organizations, civil society institutions. The possibility of "digestion" depends on the level of development of information culture, the effectiveness of domestic and foreign spiritual and ideological policy of states in this area, which determines its socio-economic, political, spiritual, ideological position and position in international relations.

### Discussion of research results

The study of the attitude of countries to the globalization of information culture, conditionally, divided into the following stages, has an important theoretical and methodological significance, namely: comprehension is the first stage; finding potential opportunities, rational methods, constructive means of overcoming the problems of information culture, the formation of socio-political institutions and ensuring their functional relevance - the second stage; the positive, transformation of the results of the globalization of information culture at the

international level is the third stage - the formation and coordination of the institutional system of communication, infrastructure and international cooperative organizations. Although these stages have an internal historical-logical sequence and interdependence, each of them has a specific functional significance, as philosophy performs a specific set of tasks based on the principle of transition from individuality to specificity to generality. However, although the specific individuality of these stages is reflected in the "quality" of objective conditions and subjective factors and the possibility of their combination, the commonality of objective bases: 1) the relativity of the individuality of local, national, regional, global problems and conditionality; 2) the adequacy of the needs and interests of mankind in the formation and transformation of the information culture to the historical and social realities and methods of its goals; 3) understand the need for rational humanization of the development and globalization of information culture on the basis of democratic-humanistic principles and spiritual and moral norms; 4) equality of conditions and potential created for the adaptation and integration of states into the global information culture environment.

The commonality of subjective factors is that humanity: 1) understands the reality of the threat of globalization of information pressure and the escalation of its negative consequences and the need to combat it; 2) increase the role of forms of social consciousness and public opinion in combating the negative effects of information culture; 3) coordination of educational and mass media activity in formation of technological culture of society; 4) the formation of an institutional system that enhances the role of the human factor - intellectual potential in the globalization of information culture. In turn, the objectivity of determining and assessing the general nature of the objective foundations and subjective factors of information culture depends on the functional integration of the knowledge system aimed at the development of human consciousness and culture of thinking. That is, the level of development of the culture of thinking formed in the process of a person's attitude to the information culture should be assessed as an

important indicator of the information culture of society. The main purpose of the comparative study of the stages of globalization of information culture is to form a scientific worldview of society in people based on the heritage, traditions, experiences of historical material and spiritual values (recognizing them as special forms of information transformation). Because the scientific worldview, on the one hand, is an information system that determines a person's social existence, spiritual and moral image, and plays an important regulatory function in his socio-political life. On the other hand, the impact of information culture on human socio-economic lifestyle is reflected in the complex-systemic and universal, the potential to integrate other forms of culture.

The realization of the goal of integration of nation-states into the global information culture space is a continuous process consisting of certain stages, the analysis of which is divided into the following periods of theoretical, methodological and practical importance: creation of an institutional framework - the organizational basis for the selection and use of tools for the realization of technical and intellectual potential; 2) development of theoretical and methodological bases of the strategy and tactics of integration of the states in the global information culture and mass mobilization of national, regional, universal opportunities for performance of these tasks; 3) to identify local, national, regional problems that are likely to arise as a result of global "information pressure", to improve the "technology" of modeling and implementation of their solutions.

### **Conclusions and suggestions**

At present, the transformation of social, economic, political, spiritual information in the world: integration, globalization, intensification of universalization processes, creates objective conditions for changing the values of all mankind, in other words, increases the effectiveness of subjective factors [13].

Therefore, in the current context of pseudo (fake) information globalization, it is typical to move from worrying about its negative impact on the socio-cultural life of

different peoples, nations and regions - to practical resistance. That is, according to most political commentators and analysts, Islam, Indian, Chinese and a number of other civilizations have a tendency to preserve national identity based on historically formed spiritual values, cultural heritage, social institutions [14].

In the philosophical literature, radicalism and liberalism approaches to the social phenomenon of globalization in general, and the escalation of information "pressure" in particular. That is, the first is the pessimistic conclusion of radical scholars that globalization can lead to a new type of world war [15] or its escalation into a "mass culture" and the spiritual impoverishment of nations, their inability to understand themselves, [16] while liberalism prevails. In his teachings, the process of globalization, as a general law of humanity, is evaluated as an opportunity for his civilization to maintain its future prospects.

However, according to the genesis of the emergence of any socio-political phenomenon (regardless of its simplicity-primitiveness), the analysis associated with the emergence of human society, in our opinion, is expedient and methodologically correct. In this regard, some scholars connect the beginning of the process of globalization with the history of the ancient world, first in its military-invasive actions, and then in the emergence of economic, geopolitical, moral, spiritual, cultural, environmental, linguistic, communicative globalization trends and forms. There is a basis [17].

Theoretical and methodological conclusions are made by analyzing the socio-political factors, ideological and theoretical foundations of the development of information media culture among young people, the principles of chronology of the history of globalization.

In this context, the analysis of the consequences of integration and globalization of national and universal values, ie the spiritual and moral norms and traditions formed during the historical development of mankind, in the context of information culture, disrupting the practical life and way of thinking of peoples - anomalous integration and globalization. It is of great theoretical and methodological

importance to distinguish the processes of effective integration and globalization - the creator of the system of providing the foundations [18].

The main condition for drawing a generalized scientific and theoretical conclusions is a comprehensive systematic analysis of the genesis of the globalization of information culture, historical and retrospective foundations, stages of development in the context of socio-political relations and the system of sciences. Indeed, the technical, technological, intellectual and socio-political organizational foundations of information culture are the result of its historical development, creating opportunities for further integration and differentiation [19].

Socio-political and ideological-theoretical bases of globalization of information culture - a complex of disciplines studying social relations: natural sciences, engineering, social, humanities, political sciences differentiation, concretizing their status and function of information culture and complex systematic study of history, leads to the formation of new areas of knowledge, their integration and "cooperation".

Nowadays, the objects of information culture in the field of science, technology, innovative technology, the history of development and globalization of subjects become the object of scientific research of various disciplines. serves to identify determinants, motives and mechanisms;

The media has played an important role in the cultural and civilized organization and management of socio-economic relations of society, systematic philosophical approaches to the transformation of information culture cultures, scientific-theoretical doctrines, practical experiences, historical heritage of their historical stages of development. Indeed, the globalization and popularization of information culture, in a sense, has determined the socio-economic way of life of mankind [20]. Signs and characteristics of modern global civilization. The general laws of integration and globalization of socio-economic relations are reflected in the information culture as follows: ,

is recognized as a key opportunity for the integration and globalization of spiritual and other relationships; secondly, the development of international ideological methods, political mechanisms, technical and technological bases, intellectual potential, information base, international institutional system aimed at eliminating the threat of escalation of "popular culture" has become a requirement of the historical period;

thirdly, a comprehensive and systematic approach to solving the problems of the global cultural crisis requires an institutional system, legal framework for the organization and management of international political relations against the utilitarian-mercantile selfishness, the absolutization of the interests of individual states; fourthly, the transition to a market economy in Uzbekistan, the principles of the "Uzbek model" of development aimed at building the foundations of a democratic state,

civil society and the "Strategy of Action" are the essence of the model of integration into the global information culture; fifth, the constructiveness and rationality of the foreign policy model of national security in our country is in line with the norms of international law, the principles of development of information culture and its recognition by the international community, reflects its place and status in the world community; sixth, the scientific basis of national development models, the principles of integration into the global information culture, the scientific nature of realistic forecasting of its prospects, identification of perspective directions and planning of strategic tasks; Seventh, the reform of the state plays a key role in strengthening the political, cultural and spiritual position of our country in the world community, ensuring harmony and tolerance between different nationalities, ethnic groups and religions, and fulfilling its strategic tasks.

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**NEEDS AND SOURCES OF PUBLIC (STATE) PROPERTY****Akaeva Marapat**

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**ABSTRACT**

The article analyzes the necessity and sources of public (state) property from a legal point of view. The importance of civil law in the context of market relations is widely explained and summarized.

**Keywords:** market, property, law, legal entity, citizen, state, status, property, equality, person

**Introduction**

It is known that in the conditions of market relations the status of subjects of civil law has changed radically. Along with citizens and legal entities that are subjects of civil law, the participation of the state in legal relations is also ensured on an equal basis. At the same time, the status of the state's civil-legal subjectivity has changed radically, which requires a scientific and theoretical study of the state's participation in civil-legal relations.

It should be noted that in the context of market relations, the role of the state in economic relations and its status in civil law relations has changed radically. Now the state, like other subjects of civil law, began to participate in legal relations on an equal basis. The hegemony of the state in the economy was put to an end. This has led to a complete overhaul of the legislation governing relations with state participation. These factors have made the issue of scientific and theoretical analysis of the subjectivity of the state in the conditions of market relations and the study of the position and role of the state in the economic life of society from a civil-legal point of view a cross-cutting task in civilization. After all, in the current context of the state it is difficult to determine the future fate of a country's development without determining the firm status of its participation in economic relations.

**Analysis of the relevant literature**

Property and forms of property rights have always been the subject of lengthy debate in the science of civil law. Indeed, forms of property have always been interpreted in two different senses. First, forms of property in the economic

sense, and second, forms of property in the legal sense.

According to the general rule, in the economic sense, property is divided into forms depending on who or to whom it benefits (for example, the Law of the Republic of Uzbekistan "On Property" of October 31, 1990), and in the legal sense, property (depending on the relevance of the disposal element to the item).

But there is no consensus in civil law on the division of property into forms. According to some scholars, the term "form of ownership" is not a legal criterion, but an economic one. This is the case, firstly, that forms of property as an economic criterion have legal significance not only in the form of property rights, but also in other forms; second, it is characterized by the fact that the subjects of property in economic and legal relations are not always the same. Therefore, in the economic sense there can be several forms of property, while in the legal sense there is only one property right [1].

In addition to this view, it should be noted that, in fact, there is a single form of property rights to an existing thing or property, that is, a set of rights associated with the possession, use and disposal of property - a single form of property rights. However, although there is a single form of ownership, the subjects to which property rights belong are diverse. These are citizens, legal entities and the state, which are subjects of civil law (Article 2, Part 2 of the Civil Code), and property belonging to these subjects is conditionally divided into [2], private property and public property (Article 167 of the Civil Code). Private property, in turn, consists of the property of citizens and non-state legal entities, while public



property (state property) is divided into the property of the Republic and the property of administrative-territorial units (municipal property). Due to the fact that legal entities are formed simultaneously by both citizens and the state, their property is included in the above two forms of property.

As a general rule, one of the necessary conditions for the existence of the state and the implementation of its functions and responsibilities is the availability of a certain amount of state property. This situation is unique to any society. The state, like other subjects of civil law, is recognized as a full subject of civil law because it is the owner of a particular property.

Even in economically developed countries, although the abandonment of centralized management of the economy is a common rule, the share of state property in the country's fixed assets is large. This is especially true in the fields of transport and communications, nuclear energy, military-industrial [3].

### **Research methodology**

The article uses scientific methods of knowledge such as historicity and logic, comparative analysis, analysis and synthesis, observation, inquiry.

### **Analysis and results**

The availability of a certain level of property in the state is related to a number of factors. According to IB Zakirov, the objective reasons for the need for state property are:

- 1) organization of activity of state bodies;
- 2) for national security and defense;
- 3) provision of science and culture;
- 4) social protection of the poor;
- 5) fight against natural disasters and emergencies and elimination of their consequences;

6) implementation of production activities in some industries (for example, nuclear, fuel energy, etc.) [4].

According to Tolstoy, the preservation of a large part of the objects of production, socio-cultural and other purposes as the property of the state can be explained by the following two factors:

first, in a world where it is impossible to predict what will happen next, every state must think about its own security. This is security not only in the military field, but also in the field of man-made, environmental, sanitary-epidemiological, manufacturing, food.

Second, the state also performs a wide range of social functions, in order to perform these tasks, it is necessary to have a sufficient material, technical and financial base [5].

According to H.R. Rahmonkulov, state property is necessary not only for ensuring socio-economic development and meeting the needs of the population, but also for the existence of the state and its bodies and their ability to perform their functions [6].

In addition to the above considerations, it can be concluded that the existence of state property depends on the realization of the common interests of the citizens living in that state, the fulfillment of the will of the people. After all, the tasks and actions performed and to be performed by a complex structure called the "state" are so diverse that it would be wrong to express them differently.

However, this does not mean that all property in the country should be in the hands of the state. Based on the above, from the first years of independence, there was a need for property reform in the Republic. One of the main goals of this reform was to redistribute the property accumulated in the hands of the state (property that is considered to be the national wealth or almost all the material benefits of society) among other subjects of socio-economic and legal relations.

To this end, the Law on Property was first adopted on October 31, 1990, and the Law on Denationalization and Privatization was

adopted on November 19, 1991. If the Law "On Property" specifies such forms of property as private property, company (community) property, state property consisting of property of administrative-territorial units (communal property), property of other states and international organizations, legal entities and individuals [7] The legal basis for denationalization and privatization has been strengthened in the Law on Denationalization and Privatization, while the legal basis for denationalization and privatization has been strengthened.

According to this law, denationalization is the transformation of state-owned enterprises and organizations into business companies and societies, other state-owned enterprises and organizations.

Privatization is the purchase from the state of public property by individuals and non-state legal entities or shares of state-owned joint stock companies [8].

Denationalization of property is observed not only in the transition from one socio-political system to another, but is a process that must be carried out on a regular basis. Currently, the privatization of property is carried out not only in the former Soviet Republics, but also in economically developed and developing countries such as the United Kingdom, France, Japan, the Philippines. This is a natural process for the development of market relations, especially in countries where the share of the public sector in the economy is much higher. The state must support certain sectors of the economy, which are often economically inefficient, but play an important role in the economic development of the country as a whole, and take on the task of maintaining and financing them.

State property, like other forms of property, is inviolable and protected by the state (law) (Part 2 of Article 53 of the Constitution of the Republic of Uzbekistan). The protection of state property can be seen in the fact that it has the same legal status as other forms of property. Indeed, the state, as the owner, has the right to demand that the inviolability of its property be

protected from the violation of the property rights of all subjects who oppose it.

As a general rule, the legal status of any form of property is represented by the object and subject of that property. The status of state property rights is also determined by the subjects and objects of state property rights.

The owner of state property, ie the subject, according to the generally accepted rule, is the people of this state, including the owner of the property of the Republic of Uzbekistan is the people of the Republic. After all, the people, as the sole source of state power, give this right (i.e., the right of property) to the state power and exercise it through it. This means that the state has all the powers of the owner - possession, use and disposal, and the state must use these powers in the public interest [9].

In accordance with Part 2 of Article 214 of the Civil Code, the property of the Republic is managed by the Oliy Majlis of the Republic of Uzbekistan, the President of the Republic of Uzbekistan, the Government of the Republic of Uzbekistan or their specially authorized bodies, unless otherwise provided by law.

#### Discussion of research results

In accordance with Article 55 of the Constitution of the Republic of Uzbekistan and Article 214 of the Civil Code, land, subsoil resources, water, air space, flora and fauna and other natural resources, property of public authorities, cultural and historical monuments of state importance, wealth, funds of the republican budget, gold reserves, state currency fund and other funds are the property of the republic, as well as enterprises and other property complexes, educational, scientific, research institutions and organizations, the results of intellectual activity, provided that they are created at the expense of the budget or other state funds. If purchased, other property may be the property of the Republic.

According to Sh.M. Asyanov, the objects of state property are the objects that form the basis of the national wealth of the country [10]. Indeed, the objects of state property are

characterized by the fact that they are national wealth. In all places and times, the primary and main object of any state property is the land, natural resources, deposits of various minerals and precious stones, rivers flowing through the territory of this state, flora and fauna, in a word. in other words, natural resources.

There are the following types of public (state) property in the Republic of Uzbekistan:

a) The property of the Republic of Uzbekistan is:

- Property belonging to the state on the basis of exclusive property rights: Land, subsoil resources, water, air space, flora and fauna and other natural resources;

- The property of the republican bodies of state power and administration, cultural and historical treasures of state importance, the republican budget, gold reserves, the state currency fund and other funds are the property of the republic, as well as other property complexes, educational, research institutions and organizations, results of intellectual activity, if they were created or purchased at the expense of the budget or other state funds, other property of the Oliy Majlis of the Republic of Uzbekistan, the President of the Republic, the Government of the Republic of Uzbekistan or their specially authorized bodies, unless otherwise provided by law (Article 214 of the Civil Code).

Property owned by the Republic may be attached to state legal entities on the basis of the right of economic or operational management.

The objective reasons for the need for state property are as follows:

- organization of public authorities and administration;
- organization of law enforcement agencies;
- state security and defense needs;
- supply of science and culture;
- social protection of the poor;

- fight against natural disasters and emergencies and mitigation of their consequences;

- production activities in some industries (for example, nuclear, fuel energy).

State property is formed from the following sources:

-taxes;

-from local fees;

- income from production activities;

-loans and loans;

- income from privatization of state property;

- from nationalization;

- requisition;

- confiscation;

-findings;

-from treasures;

- from ownerless property;

- from various contracts;

- from the purchase of real estate in foreign countries, etc.

b) property of administrative-territorial units (municipal or communal property). This property includes local budget funds, municipal housing and communal services and other property complexes, public education, culture, health facilities and other property.

Municipal property is managed by local authorities or bodies they represent, unless otherwise provided by law.

### Conclusions and suggestions

As a result of radical changes and reforms in the country, the reduction of state property in the current situation has not reduced the attention to the study of state property rights and the importance of state property in society and social life. requires a new interpretation.

From this point of view, I think it is permissible to think about the necessity of this form of property in the study of the issue of state property rights.

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## UNIQUE REPRODUCTION IS A WAY OF REVEALING LITERARY SUCCESS.

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### ABSTRACT

*Literary tradition and renewal, that is, the continuation and development of tradition by the next generation of creators, is an important aspect of the dialectic of repetition and uniqueness. In the article, the term "tradition" refers not to all aspects of the literary process of a particular period, but to certain events in it, more often in the past, features that were accepted by many in the examples of the literary process in later periods. due to the fact that it is adapted to the requirements of the time with some changes and additions, and sometimes it is applied exactly without any changes and additions, the tradition also follows the law of uniqueness in repetition, resulting in literary succession. The article can be used by philologists dealing with various issues of fiction and a wide range of readers interested in art.*

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**Keywords:** *Uzbek classical literature, Alisher Navoi, Zahiriddin Muhammad Babur, Ergash Jumanbulbul, succession, repetition, literary tradition, tajdid, Uzbek poetry, epic, ghazal, rubai*

### Introduction

All beings can exist only on the basis of certain and definite laws. Any law requires repetition, and only then will it be effective. Because legitimacy is the result of repetition based on cause-and-effect relationships. Consistent and regular repetition is a factor in life endurance. Repetition does not simply mean repetition without absolute change, but through the unique events that occur in repetition, the being changes and develops on the basis of certain updates.

Due to the constant change of seasons in nature, day and night, the constant movement of life, the progressive flow of time can be seen. Although the years, seasons, months, days, and nights in which change is regular and inevitable seem to be repeated in an invariant uniformity on the surface, in reality each of them, on its own scale, the whole being, is definite. has a unique significance in the lives of society and individuals.

In the midst of a time that seems to repeat itself in a regular and unchanging way,

someone is born, grows up, studies, achieves a goal, starts a family, has children, works. , holds events, dies, and so on. Such events, which are crucial for a particular person, constitute unique stages in the life of every person who lives in the midst of constant repetition. This uniqueness leads to changes in the uniform flow of existence in the repetitive shell of existence, and corrections sometimes lead to complete reconstruction and renewal. So, the philosophical essence of life, the flow and development of being, is due to the harmony of repetition and the uniqueness that is born in it.

The laws of repetition and uniqueness in fiction are essentially different from the laws of repetition and uniqueness in nature. If in nature this law applies independently of man and his consciousness and will, in art and literature it is governed by creative talent, consciousness, labor, will, artistic skill, belief, worldview. depending on. Therefore, in the science of Uzbek literature, some aspects of these issues are studied in the context of the relationship between literary tradition and artistic and aesthetic innovation (innovation).<sup>1</sup>

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<sup>1</sup> There are many books and articles in the literature on different types of traditions. Here are some of them: Yunusov M. Alisher Navoi on the creation of artistic traditions and innovations // Literary heritage. Book 1. -T

.: 1968, pages 6-13; Kadyrova M. Navoi and Nodira.- The same collection, pages 30-50; Qodiri R. Navoi traditions in Uyghur literature. Ibid., Pp. 51-61; Murtozayev B. On the mastery of storytelling by Alisher Navoi and Hisrav

Of course, the literary tradition and renewal, that is, the continuation and development of tradition by the next generation of artists, is also an important aspect of the dialectic of repetition and uniqueness. But in the philosophical-aesthetic sense, the question of tradition and its continuity in renewal cannot cover all aspects of the dialectic of uniqueness in repetition in its entirety and complexity. This is because the term "tradition" does not refer to all aspects of the literary process of a particular period, but to certain events in it, rather than the features that were accepted by many in the past. It means that it can be adapted to the requirements of the period with some changes and additions, and sometimes it can be applied exactly without any changes and additions.

In general, literary succession occurs because tradition also follows the law of uniqueness in repetition. This law is the result of certain traditions in the literary process and their innovative (innovative) application. The most difficult part of this problem is to understand that the literary process, along with the phenomenon of tradition and all other factors outside it, is repetitive, and that the uniqueness of repetition ensures the gradual continuity of literary succession.<sup>2</sup>

The phenomena of repetition and uniqueness in Russian literature were studied by academician A. S. Bushmin, Yu. Yes. It has been thoroughly researched in detail by scholars such as Barabash<sup>3</sup>

This theoretical issue has not yet been specifically studied in Uzbek literary criticism. This monograph provides an example of the dialectic of repetition and uniqueness.

Rubai in classical Uzbek poetry is a lyrical genre with an independent form of four lines. It is a poetic genre in which the Hajj Sea of Aruz weight must be written in only two genealogies, each consisting of twelve branches, such as ahrab and ahram. It is well known that every poet who claims to write in the rubai genre has to obey the students. If he does not comply with these requirements, his work will not be considered a rubai. Therefore, all Rubaiyat poets can be considered Rubaiyat only if they repeat the requirements of this law in their works. At the same time, every original rubai created by different artists must be unique in its content, images and artistic expression.

"Education of our national mentality, respect for the traditions and customs of the people through the delivery of the unique artistic freshness of Uzbek literature on the basis of Uzbek classical literature to students is the basis of our national education," Alisher Navoi said. He was not only a great poet, a great statesman, a thinker, a philosopher, a literary critic, a linguist, a historian, and even a scholar of music."

Hazrat Navoi made a unique poetic discovery in the experience of artistic creation while depicting the external beauty of his mistress based on the use of words in the famous rubai, which begins with "Silence of my soul

Dehlavi // Issues of literary mastery of Alisher Navoi. -T.: 1993, pages 109-126; Vahidov R. "Majlis un-nafois" and the tradition of Zullisonayn. That package. Pages 35-155; Nagiyeva J. Navoi traditions in Azerbaijani literature. Ibid., Pp. 164-170; Yunusov M. Living traditions. -T.: 1969; Hasanov S. Roman o Baxrome. -T.: 1988; Mallayev N. Alisher Navoi and folk art. -T.: 1974; Sobirov O. Uzbek realistic prose and folklore. -T.: 1979; Hakimov M. Alisher Navoi's lyrics and folklore. -T.: 1979; Muhiddinov MK The concept of man in the works of Alisher Navoi and his predecessors. DDA, -T.: 1995; Hakimov M. Traditsii folklor v tvorchestve Alishera Navai. ADD, -T.: 1989; Egamov X.K. Typology and interrelation of skazochny traditsii tyurkoazychnykh narodov sovet'skogo Vostoka. ADD, -T.: 1988; Tulakov I. Poetic traditions and character of the hero in the Uzbek poem (60-70s). AKD, -T.: 1981 ;; Karimova C. Genre features and traditions of Zokirjon Furkat's lyrics. NDA, Samarkand, 1999; Xamidov X. Firdousi and Uzbek

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<sup>2</sup> Boltayeva I. Adabiyotda vorisilik muammosi. Monografiya. "Muharrir nashriyoti". 2020 yil, 21-bet.

<sup>3</sup> Бушмин А. С. Преемственность в развитии литературы. - Ленинград: 1978, с.131-160; Бушмин А. С. О повторяемости в процессе развития литературы // А.С. Бушмин. Наука о литературе. - Москва: 1980. с.184-201; Барабаш Ю. Я. О повторяющемся и неповторимом. // Современные проблемы литературоведения и языкознания. - Москва: 1974. с.65-93. .

...", using the appearance of letters in the Arabic alphabet.:

Jonimdog'i "jim" ikki "dol"ingg'a fido,  
Andin so'ng "alif" toza niholingg'a fido.  
"Nun" dog'i anbarin hilolingg'a fido,  
Qolg'on ikki nuqta ikki xolingg'a fido.

In a poem written in one branch of the same genre, Babur expresses the irreversible image of a lover who has not reached the heights of his beloved, based on a thousand-year-old tradition, as follows:

Jismimda isitma kunda mahkam bo'lador,  
Ko'zdin uchadur uyqu chu axsham bo'lador.  
Har ikkalasi g'amim bilan sabrimdek,  
Borg'on sari bul ortadur, ul kam bo'lador.

In this branch of the same genre, the modern Uzbek poet Jamol Kamol, in accordance with all the requirements of the rubai, expresses the confused mood and mood of our contemporary - a man of the twenty-first century, who is struggling to recognize himself. tries to:

Ko'nglim sari ko'p sirqima, yosh, tomchilama,  
Yosh bo'ldi bu ko'ksimdagi tosh, tomchilama.  
Sabrim tugadi, bo'ldi odosh, tomchilama,  
Zulmat chekinib, chiqdi quyosh, tomchilama.

According to Professor A. Hayitmetov, Alisher Navoi wrote 133 rubai in Uzbek and 73 rubai in Persian. This means that the great thinker repeated himself two hundred and six times in his 206 rubai. But none of these 206 rubai actually returned the other in terms of content or expression. Also, if Bobur's collection, prepared by the scientist E. Ochilov and published in 2007 as "Sochi's trade fell", contains 209 rubai, the poet in their creation is two hundred and nine times repetitive in terms of genre canons, creative intent and its expression. I had to put. However, if we look at the ideological and artistic features and content of the rubai, it seems that each rubai was created as a unique literary phenomenon that does not repeat each other. This means that Babur, as the inheritor of the rubai tradition, created two hundred and nine unique literary works based on two hundred and nine repetitions. Jamal Kamal's book "The Burning Field" contains 113 rubles. Apparently, the poet relied on one hundred and thirteen repetitions to create a unique work.

Another example is the dialectic of uniqueness in repetition in literary succession. Alisher Navoi wrote six hundred and fifty - two

thousand six hundred ghazals in each of the four divans of the Khazayn ul-Maoniyy College. Thus, in order to meet the requirements of the ghazal genre and its canons, the poet applied the law of repetition two thousand six hundred times and managed to create two thousand six hundred unique ghazals in terms of the ideological and artistic independence of each ghazal. It turns out that in literary and artistic creation, succession occurs not only through repetition, but also because of the uniqueness of his lap. This ensures the continuity of the literary process through the development of tradition.

Creativity is a subjective phenomenon that is largely dependent on the talent of the artist. But in a work created by a talented subject, the conditions in which the artist grows, the social and spiritual environment that influences him, inevitably have an impact. At the same time, the artist's unique approach to reality, his choice of what he needs from the myriad of beings in it, and his depiction in a unique way are all due to individuality. But in describing the same aspects of reality, certain relationships between people, in one form or another, any artist is forced to allow a certain repetition. Because the artist is always faced with the need to express his feelings in a certain literary form. To some extent, this may require a form used by others. In the process, the tradition is sometimes renewed to a certain extent, and in some cases can be restored without any renewal.

In Uzbek classical literature, the praise of women's beauty, rape, and rape have been a constant tradition since the 14th century, when the first national gazelle appeared. Thousands of poems on the same subject and content have been written since the fourteenth century. This means that the formal features of the gazelle, even the images depicted in it as a lover, a lover, a rival, a flower, a nightingale, have taken on a stable traditional character. At first glance, this repetition does not seem to leave room for uniqueness in ghazal poetry. However, a closer look at the poems written during this period reveals that each of the original poems, despite the similarity of form, is absolutely unique in content.

So, what determines the uniqueness of lyrical images in ghazal poets? Or does the poem have to be unique? By what criteria is the artistic level of a ghazal measured? It is natural that a number of such questions arise.

In fact, the uniqueness of the lyrical image is just as important in the ghazal genre as the uniqueness of the image in general. It is noteworthy that the Eastern ghazalism, from the distant past to the present, has also ensured the high development of classical lyricism, in accordance with the law of repetition. The question arises: how could poets achieve uniqueness in the context of defined patterns, lyrical images that must be present each time? Real talents can be found in new situations and spaces, in a new mood, in a new mood, without completely replacing the existing lyrical images, such as a stable form, a lover, a mistress, a rival, a flower and a nightingale, with completely different forms and images. through the show they went on the path of poetic discovery of completely new aspects of traditional emblems. The ability to achieve uniqueness in repetition is one of the most unique, greatest and most powerful manifestations of Eastern lyricism, especially in ghazal poetry. As Garcia Lorca once rightly pointed out, not only the creation of a new image, but also the discovery of other features of the existing image, new aspects of its nature, is an important means of creating an artistic image.<sup>4</sup>

As the saying goes, a true work of art exists in a unique whole. And again, these would mean that you have to spend for these processes. After all, a situation that requires constant repetition encourages the talented person to get out of the clutches of these repetitions. What makes such a repetition of a true work of art?

Upon closer inspection, it can be seen that this kind of recurrence occurs in several cases. First, the fact that any artist depicts a genre, or a theme, or a person, or exactly the same events in the presence of the same images is an important factor that creates repetition. For example, in modern Uzbek literature there are several works dedicated to the life of Alisher

Navoi. Oybek's novel "Navoi", epics "Navoi" and "Guli and Navoi", the story "Bola Alisher"; Alisher Navoi drama by Uygun and Izzat Sultans; Lydia Bat's short story "Boston of Life", B. Boykobilov's four-volume poetry novel "Troubled Khorasan", "Glorious Caravan", "Silent Khorasan" and "Bloody Khorasan", Omon Mukhtor's "Navoi and the Artist" The novel-dilogy "Abulkhair", the drama "Amir Alisher's pain" and many other works are dedicated to the life and work of the great thinker Alisher Navoi. These works are unique in that they are written about the life of a single historical figure, the time and place in which he lived and worked. However, these repetitive aspects, such as the level of artistic and historical coverage of each artist, the way of artistic research, analysis and interpretation, the genres to which they refer, the methods of using existing information, are not repeated in every work on this subject. allowed to create uniqueness.

Second, even if each artist's well-written work is created as a unique product, any writer or poet in his or her creation is doomed to shake the pen, nourished by the creative experiences of many unique artists. For example, when creating a novel or epic about Oybek Navoi, it is impossible not to use the experience and traditions of the novel or epic, the requirements and opportunities of this genre. It is also clear that Alisher Navoi studied scientific, historical and artistic writings. It seems that uniqueness in the repetition that ensures the succession in the literature is a stable law that applies in each national literature, in each of its stages, in the work of each representative, with its own scope, its own scale.

Indeed, the creator must be able to look at reality in terms of genre possibilities when creating any work. It is in the process of this view that he reconstructs the content of reality, its essence, in an order that meets the requirements of the genre, using intuition. This reconstruction of the creative process allows the artist to create a new idea, a unique artistic image. This possibility is due to the fact that the genre is defined by repeated requirements that

<sup>4</sup> Лорка Федерико Гарсиа. Избранные произведения в 2-х томах. т.1. –Москва: 1986. с. 398-399.



have been repeatedly tested in the creative process. This means that the development of literature is ensured by the fact that the uniqueness that arises from repetition occurs in the same repetition.

It is clear that the uniqueness of repetition, that is, the essence of innovation, is crucial for the development of any national literature. In scientific sources on Uzbek literature, the term "innovation" is still used to refer to the uniqueness that appears on the basis of repetition. In the current context of growing national identity and fiction being the most influential tool in the process of identity recognition, we felt it appropriate to call this phenomenon "innovation".

When it comes to the existence of uniqueness in repetition, the question arises as to which of them is more important for literature and the study of literature. This question can only be answered in the light of the nature of fiction. In essence, both science and art, including fiction, study the objective being and man. For example, the science of history studies the history of the path that humanity has traversed and traversed during its development, while art and literature study the life of an individual who is a traveler on that historical path. In an artistic study of the spiritual world, emotions, joys and sorrows.<sup>5</sup>

While art and fiction are encouraged to portray the life, destiny, feelings, and thoughts of an individual, it naturally sees it as a primary task to portray the unique aspects of a person. It is natural, therefore, that in art and literature it is more important and costly for an artist to achieve a unique individuality by deviating from them than by following the general laws. According to LN Tolstoy, "In describing the historical period, the historian and the artist have two distinct and at the same time interrelated aspects. If the historian is wrong in describing the historical personality in its entirety and in its complex relationship to all aspects of life, then the artist who tries to reveal

its historical essence cannot do his job."<sup>6</sup> - It should be noted that the idea that

Not only literary critics, but also historians, political scientists, and philosophers have not yet been able to come to a definite conclusion on the question of history and personality. Because it is impossible to find a satisfactory solution to the problem of one man's relationship with all mankind and its impact on human life and the fate of one person. In art and fiction, the problem of the relationship between the individual and society, repetition and uniqueness, and the solution of this situation in art, is solved on the basis of the specific goals and objectives set by each researcher and creator. After all, in every work of art, the uniqueness of the life of a particular person, depicted in the art of repetition in the history of mankind, is resolved in a unique way. Therefore, when each work is scientifically researched, it is only possible to draw its own conclusions from it.

Researcher IG Neupakoyeva wrote in an article about the relationship between repetition and uniqueness: "The researcher's restriction of the writer only to individual uniqueness, to the uniqueness of his art - means refusing to study literature in the context of social and ideological relations."<sup>7</sup> - he writes.

Of course, in this opinion of the scientist it is obvious that the Soviet attempt to subdue the artist to the reins of ideology is a natural thing. Therefore, in another place, he seems to have expressed a somewhat opposite view of the idea put forward in his previous article: poses a risk. "There is more truth in this scientist's opinion. Indeed, for the creative process, for the development of any literature, the lofty goal to which the artist's unique individuality is sought is a great dream to be achieved.

The conclusion to be drawn from such views is that there is no uniformity in understanding, explaining and evaluating the role of uniqueness in repetition and the way it is manifested in ensuring literary succession and

<sup>5</sup>Chernishevskiy N.G. Esteticheskie otnosheniya iskusstva i deystvitel'nost'. N.G. Chernishevskiy. Sobr. soch. v pyati tomakh. t. 4. -Moscow: 1974. p.112.

<sup>6</sup>Tolstoy L. N. Poln. sobr. hair. t. 16. -Moscow: 1955. p. 9-10.

<sup>7</sup>Neupokoeva I. G. Writer, literaturnoe proizvedenie, obshestvo.// Xudojestvennyy metod i tvorcheskaya individualnost' pisatelya. -Moscow: 1964. p. 158.

the literary development that takes place through it. Even such sharp differences and variations can be seen in the views of one researcher over the years, and this should be taken for granted.

While some researchers believe that uniqueness is the leading factor in evaluating a work of art, others argue that the harmonious and balanced participation of both concepts allows for a better understanding of the nature of the issue. In our opinion, in the dialectic of repetition and uniqueness in the work of an artist, the question of which of these two concepts prevails, the theme of which the artist writes, the material he chooses to cover this topic, it would be logical to note that uniqueness takes precedence. This approach assumes that each specific work is evaluated individually by each student. The ideological and aesthetic uniqueness of a work of art does not mean that it is universally accepted and appreciated by all students. The objective and subjective value of a work is determined by the degree to which the ratio of repetition to uniqueness is purposefully combined.

We will try to express our opinion more clearly with the help of examples from the history of Uzbek literature. It is known that between Alisher Navoi and Babur rubai there are many works that are very similar or very close in terms of themes and ideas. But no matter how similar and close the theme and artistic intention are, the rubai of these two great artists are completely unique. For example, in the following famous rubai of Alisher Navoi, the grief of a stranger in exile, the strangeness of joy to him, the absence of a compassionate and kind person for such a person, even though he is richer and poorer than living freely. It is sung in a way that any poet will never forget:

G'urbatda g'arib shodmon bo'lmas emish,  
El anga shafiqu mehribon bo'lmas emish.  
Oltun qafas ichra gar qizil gul bitsa,  
Bulbulg'a tikondek oshyon bo'lmas emish<sup>8</sup>.

In the lower rubai of the king and the poet Babur, as in the poem of Hazrat Navoi, it is expressed that no one remembers a stranger,

does not try to make him happy, and a stranger does not know what joy is:

Yod etmas emish kishini g'urbatta kishi,  
Shod etmas emish ko'ngulni mehnatta kishi.  
Ko'nglum bu g'ariblikda shod o'lmadi, oh,  
G'urbatta sevunmas ermish, albatta, kishi<sup>9</sup>.

The rubai quoted from the works of both poets are written on the same theme, in the same genre, and even in the same weight as the ahrab tree of the Hajj sea. The aspects enumerated now constitute the repetition in these writings. But it is clear that it is impossible to say that these two works are the same, after reading one and not reading the other. Each artist's unique artistic interpretation of the subject makes them unique writings.

A similar situation can be seen in the works of artists of completely different periods, both in terms of time of creation and in terms of the principles of artistic approach to life. Hazrat Alisher Navoi in his work "Mezon ul-avzon" writes about the genre of tuyuk, which is used only in Turkish poetry: The goal is to:

(tuyug')

Yo rab, ul shahdu shakar yo labdurur?

Yo magar shahdu shakar yo labdurur?

**Foilotun foilotun foilon**

Jonima payvasta novak otqali

G'amza o'qin qoshig'a yolabdurur?

**Foilotun foilotun foilon**<sup>10</sup>

Some time after the great thinker, in the epic "Ravshan" sung by Ergash Jumanbulbul, a poem with a completely different meaning from the language of Hasankhan, written in a completely different context, was written in the same genre of ostrich. Because the poem in the epic meets the requirements of the genre of ostrich, described by Hazrat Navoi, in many respects. It is true that the hen used in the epic is not in the form of a dream, but in the finger system, which is traditional for Uzbek folklore. Consequently, the frame frame does not fall at the target weight at all. But the hen in the folk epic, like Navoi's work, has eleven syllables, in which the word tajnis, which has different meanings, has served as a rhyme:

Qo'lingdan kelgancha chiqar yaxshi ot,  
Yaxshilik qil, bolam, yomonlikni ot!

<sup>8</sup> Alisher Navoi. MAT. Volume 3 –T.: 1994. P. 573.

<sup>9</sup> Zahiriddin Muhammad Bobur. Devon. –T.: 1994. B. 96.

<sup>10</sup> Alisher Navoi. A perfect collection of works. Twenty volumes. Volume 16 –T.: "Fan", 2000. Pages 71-72.

Nasihatim yod qilib ol, yolg'izim,  
Yolg'iz yursa, chang chiqarmas, yaxshi ot.

It seems that neither time nor space can prevent the fulfillment of the basic requirements that determine the nature of a literary genre. At the same time, the two hens have nothing in common but similarities in shape. This means that in art, the unique personality of the artist, his unique talent, the individuality of his worldview, and the uniqueness that arises due to the life and mood of the artist are depicted.

It should be noted that this does not deny the great importance of repetition in art. Many aspects of the creative process, especially literary genres and the specific requirements of their genres, follow the poetic canons formed over a long period of time, creating a phenomenon of repetition that ignores the essence of artistic creation.

While the succession in literature continues through the manifestation of uniqueness in repetition, it should also be borne in mind that this law cannot be realized only by the conscious approach and will of the creators. True creators, without exception, always strive for unique individuality. But any artist is forced

to achieve this uniqueness through unintentional repetition. Because every artist needs to materialize his thoughts and feelings in some way. It is at this stage of artistic creation that repetition becomes necessary. And the creator is faced with the need to express new ideas and feelings in the old way.

This is where the true power of talent lies. That is, a talented artist cannot simply put his poetic product into existing patterns. Rather, it seeks to reform within the existing mold, to make changes, to create innovations that are unlike any of its predecessors. The stronger the repetition, the less likely it is that the uniqueness of a particular work will manifest itself. Great talents can create an unexpected uniqueness in the heart of repetition, and the value of a work of art lies in this irreversibility. It seems that the survival of the art of speech continues through the same complex and intricate interrelationships of inheritance. Thus, the development of literature is possible only due to the application of the law of succession, which manifests itself in the form of repetition.

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**THE HISTORY OF ARCHAEOLOGICAL STUDY OF SAMARKAND'S SOGD****Indaminova Shoir**

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**ABSTRACT**

*This article systematized that research work of scientists who studied the early medieval period of Sogd on the basis of archaeological research. For the first time, they studied Sughd in historical and geographical terms, put forward their conclusions about the periodization of social and ethno-cultural history, as well as the indication of territorial significance, planted ancient pictures in the drawing of rocks, managed to determine the period, methods and content of drawing these unique drawings, began a systematic study of pottery, served to enrich knowledge, but in the studies conducted, the relationship of religions to each other in the Sughd Confederation was insufficiently studied. This article systematizes the historical and archaeological research conducted in the field of irrigation science, enriched with information obtained in the current period. You can know that the archaeological study of Sogd was interested in its history, samples of material culture left over from the ancient ancestors of the population of the Turkestan region. For the successful implementation of this research, Russian scientists collaborated with leading intellectuals, leading scientists of the local population. According to the results of archaeological research conducted in the second half of the XX century, it was possible to create a stratigraphic landscape of some monuments. Questions of religious etiquette were also clarified by studying the symbols on some coins minted in Sogd. In 2018, the archaeologists of Uzbekistan made a world discovery. A unique example of Sughd art from kafirkala was found – a wooden panel. The panel consists of two wide boards, which are fastened together with an iron bracket. The issues of introducing this panel into scientific circulation are covered.*

**Keywords:** Sogd, historiography, Avesto, Gava, Zardustism, Buddhism, monarchy, Christianity, Dabusiya, Rabinjun, Kushuniya, wooden panel, bulla, ostadun, musical instruments

**Introduction.** The peoples of Central Asia, along with experiencing the processes of mutual integration, are trying to further improve their traditions of statehood in order to take root in a certain period of time in the regions of this region a number of religious beliefs and on what grounds they exist in their time, as well as to investigate the fact that many processes associated with these religious beliefs have had.

The question of religious processes in ancient Sogd, the reflection of these processes in material culture, as well as the study of relations between religions is one of the urgent problems facing historical science. Because the religious processes that took place in Sogdiana, located at the crossroads of Central Asia, also affect the neighbouring countries. Therefore, a comprehensive study of the religious processes taking place in Sogd will also be important when analyzing the religious processes taking place in the armies of Ustrushan, Choch, Ferghana and Toksaria.

Currently, the interest in studying the history, culture and religious beliefs of the Sogd Confederation on a global scale is growing every year. Scientific research on religious issues, such as Zardushtism, Buddhism, Christianity, Monism, which exist in Sogd, is carried out by an international expedition of

mature world research centers and higher educational institutions, in particular, Association of Oriental and African Studies (Great Britain), National Center for Scientific Research of Paris (France), Nara University (Japan), Institute of Linguistic Studies of the Russian Academy of Sciences (Moscow), Institute of Oriental Studies of the Russian Academy of Sciences (St. Petersburg) [13], State Hermitage Museum (St. Petersburg), Academy of Sciences of the Republic of Uzbekistan's Institute of Archaeology under name Ya.Gulomov, there are cooperation with Academy of Sciences of the Republic of Uzbekistan's Institute of Archaeology under name Ya.Gulomov Uzbekistan-Italy and (from 2001 to the present day) Uzbekistan-Japan (from 2006 to the present day).

The study of religious processes in the history of the first Middle Ages of the Sogd, located in the quarter of cultural relations of Central Asia, and the study of their interrelationships, stages of distribution on the basis of archaeological and written sources determines the need to study the subject.

The study used historical-genetic, retrospective, comparative, structural, synchronous and diachronic methods of studying history.

Sogd is an ancient and cultural oasis of Central Asia, located in the Zarafshan and Kashkadarya river basins. This historical and geographical name has its historical place in the sources. The holy book of the country "Avesto" also mentions that Gava is the land where the Sogdians live.

In the works of Arab and Persian historians about the history of Sogd, a number of information is presented, in which one can also observe the state of division of Sogd into parts. There Samarkand's Sogd occupies the main place and is considered in the scientific literature as the Central Sogd.

Bukhara oasis, which is considered the lower part of Zarafshan, is considered separate from Sogd and is referred to in the scientific literature as Bukhara's Sogd. Its political and administrative center was the city of Bukhara.

The geography of the Arab historian Istakhri transfers the territory from Samarkand to Dabusiya as Sogd. Although the proper Dabusiya, Rabinjon, Kushania and Ishtihan are considered the "heart of Sogd", it is necessary to add other regions of Sogd to it in order for Sogd to be a whole.

Other medieval authors describe the administrative structure of the Sogd differently. Yakubi will also include the cache and Nasaf in Sogd in the Yakubi's data, where the cache is referred to as the initial center of Sogd. In the scientific literature, the Kashkadarya oasis is referred to as the Southern Sogd.

The history of socio-cultural and religious views in Sogd can be studied on the basis of a comparative analysis of written and archaeological sources. One of the main sources in the study of the history of the Sogd is archaeological materials. The main archaeological research is conducted in the city of Afrasiyab, the capital of Samarkand. Afrasiyab and several other archaeological sites of was studied by several scientists, such as V. L. Vyatkin, A. Yu. Yakovskiy, G. V. Grigorev, A. I. Terenojkin, Ya. Gulomov, B. Ya. Staviskiy, M. Kh, Urmanova, V. A. Shishkin, Yu. F. Buryakov, O. M. Rostovsev and Sh. S. Toshkhodjaev. Several magnificent temples of Zarathustra were opened in the Sogd region. Particularly, several scientists, such as A.M.Belinskiy, B.I.Marshak studied temples where were located Penjikent, R.Shkoda also

studied Zoroastrian temple namely Jartepa temple, where were located near Penjikent, A.E.Berdimurodov and A.M.Samiboev studied Zoroastrian temple. where were in Ishtikhon district, G.A.Pugachenkova studied temple where were located in Kurgantepa village.

Archaeologist N. I. Veselovskiy in 1884, during excavations in the ruins of Afrasiyab in Samarkand, discovered human and animal skull bones in ancient sarcophagi and came to the conclusion that these ceramic coffins were "pre-Muslim". [2;P.287]. The scientist restored one of them and expressed the opinion that the upper waters inside were "left from the broken coffins of local fire worshippers" [3;P.187]. The researcher first suggested that they should not be called boxes or coffins, but ostadons-ossuaries. Against this background, since the end of the XIX century, the term "ossuary" has entered scientific circulation.

In addition, K.A.Inostansev also expresses the opinion, based on Narkhashiy and at-Tabiriy's works that ostadons which found in Samarkand, dead body was before Islom, there was habit of using specially trained dogs to separate the corpse and flesh from the bone [4;P.170]. Thus, it is customary to bury the cleaned bones in ostadons and bury them in pauses.

Members of the Uzbek-French archaeological expedition restored a single ensemble associated with the burial of fragments of Ostadons (VII century). G.Pugachenkova who relied on French scientist M.Mole [7;P.65] consider that characters were showed on the ostadons depended on Amesh Speta (the name of God) - "Eternal custodians" [8;P.62-64, 9;P.86].

Currently, Biyanayman (the name of village) near Kattakurkan city, in 1908 year B.N.Kastalskiy found more than 700 fragments of ostadons, which relief images were taken [5;P.26]. He declares that the images are related to the burial of Zarathustra.

In the 30s of the XX century, the number of ostadons found as a result of archaeological research increased significantly. M.E.Masson and T.M.Mirgiyazov found ostadons with naous near Tashkent region, around Tuytepa city. At the same time, I.A.Sukharev also found ostadon, which was excavated in Kafirkala near Samarkand and was reduced to a cross, a symbol

of the Christian religion. Later, similar naous and ostadons were found in Bukhara, Kashkadarya, and Khorezm.

In the archeology of Uzbekistan, the excavations of ceremonial structures – temples, temples and holy places-were consistently carried out. The same complexes were found in the 40-50s of the XX century by S.P.Tolstov, palaces, namely Varakhsha which belongs to Bukhara kings (Bukhorkhod means that the king of Bukhara) and A.Yu.Yakubovskiy found some palaces in Penjikent. V. A. Shishkin was a member of almost all the expeditions conducted in 1930-1940 on the territory of Central Asia. In particular, he participated in archaeological research in such historical monuments as Varakhsha, Ulugbek Observatory, Registan, Shahi-Zinda, Afrasiab. V. A. Shishkin "Varakhsha" based on experiments that were overthrown for many years [10; p. 250], publishes his book under the title. Despite the fact that the Bukhara oasis has played an important role in the history of Central Asia and occupies a historically important place, it has been poorly studied. The scientist, trying to fill this gap in the world of archaeology, publishes this book based on his own archaeological research and scientific hypotheses. This work relates to the cultural history of the Bukhara Palace, in particular to the history of ancient art, and presents extremely important materials. The walls of some of the halls of the palace are decorated with paintings dating back to the VII century. On the walls are very vividly depicted battles and hunting images of kings and heroes sitting on white elephants with creatures (white and yellow griffins). The wall paintings attest to the high artistic skill of the ancient sociopaths. In these murals, we can see that the ancient local religious beliefs were harmonized with the distinctive features of the art of Bamiyan and Gandhara.

Published in 1996 by Yu. Yakubov's work "The Religion of Ancient Sogd" provides an overview of the religious situation in Sogd [12;P.182]. He not only studies the sacred pilgrimage sites of the mountain villages of Sogd, but also ignores the materials obtained in recent years by the city temples, including the excavations in Panjikent. A brief description of the temples of Penjikent, taking into account the

works created in 1970-1980, was given by B. I. Marshak [6;P.230].

In the 50s of the XX century, a city synagogue was opened in Penjikent, and based on the archaeological materials found in it, it was widely used to highlight the pre-Islamic ideology of Central Asia. In 1947-1953, A. M. Belenisky and A. I. Terenojgin opened two monumental temples inside the palace in Penjikent. A.Yu.Yakubovskiy analyzing the preliminary results of the excavations, comes to the conclusion that the main place in the ideology of Sogd and all of Central Asia was occupied by local rituals (including the worship of the dying and resurrected forces of nature, which represented the image of Sievush), but the influence of new religious systems (Buddhism, Christianity, Monism) was limited [11;P.21-22]. analyzed the problems of the local Zarathustra and argued that many rituals here were different from those in Iran. In his view, the evolution of Zarathustra in Central Asia was unusual, as Central Asia was not the only state between the Two Rivers, a separate, powerful priesthood church was not formed, and so strict dogmatism was not developed. Zardushtism is deeply embedded in the local primitive ideas about this area, and therefore the cult of fire and the dualistic worldview associated with it are not abandoned.

In 1936, G. Grigoriev began archaeological research on the Tally Barzu monument, as a result of the research, the stratigraphic landscape of the monument was created, as well as unique finds were obtained, which are the basis for studying the art of Sogd ceramics. Despite the fact that the country was going through a brutal war in 1941, he defended his PhD thesis in Leningrad on September 20, 1941 on the topic "Tally Barzu-a monument to Islam".

I. Sukharev also made a great contribution to the study of the cemetery and handicraft quarters of the city of Kafirkala, which was saved in 1938 on the left bank of the Dargom Canal. I. Sukharev Kafirkala graveyard in the process of conducting research discovered unique remains, figurines. The threshold found in this memorial cemetery is considered extremely unique in its own patterns, weaving methods. It is worth noting that the population who lived in Kafirkala (the name of place)

initially professed the religion of Zarathustra, and the funeral also corresponded to this. At the beginning of the eighth century, with the spread of the Islamic religion in Sogd, there were also some changes in the funeral rites. This is observed in the cemetery at the monument to Kofirkala. Some of the dead in this cemetery were originally buried on the basis of Zardusism and Islamic religious traditions, and by the end of the eighth century we see that the dead were completely buried in the traditions of the Islamic religion. This suggests that the change from suicidality to suicidality was very long and difficult. Researcher I. Sukharev was able to advance this delicate process with the utmost precision.

Another important research conducted by I.Sukharev was the study of ancient rock formations in villages, gorges, valleys and shadows, such as Karatepe, Okhaliksoy, Oksoy and Ilonsoy at the foot of the Zarafshan mountains. I.Sukharev was able to determine the period of the drawing, the methods of drawing and the content of these unique drawings. I. Sukharev was one of the archaeologists who established a systematic and consistent study of ceramic products in the Sogd. To find and explore several pottery pits on the eastern side of the town of Kafirkala, for I.Sukharev took chance to discover the secrets of Sogd ceramics. Baked ashtray ceramic dishes, sprinkled with shiny mica on the surface, are polished in the same way as metal dishes. We have not yet encountered this method in other monuments, except for Kafirkala.

Archaeologist I. Sukharev left a very rich and priceless legacy. This heritage serves as an important source for us to understand the mystery of the Kafirkala naous, to study the construction methods of the restored brick dam in the Middle Ages in Amandar on the east side of the village of Jom, to study the early and medieval pottery of Sogd.

There are several magnificent temples of Zarathustra on the territory of Sogd. Particularly, several scientists, such as A.M.Belinskiy, B.I.Marshak studied temples where were located Penjikent, R.Shkoda also studied Zoroastrian temple namely Jartepa temple, where were located near Penjikent, A.E.Berdimurodov and A.M.Samiboev studied Zoroastrian temple. where were in Ishtikhon

district, G.A.Pugachenkova studied temple where were located in Kurgantepa village

It is noteworthy that from the objects of archaeological research, there is a similarity between the photographs of the Afrosiab wall and the paintings of the Panjikent wall. For example, the fact that the object is partially reflected in the number of people in the form of Far Eastern peoples, in the number of places, mainly in the appearance of the Sogdians and Turks, the similarity in the description of their clothing, the proximity to each other in the color palette, indicates the harmony of cultures. This allows us to observe the influence of the school of fine arts in Samarkand, which is the center of the Sogd, in Penjikent.

The studied structures, extracted in the city of Penjikent in the 60-70s of the XX century, are currently being revised, which leads to new conclusions. In particular, the role of the temples of Penjikent has been reviewed, and researchers offer new insights into the extent to which the position of ancient religions in Sogd and its problems are being addressed.

In 2018, the archaeologists of Uzbekistan made a world discovery. A unique example of Sogd art from Kafirkala – a wooden panel-has been found. The panel consists of two wide boards, which are fastened together with an iron bracket. The thickness of these boards is now less than 0.5 centimeters. On the right side of the boards are 46 carved compositions with the image of a man, arranged in the form of four floors. The main plot of the composition is the mass worship of the people of Allah. It is he who is the main center of the composition. Therefore, in the form of a lion lying in the center of the two upper hemispheres, a large image of the goddess sitting on a throne is placed. The goddess sat tantalistically, magnificently holding a staff with a ribbon in one hand, and in her left hand she had some kind of object pen. On the head-a winged crown, between the wings-a small ledge above the forehead. All the other figures in this radius are represented by images men with gifts, portable kindness, hookah, they address the goddess. In their all typical attire of the first medieval watering, with a belid belt, but no weapons. Soft boots on the feet. The third tier, the budda, also reflected on the donors (organizers of the religion): one of them holds a vessel, perhaps it is made of



precious metal, another holds a wreath in his hand, a third holds a hoof, inside all the characters hangs a bayonet on the slip of the only one. And on the right side are depicted musicians who are going to a religious ceremony [1;10-15 бб]. Such woodworking compositions are considered the first three in the history of Central Asian archaeology and a unique discovery on a global scale. They show not only the spiritual world of the inhabitants of Uzbekistan, but also the high art of its masters.

Thus, the Sogd Confederation attracted tourists and scientists due to its location in a natural, geographically comfortable environment, at the crossroads of the Great Silk Road, they left valuable information about Sogd in their works. Chinese chronicles do not contain information about religious views, such as shamanism, Brahmanism, Monism in Sogd. The main reason for this was the Chinese newcomers in Sogd, marotaba and en route. While the Persian-Arabic sources provide valuable information about religious practices and rituals in Sogd before the invasion of the Arab Caliphate, the mountain MugSogd documents are one of the main sources in the study of social relations in the cities of Sogd.

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## ISSUES OF THE DEVELOPMENT OF HUMAN CAPITAL IN THE TEACHINGS OF SAMARKAND JADIDS

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### ABSTRACT

*The article has revealed that the Samarkand Jadids' works were based on ideas aimed for changing the social life and radical reforms for the development of society, and the article has proven that these views of the Jadids were innovative ideas and novelty for their time. The article has also revealed that the social changes took place in Turkestan in the late nineteenth and early twentieth centuries showed that this was a process of modernization and that its product was considered a period of innovation. As a result of the fact that these ideas had a significant impact on the consciousness of the people, the growing interest of people in innovations, positive hopes and aspirations in social development emerged. The local people followed these ideas. The Jadids sought to elevate the spiritual world of the people with the progressive views in their works. We can see in the practice of Samarkand devotees that these actions was sensible.*

**Keywords:** Samarkand, Jadidism, social, political, position, motherland, independence, worldview, modern youth, localism, development, enlightenment, people, heritage, culture, values, history, ethics, education, upbringing.

### Introduction

The positive results of the Samarkand Jadid movement have led to an increase in the ideological, political, and spiritual mood of the people. They are Jadids who are called the fathers of autonomy. This movement emerged from the beginning as a team of enlightenment and cultural reformers, and quickly became a process that followed the people and took an ideological and political position.

The program of the Jadids, who carried out enlightenment ideas in Turkestan in the late 19th and early 20th centuries, was as follows:

- first, the reform of the Muslim public education system and the training of highly qualified specialists in important areas of culture, science and technology;

- second, the development of the economy, industry and agriculture of Turkestan with the help of qualified specialists, making it one of the most developed cultural, scientific and technical regions of Russia;

- third, improving the living standards and welfare of the people;

- fourth, the formation of national capital, assistance in increasing the number of rich and wealthy people;

- fifth, the transformation of the infrastructure of society with the help of qualified local specialists, namely the production of the necessary state apparatus for the formation of independent nation-states in Turkestan.

The progressive forces paid special attention to the fight against fanaticism, indifference and backwardness during this period. In addressing these tasks, the main focus was on: expanding the network of new methodological schools in the region, training talented young people abroad, organizing various educational societies and theaters, publishing newspapers and magazines, building a national democratic state in Turkestan.

Most Jadids were in favor of adapting the institutions of modern civilization to Muslim traditions, they recognized the parliament because the principle of Shura (Council) is enshrined in the Qur'an. The Jadids believed that women should be given the right to vote.

To justify loyalty to the Russian state and respect for its Constitution, the Jadids referred to the holy books, using the Qur'an and Sunnah, and stressed that Muslims should master the latest advances in science and technology. In their view, Soviet law should not violate the principles of Sharia.

### Main part

Changes in the organizational and teaching methods of the confessional education system have led to a qualitative improvement in all Islamic educational institutions. The madrasas with this new form had four sections: ibtidaya (primary), rushdiya (middle), igdadiya (above middle), and gallia (high). Through these, a multi-stage system of teacher training was formed. In addition to training pedagogical

staff for higher education, it gave them the right to train staff such as khalfa, scholar, and judge. It was the adaptation to the new living conditions, the integration of confessional education into the evolving secular education system. There have been changes in women's education. In the late nineteenth and twentieth centuries, a new method of educating women began to take shape, a process was not completed until 1917. The main ideas and goals of Jadidism:

- Liberation of Turkestan from the remnants of the Middle Ages, feudal backwardness and religious fanaticism;

- refusal to study in the "old way", to direct the region, people and nation to the path of development and progress;

- building a national state;

- building a free and prosperous society in accordance with the constitutional and parliamentary system of government;

- granting the status of the state language to Turkic languages;

- realized the need to create a national currency and a national army. With these actions, they demonstrated the content of their ideas and the need to disseminate them widely. Enlighteners can literally enumerate the importance of new methodological schools in Central Asia, by 1911 their number had risen to 63 and the number of students to 4,106. In 1910, there were 24 Jadid schools in Tashkent alone, with 1,740 children were educating, and by 1917 there were already about 100 new schools in the region. From the point of view of the Jadids, the issue of educating women had a special place. They point out that there is nothing to prevent women from being educated in Islamic teachings. From the point of view of the Jadids, the issue of women's education had a special place. Emphasizing that the study of Islamic sciences is the duty of every man and woman, the Jadids advocated the joint preparation of girls and boys. Although the main activity of the prominent representatives of the Jadid movement began with enlightenment, their ideological influence plays an important role in shaping the position of national liberation of the peoples of Turkestan. This will require a great deal of attention to education. Education is carried out through the harmonious integration of national history, folk traditions and customs,

the preservation and enrichment of the culture of the nation, the recognition of education as a vital factor of national development, respect for the history and culture of developed nations. If a person, accepts education not as an obligation, but as a real value, there will be development in all areas of education. "The scholars, writers and thinkers of every nation will guide and advise the future of their nation, give advice in mosques for the reform of the nation's morals, teach science in schools and madrasas in this world and in the hereafter, and guide the Ummah with books and newspapers"[1.30] they argued and emphasized human capital. The Jadids, realizing that education as a value is the highest duty of every citizen, drew attention to the importance of education, the need to acquire knowledge in the first place. "With the development and support of science, the plight of the various nations of the world is before the eyes of civilized Europeans. Since this world is a battlefield of life, one power crushes and swallows the weak one. This law is becoming general and valid about every inanimate and animate thing in nature. This is because the governments of our time are often confronted with new developments, and governments that are not armed with these weapons are deprived of their country and independence"[2.2.], it is argued and in our view it was an emphasis on human capital. At the same time, the indifference and neglect of education in our view will lead to the decline of the country. So, every nation should work out the concept of national education for the development of its nation. "The scholars of the developing nations being aware of the times, strive for the "masoliha zamoniyya" of their nation, invite the nation to progress, offer money, admiration, encouragement and influence to the rich people of the nation. To conclude, the scribes of every nation, speak, write and declare for the nation and reports the time to their nation" [3.30.] with such ideas, the people aim to educate their people at their own expense and to move forward in this way.

We can see such a movement in the activities of the Samarkand Jadids of human capital. They realized that time that national schools were established by separating the younger generation from their own funds. This is what we call human capital today. The Jadids

demonstrated and put into practice the ideas aimed at developing human capital in their activities hundred years ago. So what is the human capital? There are various definitions of the question at present. Today, world experience and practice show that funds directed to human capital show their effectiveness better than other factors. The first President I.A.Karimov emphasizes that, "In the XXI century - the century of intellectual thinking, only countries that have chosen to invest in human capital as a priority can achieve high development. Only such a society will be able to overcome modern threats and problems" [4.22.]. The quality of educational services provided at the stage of human capital formation should be high. At the same time, the level of education, experience and skills of the staff providing educational services (parents in the family, educators of preschool education) are important for the growing child.

It is necessary to develop education in the society in order to raise human capital to a high level. We can see this in the development of the philosophy of education. What is the philosophy of education? The philosophy of education studies and reveals the essence of the educational process, the laws of development, principles, problems and contradictions in terms of dialectics, ontology, theory of knowledge, logic, ethics and epistemology, which are the core of philosophy. The philosophy of education deals with a system of general concepts - categories related to human thinking and cognition. These concepts include consciousness, thinking, object, event, process, necessity, attitude, development, cause, effect [5.17-18.] and so on.

Analyzing the attitude of Samarkand Jadids to education in their direct activities, we can see that they approached the education system on the basis of the philosophy of education: "...should everyone help as much as they can, so that our children in this situation can have their own future world, namely, justice, equality, or a true patron and owner of the world". [6.110.]

Enlightener Ismatulla Rakhmatullaev, one of the young representatives of Samarkand Jadids, in 1917, together with his students, raised funds and opened schools in 17 places of Samarkand through hashar. In 1918, the

Commissioner of Education Mahmudkhoja Behbudi appointed his student Ismatulla Rakhmatullaev as the head of the department of public education. Ismatulla Rakhmatullaev took an active part in expanding the network of schools in Samarkand district, developing curricula for them, creating new textbooks, manuals, as well as opening and leading teacher training courses. Through his work in the field of education, Ismatulla Rakhmatullaev gives an overview of the social structure of society and the policy pursued, including the importance of land for its development in the agrarian and economic environment of the country. He tried to instill in the minds of the younger generation that labor is a pleasure, that the country can be prosperous if the people are well fed. The teacher taught the youth through small stories and poetic passages written in simple and understandable language. These stories and poems have an educational character. As an example, "idleness is the worst of deeds. I'm tired of idleness. The dead are better than the living idle. Every soul in the world has a service and everyone has a certain duty. We believe that the task of students is to read and study science, every student of the school should have good literacy. It is said that "Vigilant and enthusiastic students never sit idle"[7.13.].

The path of knowledge and enlightenment is difficult, but only when we achieve independence and development through this path, our people can live in prosperity. It is also possible to understand the need for self-sacrifice in this way in his observations. Vigilance always urges man to work, through this activity he has tried to inculcate through education and upbringing that he is concerned with the preservation of material and spiritual wealth, with the care of passing them on to future generations. In his views, the teacher sought to inculcate in the minds of young people the need for educational reform in order for the idea of national development to become a reality, and the development of education in accordance with this. It is only the power of a nation that is important for the ideas created by its great geniuses to serve humanity. Hence, the need for young people to master the achievements of science in every age is an urgent task, because the country develops through highly developed

science. This can only be achieved through the conscious activity and regular labor of the youth. One of the urgent tasks today is to inculcate the idea of national development in the minds of our youth, where the independence of our country has become a reality. Because it contains the goals of directing our people to material, socio-political, moral-aesthetic and spiritual-enlightenment development. As the First President of the Republic of Uzbekistan Islam Karimov noted, “the people are a powerful force living with its thousand-year-old traditions and experiences, indelible memory and great feelings”[8.45.]. Indeed, the recent work of Ismatulla Rakhmatullayev is an example of this.

One of the most intelligent people of this time, Ismatulla Rakhmatullaev thinks about the importance of education in modern schools for the development of society.

Ismatulla Rakhmatullayev expressed his moral and aesthetic views in stories and poems in simple and understandable language. At the same time, the issues of moral qualities such as reading, love of learning, respect for teachers, parents and adults in general, friendship, brotherhood, loyalty, integrity, the spiritual image of students are covered. His views on aesthetic education are also important, along with his ideas on morality. In addition to his moral and aesthetic views, Ismatulla Rakhmatullayev gives a brief overview of environmental culture, in particular, in 10-12 words he emphasizes the importance of water for life, agriculture and landscaping in general: “We drink water and wash with it. The mills are driven by water. Vegetables and farming are produced through water. Water is a means of beautification”[7.31.]. After all, even today, these ideas have not lost their relevance. It is not in vain that water is called “water-life”, it is one of the conditions of human existence. It is impossible to imagine the existence and development of nature and society without water. In the context of globalization, young people develop skills such as saving clean water through the formation of environmental thinking. Preservation of water as a priceless resource is one of the national traditions of our people.

Also, in a short article entitled “Four Seasons” (“Four Seasons”), a classification of

the seasons is given, and it can be seen that they are observed from the general to the individual. “A year consists of four seasons-spring, summer, autumn and winter. It consists of twelve months each year. A month consists of 30 days or 4 weeks. It is seven days a week, 24 hours a day, 60 minutes an hour. You have to read and study every minute”[7.31.]. Another aspect of the matter is that the author not only provides information about nature, but also emphasizes that the value of time is of the utmost importance to man. Hence, the rational use of every minute to read and learn must become a human goal. One of the most important social problems of the early twentieth century was the development of human capital, which began to play an important role in the sustainability of people, economies, societies and the world. The activities of the Samarkand Jadids confirm the importance of this for future generations. They clearly understood that if Turkestans could not effectively invest in the education of young people, that is, in human capital, there would be huge costs, especially for the poor. These costs will put future generations at a disadvantage. However, when we talk about human capital, spiritual factors take precedence. At this point, the Jadids focus on the important aspects of educating young people, and “we do not have an issue that is not as important as the upbringing of children. Therefore, it would be a mistake to say that we are making decisions in every way day by day. There is so much confusion about parenting that it's hard to know where to start. Whether you bring up children financially or culturally, there are many places that are against the laws of upbringing. We paid little attention to upbringing. However, our Prophet told us, “Al-ilmu ilmayni; ilmu abdan and ilmu adyan” he said, noting that it is important to pay attention to all aspects of education. In order to overcome the most important problems in the development of society, it is necessary to pay attention to the education of young people, to move to new innovative stages of education[9.109.]. “... the development of any nation begins with regular schools. Doesn't a person's happiness come from school upbringing? Just as language and national literature, religion and folk education are the place of school, so the door to human life

and happiness is the only school”,[10.34.] called people to unite and educate the next generation.

Every citizen in the society has a good effect on the early upbringing of young people by measuring human capital in different ways from an early age. It is the duty of every parent to start upbringing from infancy. “Just as every nation in the world lives in a lawful and happy way, in accordance with the education and culture of its time, so that every family can live happily and happily, the members of that family must be absolutely educated. There is no developed nation in the world whose family is left without upbringing. Or there is no family that can live a truly happy life without being brought up”[11.9.], in particular, he tried to show that education can bring great benefits not only to people but also to society, as well as play an important role in reducing the scale of poverty and dependence.

The Jadids of Samarkand, realizing the importance of education, made it the main goal of their socio-philosophical views. The people benefit from a large investment in human capital for the development of society. Continuous forms of education have focused on the decline of society, the reduction of the likelihood of crime.

An issue that is still relevant today is that a society with a high level of confidence in investing in human capital for the development of a society usually achieves relatively high economic growth. It will also be much more effective: as a result of today's research, investment in human capital, school reforms carried out in developed countries in the middle of the twentieth century, served to develop in people a sense of tolerance towards people. In no society does human capital emerge spontaneously, it is developed by the state. In particular, investments in human capital and the spread of these investments to others are not taken into account. “Every investment made in supporting civil society ensures people's creativity and obedience to the law. An atmosphere of optimism emerges in society, a constructive and rational worldview is formed. Non-governmental institutions that improve the quality of life will emerge. People learn a healthy lifestyle. All this creates confidence in the future and improves the quality of life of our people” said the Samarkand Jadids.

From the data given, we can understand that the social problems of a society always depend on the people having the right attitude to politics. The progressive thinkers of the society have clearly shown in their views that they are responsible for the formation of the next generation as citizens with scientific potential.

In conclusion, we can say that the transition of each society to a new stage will be accelerated only by modernization in all spheres of social life, and this will be reflected in the significant development of people's better lives. The activities and appeals of the Samarkand Jadids emphasized the need to understand the national identity in order to develop the socio-political consciousness of man, and these ideas were repeatedly emphasized in their works;

- In the works of Haji Muin, the benefits of attention to man are often emphasized for society, as well as in the works of Wadud Mahmud, the reform of education gives spiritual strength to the people. These innovative ideas have found their practical expression in the attitude of Ismatulla Rakhmatullayev to human capital in his work;

- The need for modernization of society and the introduction of new innovations in the activities of Samarkand Jadids has become an important issue of its time;

- In the activities of the Samarkand Jadids, the position of achieving national independence through the enlightenment of the people and the sacrifice of the youth of the time on the path of spiritual maturity became the main goal of this doctrine.

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