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TKM INSTITUTE  
OF MANAGEMENT



### **The Legacy of TKM College Trust**

The TKM College Trust was founded by Janab A.Thangal Kunju Musaliar, a successful industrialist, philanthropist and businessman. Born in a middle class family on 12<sup>th</sup> January 1897 at his ancestral home in Kollam. Janab Thangal Kunju Musaliar built up a vast business empire which dominated the cashew export trade in the 1940s and 50s. As a man of extra ordinary vision, he foresaw the tremendous importance of education and this led to the establishment of the TKM College Trust in the year 1956. T.K.M. College of Engineering, the first private Engineering College in Kerala, was set up by the Trust in 1958 followed by the T.K.M. College of Arts and Science in the year 1965. Janab Musaliar passed away on 19<sup>th</sup> February 1966 after an illustrious career that paved the way for advancement of professional education in Kerala.

True to the vision of its founder, the TKM College Trust has, over the years, added several other educational institutions to its fold - The TKM Institute of Management in 1995, The T.K.M. School of Communication & Information Technology in 1996, the T.K.M. Centenary Public School in 1997, the T.K.M. High School and T.K.M. Higher Secondary School in 2000, the T.K.M. Institute of Technology in 2002 and the T.K.M. School of Architecture in 2014.

Today, the dream of the late Janab A. Thangal Kunju Musaliar of uplifting society through education has to a large extent been fulfilled. His life exemplifies greatness in its true sense. Several of his initiatives, innovations and achievements are standing monuments in the changing national and global scenario. No wonder that the Government of India has thought it fit to issue a commemorative stamp in recognition of the services of this great man in 2001.

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*From the Desk of Chief Editor*

## HIGHER EDUCATION IN POST-PANDEMIC INDIA

**Jb. T.K. Shahal Hassan Musaliar**

Chief Editor

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The spread of COVID-19 has impacted higher education sector in more ways than one. The missing joys of a vibrant campus life on the one hand and the accelerated adoption to online education platforms on the other have characterized the higher education sector. The new education policy proposed by the Government of India in 2020 is expected to bring major changes to the Higher Education sector.

### **I. THE CURRENT SCENARIO**

In terms of enrollment, India's higher education system ranks in the third position next to China and the United States. The total enrolment in higher education in India is estimated to be 37.4 million during 2018-19. The Gross Enrolment Ratio (GER) is reported to be 26.3% among the age group of 18-23. The national average for college density calculated per lakh population is 28. Around 78% of the institutions are in the private sector and they cater to 66.4% of the total enrolment. The data indicates the important role of the private players in imparting higher education across the country. The total number of teachers is 14,16,299, out of which about 57.8% are male teachers and 42.2% are female teachers (MHRD Report, 2019).

As of March 2020, the overall tele-density of the country stood at 88.66%, with the rural tele-density at 57.87% as compared to the urban tele-density at 153.68%. We thus observe a huge gap

between the urban and rural populations regarding access to information and communication technologies. The internet usage of the country is 718.75 million by the end of December 2019 (Ministry of Communications, 2020). 696.36 million Subscribers are using the internet via wireless phones and 22.39 million were wired internet subscribers. At the beginning of 2020, the total number of broadband subscribers was increased from 661.94 million to 673.39 million. The data shows that we may have laid a foundation for the new mode of internet learning.

### **II. CHALLENGES**

The key challenge faced by the policymakers during the COVID-19 period is to maintain continuity in the teaching and learning process, off-campus. This motive encourages them to think about the virtual learning alternative (Jena, 2020). Traditionally, in India, e-learning is considered to be a mere substitute for distance learning (Imran, 2012). Hitherto, the industry has been reluctant to consider an online degree as a valid qualification. These perspectives are changing albeit, slowly.

It is difficult for students to concentrate long hour lectures through mobile phones or by being glued to computer screens. The available data pack, data transmission speed, etc. can add more problems to the effectiveness of teaching via the internet (Bhattacharya, 2020).

The access to internet to students in the rural area is limited, and the cost of online education is also not easily affordable to a large number of the students who are enrolled in higher education. Online delivery of lessons would not be feasible in the case of about 30 percent of students at home wanting net connectivity (Gurukkal, 2020). Further, students and teachers may not have access to a common virtual platform to learn or communicate simultaneously (Chakraborty, 2020). Virtual teaching is not a substitute for the real learning experience. It is practically difficult to quantify the outcome of teaching if the teaching and evaluation are carried out via online (Gurukkal, 2020). In online education, practitioners trying to just transpose the classroom to the digital medium, may cause problems (Gopinathan and Ramachandran, 2020).

The decision of Delhi and Maharashtra to cancel final year exams has met resistance from the apex body. The moot point is whether universities can grant degrees without an examination. University Grants Commission have clarified that universities will have to complete the final year exam, through online mode, offline or blended mode. The states do not have the power to act unilaterally to change UGC's decision (Sharma, 2020).

The universities find it quite challenging to develop a virtual examination platform at short notice. Writing an exam from home or examination in open-book format have not received much acceptance from the academic society due to trust and integrity concerns.

The new era offers opportunities too. Innovative learning models have emerged. Virtual industry-linked online internship have become feasible. Simulated learning enhances riskless practical knowledge.

A positive move is also witnessed from some universities as they have conducted the viva voce examinations through platforms such as Google classroom, Zoom, and Webex. As a longer term option, universities may consider subject-wise viva voce examinations for assessing the knowledge of the students via online platforms or should use platforms such as Moodle for conducting the written examinations.

### **III. THE WAY AHEAD**

It is evident that the present way of online teaching has certain limitations. However, blended learning is here to stay. Online and offline platforms aligned to the new education policy. We have plenty of online platforms such as Edx, Coursera, MIT open courses, SWAYAM, NPTEL, etc. and such massive open online courses have created a positive effect among stakeholders. Online learning is here to stay; it is more about enhancing the usage and utility of such learning.

The new education policy allows for foreign universities to set up their campus in India; this is a major education step after independence (Upadhyay, 2020). A hybrid education model, however, should encourage the quality of education. The provision of credit transfer or credit mergers can be used effectively to enrich our education system. There are a large number of economically weaker students who

cannot afford a degree from a campus set up by a foreign university. This gap can be filled by enabling the students to pursue some courses from foreign universities via an online mode as the cost of online education is comparatively cheaper than offline mode. In this context, the proposed hybrid model seems to be important. The pandemic could be seized as an opportunity to fine-tune our higher education system by integrating three key elements viz. technology, market, and society.

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# A STUDY ON PERCEPTIONS OF IMPORTANCE OF 'BEHAVIORAL ATTRIBUTES' OF 'EMPLOYABILITY' BY THREE KEY STAKEHOLDERS

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## ABSTRACT

*Employability is increasingly perceived to be important in the education sector. The focus in employability is also shifting to intrinsic attributes or behavioral attributes perceived to influence employability, rather than to skill sets acquired in the subject specific discipline, or skills acquired through learning in other areas. For this study, 'employability' means preparing for employment, or possessing attributes required for employment. This study was conducted in 2015-2016 in and around Bangalore, India. Data was collected from three categories of respondents who are all stakeholders in employment. They were (a) Academicians (b) Industry practitioners, (c) Undergraduate students. A collaborative effort by all three key stake holders is required for best results. Responses were factor analyzed at each stage to get questionnaires pertaining to next stage. Implications of the study are that mapping of stake holders' perceptions could help educational institutions to equip their students for employment. The Behavioral Attributes Scale (BAE Scale), the first such scale on employability in India was developed based on these findings.*

**Keywords---** *Employability, Behavioral attributes, Stake holders, Academicians, Industry Practitioners*

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## I. INTRODUCTION

Employability does not guarantee employment. However, it increases chances of getting suitable employment compared to other job seekers. Understanding how to manage employability is more important than just understanding what employability means. Therefore, a study on perceptions of the three stake holders-(i) Academicians- in preparing our young, (ii) Industry practitioners- in planning on employment, and by the (iii) students- in preparing for the opportunities so

provided for employment is significant and important.

## II. REVIEW OF LITERATURE

Till recently few studies were conducted on attributes required for employability. The focus was on skill sets acquired in the subject specific discipline, or skills acquired through learning in other areas. The focus of this study is however on the attributes intrinsic to an individual or to behavioral attributes that can influence employability.

On comparing the collaboration with employment preparedness between stakeholders, Wickremasinghe et al (2010) found- perceptions of employers, University Lecturers and Graduates towards employability was different. Respondents in this study were entry level Graduates working in IT sector of Sri Lanka. Similarly, Rosenberg et al (2011) found major differences in attitudes of Graduate students, Human Resource Managers, and the Faculty. All stakeholders perceived a need for additional training and work ethics among Graduates. This suggests that in today's economy there is little chance for Graduates who are not prepared to achieve industry expectations.

In a similar study R.S. Shivoro et al (2018) studied the responses of the three stake holders in South Africa. The study showed that Universities had to take stock of current state of Graduate employability from both employers' and Graduate' perspectives if they had to respond effectively to the knowledge and skill requirements of the industry. The study showed a mismatch between responses of different stake holders regarding attributes that are important for the job market, those emphasized in the curricula, and those that graduates need more training on.

The underlying assumption is that Graduates need 'attributes' other than skills needed in the subject specific discipline. Where a definition of employability refers to attributes it also implies that employers have an idea of the attributes that are necessary for the effective functioning of their organization now and in the future and that they have mechanisms for establishing that Undergraduates exhibit appropriate attributes (Harvey). Our

research is primarily based on this premise of Harvey, which has not been studied in detail till date.

According to the Harvey model, internal drivers impacting employability are in two tiers. The first tier of internal drivers are the employability attributes, work experience, self-promotional skills, willingness to develop- all of which can be influenced by extra-curricular activities. The second tiers of internal drivers are employability development opportunities that a student engages in as he gets to do under graduation. Employability development opportunities with varied pedagogy in turn influence the first tier of internal employability drivers, namely- the employability attributes, work experience, self-promotional skills, and willingness to develop. Therefore, collaboration between the three stakeholders-the academicians, the recruiters or employers and the students is of significance.

The Harvey Model of Undergraduate Employability Development shows how employability attributes, work experience, self-promotional skills and willingness to develop are developed through extracurricular activities; how on reflection these lead to employability.

### III. RESEARCH GAP

Where a definition of employability refers to attributes it also implies that employers have an idea of the attributes that are necessary for the effective functioning of their organization now and in the future and that they have mechanisms for establishing that Undergraduates exhibit appropriate attributes (Harvey). This area of

Harvey's Model has not been researched till date in India.

Behavioral attributes are inherent to an individual, unlike skills which can be/acquired through training. This study is on 'behavioral attributes. This field has

also not been studied in till date in India. There is no study with perceptions of the three stakeholders of employability (a) Academicians (b) Industry practitioners, (c) Undergraduate students in one study

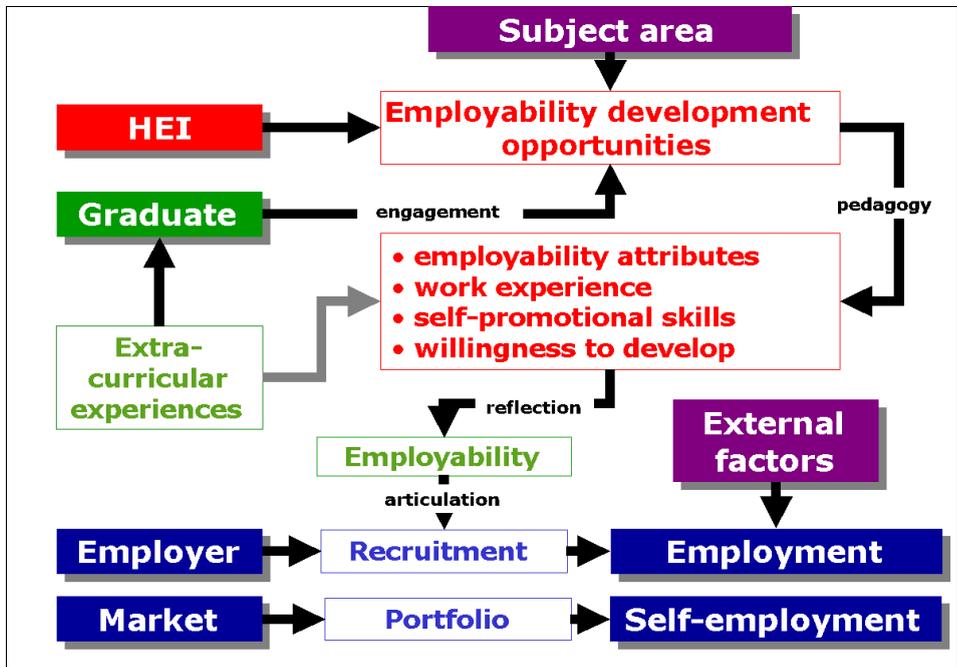


Figure 1: The Harvey Model of Employability of Undergraduate Employability Development

#### IV. OBJECTIVES AND SCOPE

To study the perceptions of the three key stake holders of 'Employability' (a) Academicians (b) Industry practitioners, (c) Undergraduate students, on the importance of 'Behavioral attributes' on employability. For this study 'Student' means Undergraduate student. Undergraduate student means Final year of 3-year Degree Course-Post 12 years

of schooling, or students who have completed 10th class with 2 years PU, age 18 years and above. For this study, 'Attribute' means 'Behavioral attribute'. 'Employability' means 'Employment preparedness' of students. Geographical scope was Bangalore and rural/semi urban areas in the radius of 150 kms, in and around Bangalore. This study was conducted in 2015-2016 and was exploratory in nature.

## V. METHODOLOGY

Steps followed in this study were-

**Step-1:** There are many operational definitions of Employability. What is meant by 'Employability' for this study was defined.

Employability skills are the career capital that a person needs, to get a job and to acquire job specific skills, while on the job. From the point of view of the employers, employability skills are the generic skills, attitudes, and behaviors that they require in all their employees (Bloom et al). Skill as a component gained through practice is a sub sect of learning to learn (generic skills).

Generic employability skills comprise a set of transferable skills independent of the occupational sectors and organizations in which individuals work, and which contribute to an individual's work and which contribute to an individual's overall employability by enhancing their capacity to adapt, learn and work independently. (Mona Khare et al) Generic employability skills are important because jobs today require flexibility, initiative, and the ability to take up many different tasks either all at a time or multitasking. Jobs these days are not narrowly prescribed and defined as in the past and generally they are more service oriented, making information and social skills more important.

Employability as an evolutionary concept is very much linked with the environment in which the individual operates as well. The lifelong learning of the individual is dependent on parental and neighborhood effects, peer learning at the educational institutions and

workplace related learning (Datta, R.C et al).

One index of employability is whether students get jobs within a specific time after graduating, however this approach may not always be right as it does not measure the attribute development of the student (but merely the under-graduation rates from a department or university). A rather more realistic approach addresses a range of factors of which being equipped to do a job is but one element. There is thus a distinction between the employability potential of the individual (a matter of self-development) and the actual employment of the individual-a matter mediated by external factors (Harvey).

In the Indian context, employability has largely remained with the focus on skills (adapting to new technology) and generating skilled manpower. Put up together these include a number of soft skills (problem solving, initiative, self-awareness, personal values etc.) under the label of 'employability skills' and present these as necessary skill sets (though not sufficient) for prospering at workplace irrespective of the technical skills specific to the job. The curriculum in the formal education set up does not explicitly impart these skills, but it is expected of every pupil to gain these informally.

For this study, 'employability' will mean the 'preparedness for employment'. For this study, 'Attribute' means 'Behavioral attribute'. For this study, 'Empowerment' means 'Enabling'.

**Step-2:** Behavioral attributes defining the dimensions of 'Employability' were identified. The attributes are indicated in

Table-1. 120 Respondents were interviewed to assess what the interviewees felt were the behavioral attributes required for employability in Stage-2 as shown in Table-2. Average interview lasted 1 hour. 32 attributes were identified. Respondents were a mix of Principals, Directors of Undergraduate Degree Colleges, Placement Officers and Undergraduate Degree Colleges students.

As the level of proficiency of the colleges in English was different, personal questioning and explanation of

the statements was done to the respondents. The student was made to understand the meaning of the items, and the words. Simplification of the English language in the questionnaire was also done. Consent for research was taken orally, by announcing/informing before each questionnaire administration and before the interview. Respondents were informed that the responses would be used for research purpose only, and confidentiality would be maintained.

**Table 1A: Behavioral Attributes perceived to influence employment preparedness.**

Behavioral Attribute Number:	Behavioral Attribute Name	Behavioral Attribute Number:	Behavioral Attribute Name
1	Need to work	17	Team player
2	Market awareness	18	Emotional stability
3	Preparation for the job	19	Mental toughness
4	Permission from family	20	Perseverance
5	Desire to learn on the job	21	Presence of mind
6	Readiness to accept challenges	22	Empathy
7	Initiative on the job	23	Ability to organize
8	Acceptance of supervision	24	Planning
9	Focus	25	Decision making Ability
10	Integrity	26	Positivity
11	Discipline	27	Responsibility
12	Physical and Moral courage	28	Desire to work hard
13	Adaptability	29	Confidence
14	Change management	30	Patience
15	Ability to influence others	31	Confidentiality
16	Interpersonal Interaction	32	Drive for results

*Note: The 32 behavioral attributes identified as indicated in Table- 1A were segregated into seven clusters*

**Table 1B: Clustering of Behavioral Attributes**

Cluster Number: Cluster name	Behavioral Attribute Number	Name of 'Behavioral Attribute'
Cluster: 1, Market Orientation Cluster	1	Need for work
	2	Market awareness
	3	Preparedness for job
	4	Permission to work (facilitator)
Cluster:2, Pro-activeness Cluster	5	Desire to learn
	6	Readiness to accept challenges
	7	Initiative,
	32	Drive for results
	9	Focus
Cluster:3, Professional Ethics Cluster	8	Acceptance of supervision
	10	Integrity
	11	Discipline
	27	Responsibility
	31	Confidentiality
Cluster:4, People interaction Cluster	13	Adaptability
	14	Change management
	15	Ability to influence others
	16	Interpersonal skills
	17	Team playing
	22	Empathy (Response planning)
Cluster: 5, Resilience Cluster	12	Physical and moral courage
	18	Emotional stability
	19	Mental robustness
	20	Perseverance,
	28	Desire to work hard
Cluster: 6, Planning Cluster	23	Time management (ability to organize)
	24	Resource planning
	25	Decision making ability

Perceptions of Importance of Behavioural Attributes of Employability by Three key Stakeholders

	21	Presence of mind
Cluster:7, Psychological Capital Cluster	26	Positivity
	29	Confidence
	30	Patience

**Step-3:**

(a) Behavioral indicators defining each dimension/attribute were noted from the BARS guide.

(b) Items(statements) like the behavioral indicators stated in (a) were designed. (Source of BARS guide: [www.in.gov/spd/files/bars.doc](http://www.in.gov/spd/files/bars.doc)).

(c) Statement Bank or Item pool was made from items designed in (b).

It was imagined that the teste is an Undergraduate student just passed out of BA, B.Sc., B. Com, BBA, BBM, so on aged- 18 years and above, looking for a job.2. He was telling us about himself/herself.ie: how he would

behave/feel/act in an imaginary job situation. The situation or context is the job, the environment is a work environment, and the people are the people he/she interacts with on the job. These recreate the images the workplace.

An example of working on Attribute 1 is given here. Items for all 32 attributes were designed in the same manner.

**Attribute number: 1, Need to work?**

Behavioral Indicators for ‘Need to Work’ are- Display high level of effort and commitment to performing work, operate effectively within the organizational structure, demonstrate trustworthiness and responsible behavior, interested in work, enjoy work.

**Table 2: BARS for the attribute ‘Need to Work.’**

RATING	Behavioral indicators-Possible Behavioral Examples
<b>Meets Expectation</b>	Enjoy work. Show concern about completion of work. Own responsibility for own actions Readily accept assignments. Volunteer for additional work when assignments are completed.
<b>Exceeds Expectation</b>	Frequently perform duties over and beyond job description Volunteer for additional assignments to relieve pressure on supervisors and Co-workers Willingly assume total responsibility for own actions Familiarize self with co-worker’s jobs to aid during an absence or when workload is heavy
<b>Does not meet. Expectation</b>	Do not seek additional assignments after expected work is completed. Reluctant to assume accountability for work. Complain about duties. Selectively complete only duties enjoyed. Complain when asked to perform extra task

Five statements/items were constructed for each dimension or attribute identified (in Table-1). These five statements were based on the main statement as indicated in BARS Table-2. The main statement is in 'bold'. Statements are designed like the behavioral indicators shown in Table-2. Statements are given numbers. These numbers are the 'Item numbers. The first number is the behavioral attribute number as indicated in Table-1. The items are jumbled in step-(c) that follows. These item numbers can be traced to the attribute to which the item belongs, by the numbering of each item.

Attribute 1, Need to work

**MEETS EXPECTATIONS (0)**

Enjoy my work.

1.0) I look forward to going to work.

1.1) I enjoy carrying out the tasks assigned to me.

1.2) I enjoy working doing my job.

Show concern about completion of work.

1.3) I finish the day's tasks at office, before the end of the day.

1.4) I get anxious if I am unable to complete my work at office.

1.5) I ensure I complete my assignments at work before/on time.

Similarly other 'Meet expectations' statements are replicated.

**EXCEEDS EXPECTATIONS (1)**

Volunteer for additional work when assignments are completed.

1.10) I take on any additional work if I have finished the work I am doing now.

1.11) I volunteer to do additional work even when it is not compulsory.

1.12) I volunteer to take up additional work even if I have to work longer.

Frequently perform duties over and beyond job description.

1.13) I help with assignments that are not part of my usual tasks in the office.

1.14) I enjoy helping colleagues from other departments with their tasks.

1.15) I stay back long after my shift ends to do any additional work that is required to be done.

Similarly other 'Exceeds expectations' statements are replicated.

**DOES NOT MEET EXPECTATIONS (-1)**

Do not seek additional assignments after expected work is completed.

1.25) I do not request for additional tasks if I have completed the work assigned to me.

1.26) I do not like doing other work in the office, unrelated to my job.

1.27) I do not take on additional work beyond what is expected of me.

Reluctant to assume accountability for work.

1.28) I avoid taking responsibility for any task given to me.

1.29) I shift the blame onto the others if I commit any mistakes.

Similarly, other 'Does not meet expectations' statements are replicated.

These items were given values 0, 1, and -1, and a combined array of indices (from above) was made into combined index after mixing the statements that were made as shown. These statements constituted the 'Item pool' or 'Statement Bank'.

For this study, measuring the frequency of responses was planned by simply estimating how many times the behavior occurred within a given period. This was documented on the BARS.

**Step-4,5,6:** The sample for data collection is shown in Table-3.

**Table 3: Sample for data collection in Steps 4, 5 and 6**

Steps in Research Design	Stages of Data Collection	Respondents	Number of Respondents
2	2	Academicians, Industry practitioners, Students	120
4	4	Academicians (Directors, Principals, Placement Officials)	140
5	5	Industry practitioners/ recruiters across- Travel and Tourism, Accommodation, Hospitality, Services, Food, BPO, IT, Housing, Construction, Infrastructure, Banking, Financial Services, Trading, CA, Cargo, Transport, Medicare, Education, Sales, Marketing, Retail, Export/Import, Foreign exchange, Detective and Intelligence work, Consulting Career, Manpower resources/HR, Automobiles, Creative arts such as Animation and Graphic designing.	50
6	6	Undergraduate students in Bangalore and rural, semi urban, urban radius 150 kms.	1091

Respondents had to rate the statements on a 5-point scale ‘Not at all required/ Slightly required/ Somewhat required/Required/Very much required’ perceived importance of statement with reference to employment preparedness of undergraduate statements.

Responses collected in Stages 4 were factor analyzed, resulting in one questionnaire for Stage-5 to be administered on recruiters. This

questionnaire had 222 items. The **Stage-5** : responses from recruiters was again factor analyzed to get a questionnaire to be administered on 1091 students who constituted the Stage-6 respondents. The data collected in Stages 4, 5, 6 was analyzed for Mean. Perceptions of importance of each behavioral attribute by Academicians, Industry Practitioners and Undergraduate students are shown in Tables 4, 5 and 6, respectively.

**Table 4: Perceptions of Importance of Behavioral Attributes by Academicians (Principals /Directors/Placement Officers) in Undergraduate Colleges**

Attribute Number	Behavioral Attribute Name	Mean Value	Attribute Number	Behavioral Attribute Name	Mean Value
27	Responsibility	4.75	2	Market awareness	3.8421
30	Patience	4.72	1	Need to work	3.7719
26	Positivity	4.6688	16	Interpersonal interaction	3.6816
29	Confidence	4.6	21	Presence of mind	3.665
20	Perseverance	4.5583	4	Permission from family	3.5614
23	Ability to organize	4.4875	28	Desire to work hard	3.4458
31	Confidentiality	4.475	3	Preparation for the job	3.4316
9	Focus	4.4	5	Desire to learn on the job	3.35
32	Drive for results	4.375	8	Acceptance of supervision	3.34
24	Planning	4.25	14	Change management	3.1579
11	Discipline	4.1708	6	Readiness/to/accept/challenges	2.875
13	Adaptability	4.1684	7	Initiative	2.8375
19	Mental toughness	4.0875	25	Decision making	2.8
12	Physical and moral courage	4.07	18	Emotional stability	2.3125
22	Empathy	4.03	17	Team player	2.1842
15	Ability to influence others	3.8632	10	Integrity	2.1792

**Interpretation:** Following are the perceptions of behavioral attributes of Academicians(Principals/Directors/Placement Officers) in Undergraduate colleges arranged in descending order of importance in Stage 4 of Data collection. ‘Responsibility’ is perceived to be most important followed by ‘Patience’, ‘Positivity’, ‘Confidence’, ‘Perseverance’ in descending orders in Stage 4 of data

collection. ‘Integrity’ is perceived to be least important followed by ‘Team player’, ‘Emotional stability’, ‘Decision making’, ‘Initiative’ which are perceived to be more and more important as compared to ‘Integrity’.

Perceptions of Importance of Behavioural Attributes of Employability by Three key Stakeholders

Factor analysis of Stage 4 responses was done to arrive at the Questionnaire to be

administered in Stage 5 on the Industry Practitioners.

**Table 5: Perceptions of Importance of Behavioral Attributes by Industry Practitioners (Recruiters)**

Attribute Number	Behavioral Attribute Name	Mean Value	Attribute Number	Behavioral Attribute Name	Mean Value
29	Confidence	4.21	14	Change management	3.63
32	Drive for results	4.15	28	Desire to work hard	3.63
18	Emotional stability	4.12	16	Interpersonal Interaction	3.62
11	Discipline	3.97	2	Market awareness	3.61
23	Ability to organize	3.94	6	Readiness to accept challenges	3.54
31	Confidentiality	3.94	22	Empathy	3.54
12	Physical and Moral courage	3.93	3	Preparation for the job	3.51
9	Focus	3.88	17	Team player	3.497
8	Acceptance of supervision	3.86	21	Presence of mind	3.48
13	Adaptability	3.796	10	Integrity	3.45
27	Responsibility	3.73	19	Mental toughness	3.38
1	Need for work	3.68	5	Desire to learn on the job	3.26
24	Planning	3.68	25	Decision making ability	3.21
26	Positivity	3.68	4	Permission from family	3.16
20	Perseverance	3.67	15	Ability to influence others	3.16
30	Patience	3.67	7	Initiative	3.01

**Interpretation:** Perceptions of Industry practitioners (Recruiter perception) of behavioral attributes are mentioned in descending order of importance in

Table-5. Factor analysis was again done on the responses in Stage 5, to arrive at the Questionnaire to be administered on students in Stage 6 of data collection.

**Table 6: Perceptions of Undergraduate students on the importance of Behavioral Attributes influencing employability.**

Attribute Number	Behavioral Attribute Name	Mean Value	Attribute Number	Behavioral Attribute Name	Mean Value
q29	Confidence	4.2066	q1	Need to work	3.7251
q20	Perseverance	4.0428	q22	Empathy	3.7059
q32	Drive for results	4.0204	q21	Presence of mind	3.6979

Perceptions of Importance of Behavioural Attributes of Employability by Three key Stakeholders

q9	Focus	4.0143	q13	Adaptability	3.6822
q26	Positivity	4.0037	q24	Planning	3.6814
q27	Responsibility	3.9726	q8	Acceptance of Supervision	3.6620
q17	Team player	3.9344	q6	Readiness to accept challenges	3.6507
q11	Discipline	3.8917	q4	Permission from family	3.6472
q5	Desire to learn on the job	3.8568	q16	Interpersonal skills	3.6137
q12	Physical and moral courage	3.8321	q3	Preparation for the job	3.5774
q23	Ability to organize	3.8104	q30	Patience	3.5745
q2	Market awareness	3.8068	q15	Ability to influence others	3.5291
q31	Confidentiality	3.7581	q25	Decision making	3.5224
q10	Integrity	3.7525	q28	Desire to work hard	3.4098
q18	Emotional stability	3.7307	q14	Change management	3.3128
q7	Initiative	3.7275	q19	Mental toughness	3.2883

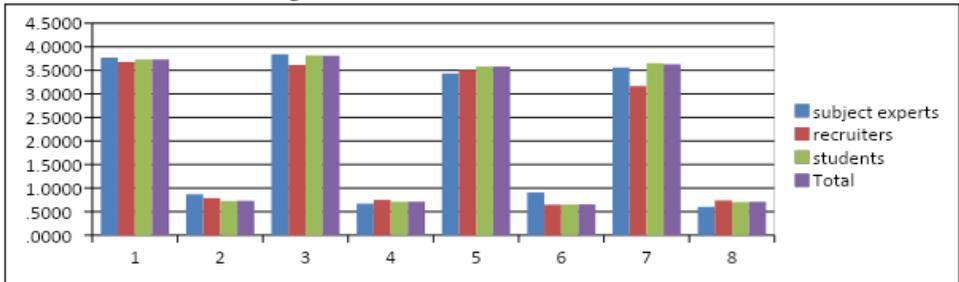
**Interpretation:** Table 6 indicates that students perceive ‘Confidence’, ‘Perseverance’, ‘Drive for results’, ‘Focus’, ‘Positivity’ in that order to be more important. Table 6 also indicates that students perceive ‘Decision making’, ‘Desire to work hard’, ‘Change

management’, and ‘Mental toughness’ to be lesser and lesser important in that order, ‘Mental toughness’ being considered least important. Table 7 gives details of Bar Diagrams of the seven clusters for the three stake holders.

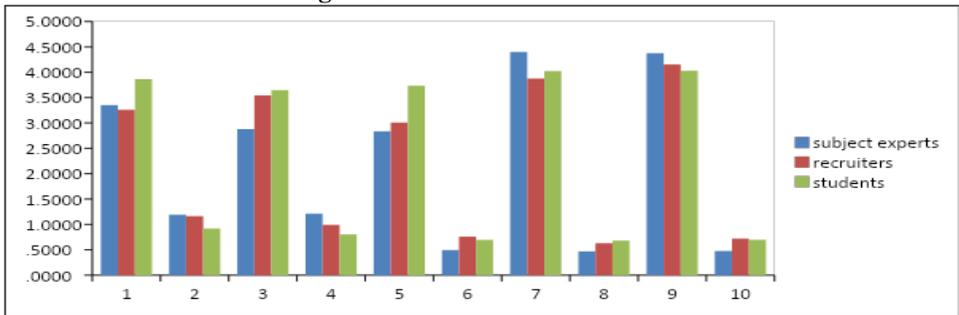
**Table 7: Details of Bar Diagrams of the seven clusters for the three stake holders**

Figure No:	Cluster No:	Cluster Name
5.5 Bi)	1	Market Orientation Cluster
5.5Bii)	2	Pro-activeness Cluster
5.5Biii)	3	Professional Ethics Cluster
5.5Biv)	4	People Interaction Cluster
5.5Bv)	5	Resilience Cluster
5.5Bvi)	6	Planning Cluster
5.5Bvii)	7	Psychological Capital Cluster

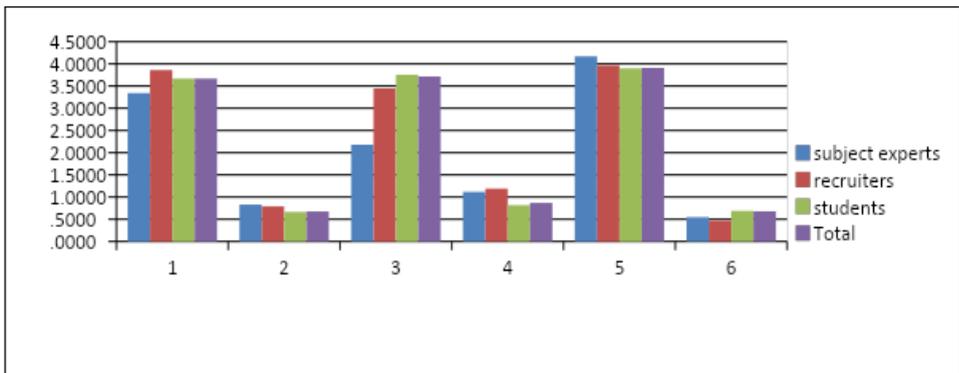
**Figure 2: Market Orientation Cluster**



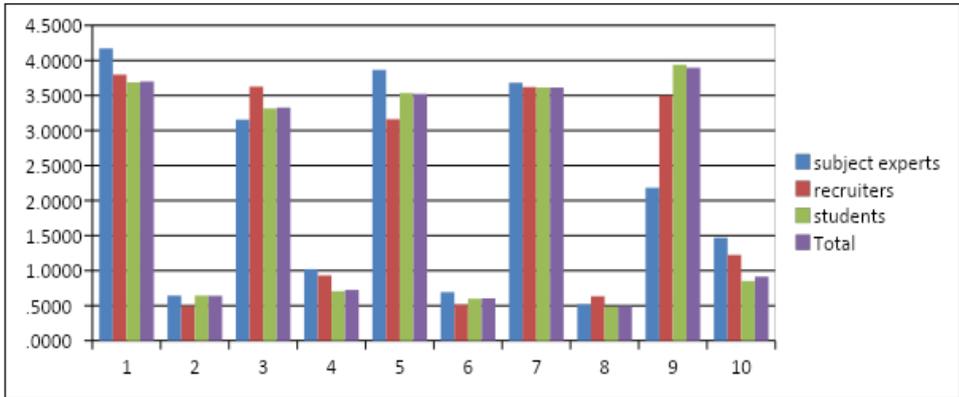
**Figure 3: Pro-activeness Cluster**



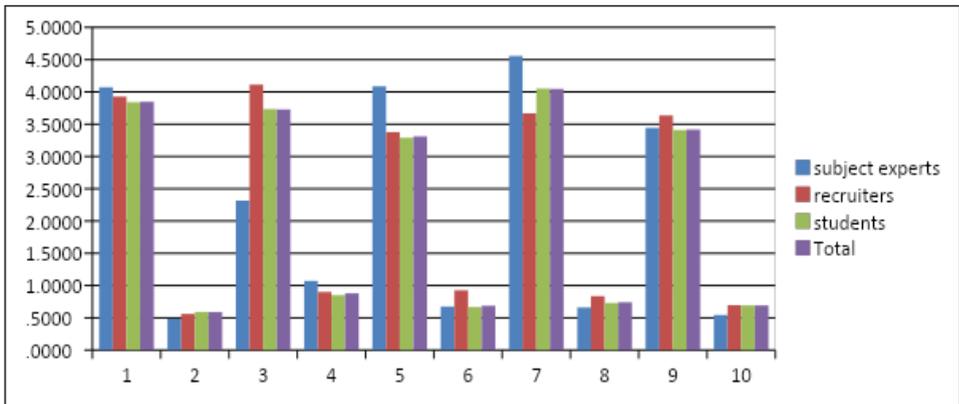
**Figure 4: Professional Ethics Cluster**



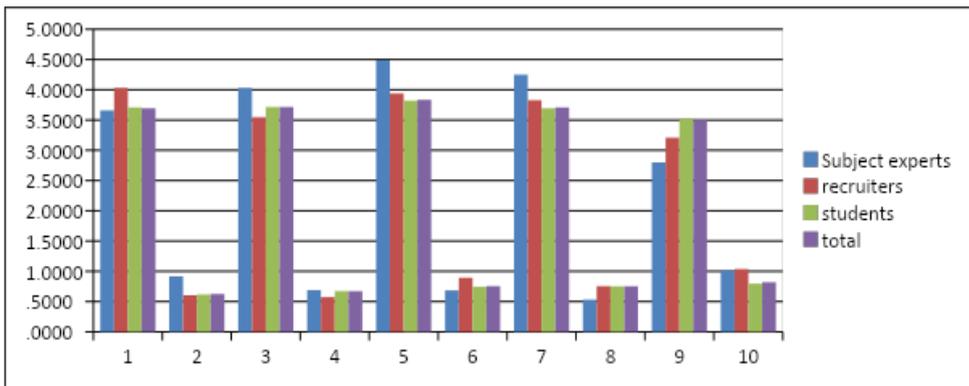
**Figure 5: People interaction cluster**



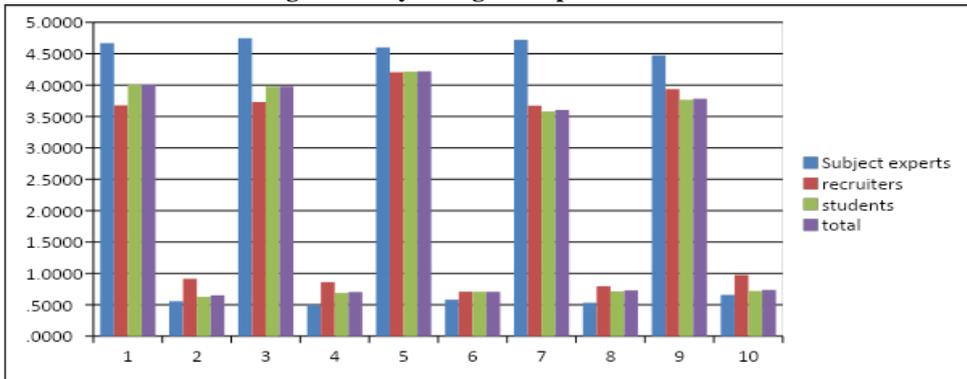
**Figure 6: Resilience cluster**



**Figure 7: Planning cluster**



**Figure 8: Psychological capital cluster**



Note: The above diagrams are arranged in accordance with variables identified under different clusters

## VI. DISCUSSION

Figure 2 shows Market Orientation Cluster in which; Need for work is perceived as more important by academicians/ Subject experts and by the student in comparison to recruiters. This could be because this is the driving force for wanting to get employed. Once there is a need, there is an intrinsic desire to work. Market awareness is considered least important by recruiters among the three stakeholders, perhaps because employees could be trained post joining. Recruiters consider preparation for job most important among the three stakeholders. This could be so that there is less effort towards integration into the job this way. Academicians consider permission from family most important, perhaps because even today students in India are to a large extent family centric.

Figure 3 shows Pro-activeness Cluster in which; Desire to learn on the job is rated highest by the students. Perhaps this indicates their interest and desire for on-the-job trainings, and eagerness for job.

Readiness for challenges is also more in students, perhaps because of their age. Students want to take more initiative. Focus is not considered so important by students; academicians consider it important. Perhaps that is why they expect more focus on studies from students.

Figure 4 shows Professional Ethics Cluster in which; Recruiters consider acceptance of supervision most important. This may be because they want to hone the skills of the new employees according to organizational requirements. Students consider integrity most important; academicians consider it less important. This finding is surprising. Academicians consider discipline especially important, not so the students. This may be because of their youth.

Figure 5 shows People Interaction Cluster in which; Adaptability is considered especially important by Academia. This may be because of varied nature of jobs and the need for students to adapt. Managing change

considered especially important by recruiters in comparison with academia and students. This may be because they expect employees to perform in a particular way and to be able to change to perform that way. Ability to influence others is considered especially important by Academia. This may be because even to get recruited and to enter the workforce, this ability is important. Interpersonal interaction is considered almost equal in importance by all three stake holders. Students consider team playing most important among all three stake holders. This could be because of gregarious nature of the young.

Figure 6 show Resilience Cluster in which; Physical and moral courage are perceived most important by Academia in comparison to the other two stake holders. This could be because fearlessness is desired among students. Emotional stability considered most important by recruiters, possibly because of fast and ever-changing global scenario. Academia considers mental toughness to be especially important. This means not breaking down in the face of severest obstacles or difficulties. Similarly, Academia consider Perseverance or 'being at it' especially important. Recruiters consider desire to work hard as especially important. All attributes of resilience are important for employment preparedness.

Figure 7 shows Planning Cluster in which; Recruiters consider presence of mind especially important. This is also called, 'thinking on one's feet' in colloquial English. Empathy is an attribute associated with teaching and Academia considers it especially important. Academia perceives ability to organize as especially important, possibly because this is important for good study and work habits. Academia

also perceives planning to be important, possibly for the same reason. Students consider decision making as important, possibly because being young they want to take charge of their lives.

Figure 8 shows Psychological Capital Cluster in which; Academia considers positivity especially important, possibly because it gives a push and pleasantness to every effort towards preparing for the job. Academia also perceives responsibility in students to be especially important, possibly in preparation for the job. Confidence, Patience and Confidentiality are all considered especially important by Academia. In short, Academia gives Psychological cluster attributes most importance among the three stake holders.

## VII. RECOMMENDATIONS

Findings on different stake holder perceptions can be used to identify what and how to embed behavioral attributes suitably in educational curricula. Proposed framework for integrating behavioral attributes identified to be important by industry in educational curricula can be generated. Training methodologies can be formulated by academia to prepare students for industry expectations. There is scope to increase interactions between students, faculty and employers using innovative learning methods which include both curricular and extracurricular activities to facilitate greater match between responses of the three stake holders- for improved employability. Counseling for students, academia as well as industry can be arranged for creating awareness of the findings for greater synergy and cohesion.

Above findings have implications for

- ❖ Improving awareness and understanding of areas for employability and career support.
- ❖ Creating database for designing employability and career support tools.
- ❖ Providing support for assessment.
- ❖ For government to frame policy for employment.
- ❖ To create awareness of the findings among the people to facilitate steps for better employability.
- ❖ To create awareness in society that it is not only engineering and doctor jobs, there are other avenues students can take up suiting their intrinsic attributes. There is immense scope for further research in this area of employability for researchers.
- ❖ Corporate can generate mini consultancy projects wherein students can be exposed to Work environment

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# DISRUPTIVE INNOVATIONS: CONCEPTUAL FRAMEWORK AND MANAGEMENT STRATEGIES

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## ABSTRACT

*Innovation is considered as absolutely critical to future competitive advantage. Modern businesses are subject to uncertainties caused by dynamic changes in technologies. Even established businesses often fail to recognize the changes in business environment initiated caused by technologies. Among the business innovations, disruptive technologies are the most critical ones. They are competent enough to redefine the business rules and fates of entrepreneurs. Hence it is imperative to understand nature and influences of disruptive innovations in order to manage them in a sustainable basis. However, both among academicians and entrepreneurs, the concept of disruptive innovations remain as a novel and vague concept, from managerial perspectives. It is in this context, the present paper provides a simplified, but precise conceptual framework of disruptive innovations, along with the strategies to manage them.*

**Keywords---** Innovation, Disruptive Innovations, Sustaining Technologies, Start up.

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## I. INTRODUCTION

Technology shapes the relative demand for skills in labor markets and expands reach of firms enable firms to automate, replacing labor with machines to become more efficient, and innovate, expanding the number of tasks and products (World Development Report 2019, World Bank). Though sustaining innovations are much discussed in academic literatures and highly familiar to corporate decision makers, disruptive innovations are still remaining as a novel and vague concept. Hence the present paper provides a simplified, but precise conceptual framework of disruptive innovations, along with the strategies to manage them.

## II. STATEMENT OF THE PROBLEM

Technologies are the methods of using scientific discoveries for practical purposes, esp. in industry. Though sustaining innovations are familiar to all, the concept of disruptive innovations is new and less discussed in academic literature. Even among corporate decision makers, disruptive innovations are less understood to tackle with. Hence providing conceptual clarification for academic community and suggesting practical tips for corporate decision makers assume great significance.

## III. OBJECTIVES

The following are the objectives of the study

1. To understand the concept of disruptive innovations

2. To bring out cases of major disruptive innovations in business /industry
3. To suggest strategies for managing disruptive innovations in business

#### IV. METHODOLOGY

The present article follows a theoretical approach to understand disruptive innovations and to suggest strategies to manage them on a sustainable basis. Extensive available literature has been reviewed, along with business cases in order to gain practical insights on the problem under study

#### V. THEORETICAL FRAMEWORK

The term Innovation is defined as making changes in something established, especially by introducing new methods, ideas, or products (Oxford). Peter Drucker had defined innovation as the change that creates a new dimension of performance. In business world, innovation assumes importance due to a variety of reasons such as

- ❖ It determines the customer demand for the products and services, thereby affects market share, profitability of business divisions
- ❖ Innovations brings competitive advantage which enables a company to gain an upper edge over the competitors, both domestic and international
- ❖ Innovation at regular intervals enables a company to retain existing customer base and also help to build up goodwill and wealth of its shareholders
- ❖ Innovation helps to create new customer bases, develop markets by

introducing altogether new products and services

- ❖ It rewards inventors, promotes research and development efforts

#### A. Forms of Innovation- (Schumpeterian View)

According to Joseph Schumpeter, there are mainly five forms of innovation. They are as follows;

- ❖ Product innovation –introducing a new type of product /service
- ❖ Process innovation – bringing a change in production function eg. change in input mix
- ❖ Organizational innovation – forming new Organisation , changes in managerial procedures etc
- ❖ Market innovation – developing a new market for an existing product
- ❖ Input innovation – finding out new raw materials, new energy source etc.

#### B. Drivers of Innovation

In business world, many factors compel to innovate. They are summarized below;

- ❖ Financial pressures to reduce costs, increase efficiency
- ❖ Increased competition
- ❖ Shorter product life cycles
- ❖ Stricter regulation
- ❖ Industry and community needs for sustainable development
- ❖ Increased demand for accountability
- ❖ Demographic, social and market changes
- ❖ Rising customer expectations regarding service and quality

- ❖ Changing economy-Liberalisation, Privatisation and Globalisation
- ❖ Greater availability of technologies

### **C. Types of Technologies/Innovations**

The technologies /innovation are of different types. Broadly they can be classified as sustaining technologies and disruptive innovations.

#### ***Sustaining/Maintaining Technologies***

Sustaining innovations are those innovations which has the nature of steady, linear improvement of existing technology, which meet the needs of customers today. They preserve corporate and market structures and rarely lead to bankruptcies of leading companies. They bring out only incremental change in the existing technology. They increase the performance of established products, within the main dimensions that customers wants. The critical review of innovations in business show that most innovations in a given industry are "sustaining".

#### **Examples:**

- ❖ Propeller planes to jets
- ❖ VLSI (Very-large-scale integration- the process of creating ICs by combining 100s of 1000s of transistors or devices into a single chip) development in the PC industry
- ❖ Cassette to CD, to DVD etc

#### **Disruptive/Breakthrough**

#### **Technologies/Innovations**

Disruptive innovations are defined as the "simple, convenient-to-use innovations that initially are used by only unsophisticated customers at the low end of markets". (Christensen). It is the innovation that creates a new market and

value network and eventually disrupts an existing market & value network, displacing established market-leading firms, products, and alliances. The phrase 'disruptive innovation' was initially coined by Clayton Christensen, Professor, Harvard Business School in 1997 in book, 'The Innovator's Dilemma'

#### **Features of Disruptive Innovations**

- ❖ A disruptive innovation introduces a product/service into an industry, competing in a fundamentally different manner than previous competitors. it will be less expensive, smaller, lighter, requires less energy, more flexible and easier to maintain, easier to use.
- ❖ Disruptive innovations reject standard metrics of industry performance. They may often perform far worse than incumbent products when entering markets
- ❖ They introduce completely new approaches that have the potential to create a new industry/ transform an existing one
- ❖ Disruptive innovations target a niche market which will use the product & be delighted by it. As performance improves over time, it becomes ready for the mainstream market.
- 5. Disruptive innovations scales over time. Initially they emerge in small markets. Gradually become full-blown competitors for established products. Eventually they surpass sustaining technologies and satisfy market demand with lower costs.
- ❖ Disruptive innovations do not initially satisfy the demands of the high end of the market. So they cannot be integrated with existing profit model of incumbent firms for growth. The product performance

will not be adequate for the market to adopt it.

#### **D. Types of Disruptive Innovations**

There are different types of disruptive innovations. They are broadly classified two; fully disruptive and partly disruptive innovations. They are summarized below;

**D1: Fully Disruptive:** Fully disruptive innovations are those which disruptive altogether. It may be revolutionary or evolutionary are briefed below;

- i. **Revolutionary Disruptive Innovations (Radical Innovations):** Revolutionary disruptive innovations are radically different from existing technologies. For example, digital photography, microbots (used to attack an enemy's weapons & equipment), high-temperature superconductors (used in machines, reactors, particle accelerators etc.) were altogether new in the technologies and developed a totally new market.
- ii. **Evolutionary Disruptive Innovations:** Evolutionary disruptive innovations are formed by the convergence of previously separate research areas. Some examples for evolutionary disruptive are MRI imaging (providing real-

time, three-dimensional views of body organs, muscles, and joints without invasive surgery), faxing etc. They bring major changes in corporate and market structures.

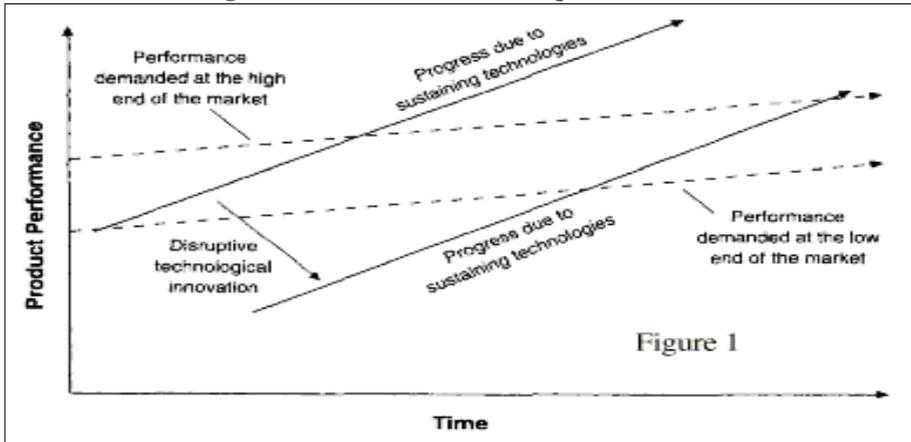
**D2: Partly Disruptive Technologies:** In many industries, the new technology can have a "disruptive" effect on parts of the business. For instance Uber (\$72 billion valuation) upgraded taxi service model with tech-convenient and less expensive. Internet for banking services, Internet in Telecom services etc (mobile technologies) have supported existing services along with creating altogether new delivery modes.

The disruptive innovations increase convenience of customers. They reduce costs and offer wider uses. They enable to simplify processes/ works. They are efficient and more effective in resource use. They opened up the way for new markets. Ultimately they help in advancement of civilizations

#### **E. Performance of Disruptive Innovations in Market**

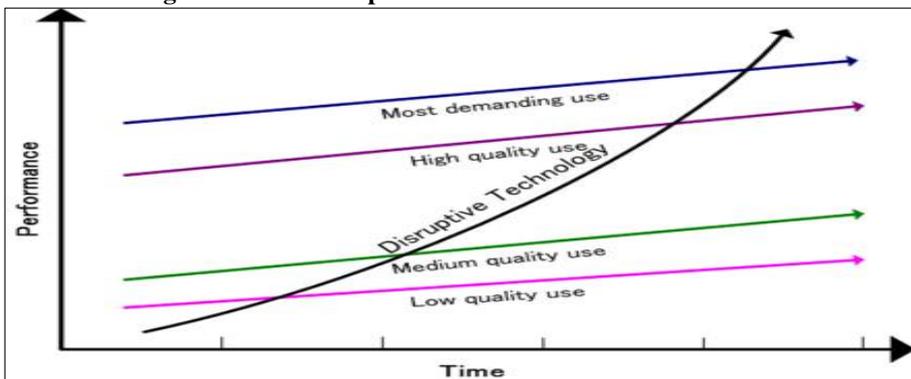
The following diagrams show how disruptive innovations perform in existing market structures and dominate over a period. Figure 1 Diagrammatic view of performance of disruptive innovations.

**Figure 1: Performance of Disruptive Innovations**



Source: Wikipedia

**Figure 2: How disruptive innovations dominates the market**



Source: Wikipedia

## VI. EMPIRICAL EVIDENCES

Many empirical evidences are available as to how disruptive innovations are displacing existing technologies and markets with new technologies. Based on closer examination, a few empirical evidences are listed below

Wikipedia is an online encyclopaedia, written and edited by volunteer editors. It provides free, online access to over five million articles with most of them updated more frequently. It has replaced traditional encyclopaedias. Traditional encyclopaedia was selling their data knowledge for-profit, in which articles written by paid experts. The Encyclopaedia Britannica, market leader of traditional encyclopaedia, had ended its print production after 244 years in 2012. Britannica's physical size had dozens of hard-bound volumes with price of over \$1000 and articles about 120,000. It used to update cycles lasting a year or longer. Online encyclopaedias have displaced the traditional, paper form of encyclopaedias altogether. In communication sector, Telephony replaced telegraph. The history tells that when Western Union, had their highest-profit market was long-distance telegraphy, declined to purchase Alexander Graham Bell's telephone patents for \$100,000. Telephones were only useful at that time for very local calls. But over a period, telephones became powerful enough to handle long distance calls also, including international calls. Now smart mobile phones, with their 4G and 5G technology, have emerged to redefine the telephone technology in a substantially disruptive format.

In data storage sector, initially 8" floppy disk drive has disrupted 14" hard disk drive. Later, 5.25" floppy disk drive

Disrupted 8" floppy disk drive, 3.5" floppy disk drive disrupted 5.25" floppy disk drive and CDs and USB flash drives disrupted Zip drive. In Pc market development, 1960s witnessed Mainframe computers as leading ones. However by 1980s Mini-computers took the leadership. The Digital Equipment Corporation (DEC) was once the leading minicomputer manufacturer, 2nd-largest computer Co. after IBM had been selling Mini-computers were sold directly to the customers, with a price Range \$50,000 - \$500,000, with a gross profit margin of about 45% for a \$250,000 sale and gross profit Margin of about 60% for a \$500,000 sale. Later Personal computers came as alternative for mini-computer. Initially PCs were meant for end users & small companies. Gradually PCs acquired greater capacity and networking connections. The statistics shows that 9.56 million units sold in India in 2017. Sooner laptop market, which was small and highly uncertain in the late 80, emerged and it is likely to reach \$ 108.91 billion by 2025.

Digging machine manufacturers, 1930s saw wide popularity and market domination for Cable Used Excavators for mining purposes. Though they were very costly, their large capacity made them inevitable. But by 1969 Hydraulic Machines emerged. They could be connected to tractors. The machine was small, flexible and Reliable. Since the first type had only small capacity, they were uninteresting to the established companies. Trusting cable used excavators; established manufacturers took the customer's needs for granted. However, over a period, Hydraulic-technology developed fast and increased their capacity (Bucket capacity 1600kg) and won new markets. Gradually they went into the established market and

broke most of established manufacturers like Okubo, Kobe Steel, Yutani etc.

In retail sector-in retail sector, initially there were 259 Borders Superstores and 26 Borders Airport Stores. However in 1994 Amazon.com launched and made shopping convenient. It has nearly 500 million products in its marketplace at the fingertips of consumers. The Netflix launched in 1998 has disrupted entertainment industry and killed physical video rental stores. Netflix is slowly allowing more and more customers to cut their cable subscriptions in their houses. In 2003, Skype has innovated more personal types of communication. It allows chat, call and video chat with each other for free (or for very low fees). It has more than 74 million active users, replacing mainstream forms of communication. LEDs were once considered impractical. The first generation LEDs were weak and unreliable. Hence the market thought that LEDs are useful only as indicator lights. However eventually they became more reliable and more efficient than traditional incandescent light bulbs. LED uses only 20 % of the electricity.

Internet has opened new sales channels almost all the sectors. It has radically changed the costs per transaction (from manual to automatic). It has unleashed an 'enabling technology wave' of innovation. Companies have started retooling for web services. It has changed the way enterprises interact with each other. For instance, in Mobile Digital Learning, online educational platforms, like Byju's Learning App, provide access to huge volumes of resources. Online Learning started in 1995 and The MOOC launched in 2008 are a few among them.

In media communications, traditionally, the communication media had well defined media venues. The companies had controlled their messages and advertisements. However, now, the social media, lets customers, employees, competitors converse in open communities, define and redefine corporate and personal brands in real time. Thus the theoretical analysis has proved that across the industries and sectors, disruptive innovations have made their substantial changes.

## VII. RESPONSES AND STATUS OF INCUMBENTS TO DISRUPTIVE INNOVATIONS

The established companies or incumbents in the industries were not ready to accept the disruptive innovations. Some of the responses incumbents are given;

1. "Well informed people know that it is impossible to transmit the voice over wires & where that it were possible to do so, it would be of no practical value" *Editorial in the Boston Post, 1865 (1870 telephone)*
2. "The wireless music box has no imaginable commercial value. Who would pay for a message sent to nobody in particular?" *Response of Associates of David Sarnoff, when invited to invest in radio*
3. "I think there is a market for about five computers." *Thomas Watson, Sr. Founder of IBM, 1943*

4. "There is no reason anyone would want a computer in their home." *Ken Olsen, President and Founder of Digital Equipment Corp., 1977*

The statuses of the incumbents were disrupted by disruptive innovations that emerged and can be summarized as follows:

- ❖ Some companies had the knowledge along with skills. But they were locked into their established customer
- ❖ The companies competed with others that use similar technology
- ❖ Often overlooked, since profit wise disruptive were unattractive, initially
- ❖ The companies who failed to invest in disruptive innovations, lost the markets

#### VIII. STRATEGIES TO HANDLE DISRUPTIVE INNOVATIONS

In order to ensure survival in the long run, the companies should develop appropriate strategies to handle disruptive innovations. The following are the major strategies;

- i. **Adapt to new technology:** Since the standard solutions do not work against disruptive technology, organizations should adapt to the disruptive innovations. Firms should learn and take into its organizational contexts as appropriate
- ii. **Listen to potential customers-** The existing customers, however mainstream they are, may initially reject disruptive technologies. Hence focusing on them and collecting feedbacks and opinions only from them may not give any insight about disruptive

innovations. Thus the corporates need to focus beyond the existing customers and listen to the new customer needs.

iii. **Look beyond legacy businesses:** often companies follow their legacy businesses. It may be due to emotional reasons or due to some logical or rational reasons. But, as disruptive innovations are inevitable ones, firms must think and act beyond their traditional or hitherto successful businesses.

iv. **Need to plan beyond conventional lines:** Like in Zero based budgeting, planning need to begin fresh and from the scratches. Since the market for disruptive innovations don't exist, they cannot be analysed. The firms need to plan to learn and know the new technology.

v. **Executives need to be open-minded:** Since the expertise gained over the period are not belonging to disruptive innovations, open minded approach is needed. Firms need to develop technology. It needs to feel comfortable with uncertainty and should manage the changes.

vi. **Top management should be curious and optimistic:** Top level executives should work harder and smarter. The firm need to invest more aggressively in new technologies.

vii. **Follow collaborative approach:** The organisation as a whole need to follow a collaborative approach both internally and externally. At internal level, executives should communicate with marketing and information technology department heads. Like quality circles, envisioned by Inshikawa, internal

teams should be created to promote innovation and change in the organization. It should be ensured that the organisation is ready for digitalisation and retooling based on digital technologies. Externally, the firm should partner with technology and consulting service providers for gaining emerging market developments. Transformative Growth should be the focus- the organisation **as whole should be prepared enough** for digital transformation.

viii. **Bring out attitudinal changes:**

The firm need to bring attitudinal changes in the organization. Firm needs willingness to develop a technology for new customers, to accept new forms of marketing, sales and production, to accept new profit margins for each sale, to terminate existing staff and hire new employees and to serve new customers. Since all disruptive innovations are not bound to succeed, firm should be ready even to fail, if the technology ultimately wins the market.

ix. **Acquiring start-ups/ starting new companies:**

As a finest solution, firm should start a new company to handle the new technology or acquire successful start-ups in order to keep abreast of the market changes.

## IX. CONCLUSION

Harvard Business Review as rightly commented that “The world is in constant disruption – new technologies create new platforms”. In the dynamic business environment, If a firm is prepared to deal only with ‘sustaining technologies’ and not disruptive, it can even fail. The best ways and practices of

today are need not be the best ways of completing that task in future. As Peter Drucker commented, “The best way to predict the future is to create it”. Hence in order to sustain the competitive edge and higher levels of bottom lines, firms should be in constant touch with the disruptive innovations. Since change is the only thing that never changes in a dynamic world, firms should be strategically oriented to adapt and successfully lead even the disruptive innovations that are taking place around the world.

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# PERFORMANCE OF SECTORAL INDICES DURING COVID-19 PANDEMIC: A COMPARATIVE ANALYSIS WITH NIFTY- 50

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## ABSTRACT

*The capital market is volatile and the performance of the stock is affected by many factors like systematic and unsystematic factors.. COVID-19 pandemic is an unsystematic factor that influenced the stock market. NSE Nifty's influence is very high on other indices, especially NSE sectoral indices.. This study is aimed to identify how the market changes influenced the sectoral indices during the COVID-19 pandemic period in the Indian capital market. The study identified the influence of market in different sectors is very helpful for making investment decisions in this period.*

**Keywords--.** National Stock Exchange, Sectoral indices, COVID-19, Return, Standard Deviation, Beta, Correlation

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## I. INTRODUCTION

Due to high yield and the growth many investors are attracting towards investing in stock market. National Stock Exchange (NSE) is one of the leading stock exchanges in India established in 1992. Currently more than 1600 securities listed in NSE in various indices like broad market indices, sectoral indices, strategy indices, thematic indices and fixed income indices. In sectoral indices we have 15 sectors namely Automobile, Banking, Consumer Durables, Financial Services, Financial Services25/50, FMCG, IT, Healthcare, Media, Metal, Oil & Gas, Pharmaceuticals, Private Banks, PSU Banks and Reality.

The performance of securities may have influenced by different factors viz. Systematic factors and unsystematic factors. Systematic factors are inherent

to the market as a whole, reflecting the impact of economic, geo-political and financial factors. These are largely unpredictable and generally viewed as being difficult to avoid. Unsystematic factors are associated with a particular investment such a company's stock. These can be mitigated through diversification, and so is also known as diversifiable risk.

COVID 19 pandemic in India is a part of worldwide pandemic of corona virus disease. The first case of COVID-19 in India was reported on 30th January, 2020. On 22 March, India observed a 14 hour voluntary public curfew followed by a mandatory lockdowns in several hotspots and major cities. Further, on 25th March, 2020, the central Government ordered a nationwide lockdown for a period of 21 days and was extended two more times, affected the entire population of the country.

From 1st June, 2020 the Government started unlocking the country in three unlock phases. But a second wave of the Pandemic started on March 2021 was much larger than the first, with shortages of vaccines, hospital beds, oxygen cylinders and other medicines in parts of the country. India's states and union territories had some form of state-wide and localized restriction and lockdowns. The second wave of the pandemic in India has seen no nationwide lockdown.

The closing price of NSE index on 24th March, 2020 was Rs.7801.05 and the opening on 25th after the declaration of lockdown is 7735.15. Initially NSE index is decreased and gradually it began to increase and it reaches to 15,582.80 on 31st May, 2021. This study focuses on how COVID-19 influenced the performance of different sectors in Indian capital market and to identify the best and worst performed sector during the lock down period. The study covered a period from 1st April to 31st May 2021, during the peak affecting time of COVID-19 pandemic.

## II. LITERATURE REVIEW

M.Babu and C.Hariharan (2014) conduct a study investigates the volatility in the Indian stock market. Five sectoral indices selected for the study namely, CNX Auto, Bank, Finance, IT and Pharma. This study found the CNX IT index has low risk during the study period from January 2009 to December 2013.

Nagendra, Haritha and Ravi (2014) studied the correlation between NSE Nifty and industry sectors in India. They analysed that some of the Index stock weightages were more in NSE Nifty, but influence was less than other index stocks. It means that the weightage was

only not the factor to influence the correlations between indexes. It was concluded that Nifty influence the performance of sectoral indices performance and FMCG and Pharma indices less influenced by other sectoral indices.

Krati Jain (2016) examined that Banks were generally considered as safe investment areas. Their share prices were considered less volatile than other industries. To study the truth in this phenomenon a critical study relating to BSE Sensex and its relationship with Bankex was made. For this purpose last three years monthly opening data of Sensex and Bankex were analyzed and it was found that there is very positive correlation between Sensex and Bankex.

Sitaram Pandey, Amitava Samanta and Devesh Kumar (2017) conducted a study to find out the relationship between the index and NSE sectoral indices and its price movements. This study is based on secondary data and covers five years period from 2011 to 2015. The study reveals that NSE index and sectoral indices having a significant correlation and there is a significant impact of Nifty on NSE sectoral indices except Reality and PSU banks.

S.Akhila and K. Neeraja (2018) conducted a study on Comparative Analysis of four Sectoral Indices in NSE Index. The sectoral indices selected for the study are automobile, FMCG, banking and pharmaceutical. This study found that automobile, banking and media sectors are performing well in earning higher returns. But sectors are having higher risk rates.

G.Sankaraman, S.Suresh, TC. Thomas, Vishnupriya (2019) studied the volatility of sectoral indices in NSE during the Union Budget Period of India. The study

is about the share market unpredictability performance between the Nifty index and Sector index i.e, Nifty FMCG, Nifty Bank, Nifty IT and Nifty Financial Services.

### III. OBJECTIVES OF THE STUDY

- ❖ To analyse the risk and return of selected sectoral indices from NSE.
- ❖ To compare the sectoral indices with the market index.
- ❖ To examine the correlation between sectoral indices and market index.

### IV. RESEARCH METHODOLOGY

This study only needs secondary data, which were collected from various outside sources. In this analysis, the majority of the data is collected from the websites of NSE India, yahoo finance and money control. The daily stock price of sectoral indices were collected and analysed using the MS Excel. The study period is from 1st April 2020 to 31st May 2021 during the outbreak time of COVID-19 Pandemic in India.

There are 14 sectoral indices in NSE namely Automobile, Banking, Consumer Durables, Financial Services, FMCG, IT, Media, Metal, Oil & Gas, Pharmaceuticals, Private Banks, PSU Banks and Realty. From these all sectors excluding Financial Services25/50 are selected as sample. Financial Services25/50 sector is a new one, and the data for the same is

available only from 10th August, 2020. So, it is excluded.

### V. HYPOTHESIS

**H0** - there is no significant relationship between sectoral indices and market index.

**H1** - there is a significant relationship between sectoral indices and market index.

### VI. STATISTICAL TOOLS

Returns: Returns in this study are calculated by using following formulae

$$R_{pt} = (NAV_t - NAV_{t-1}) / NAV_{t-1}$$

Standard Deviation: Standard deviation is used to calculate the risk. It is calculated using following formulae.

$$\sigma_p = \sqrt{\frac{1}{n-1} \sum (R_{pt} - \bar{R}_p)^2}$$

The standard deviation for the market is calculated by using following equation.

$$\sigma_m = \sqrt{\frac{1}{n-1} \sum (R_{mt} - \bar{R}_m)^2}$$

Beta: The systematic risk which cannot be diversified is calculated by using BETA values. The formula for the same is as follows.

$$\text{Beta} = \frac{\text{Cov}(R_P - R_M)}{\sigma_m^2}$$

**VII. DATA ANALYSIS AND INTERPRETATION**

**Table 1: Summary of Automobile Sector with Nifty 50**

Particulars	NIFTY AUTO	Nifty 50
Return (%)	3.97	3.21
Standard Deviation (%)	6.27	3.86
Beta	1.44	1
Correlation	0.89	

When the Automobile sector compared with the Nifty 50, the automobile sector is 3.97 % returns where the market is having 3.21%. That means Automobile sector is performing well than the market. It has a higher standard deviation of 6.27% when compared with the 3.86% standard deviation of market.

It means the sector is having a higher risk when compared to the market. In the context of systematic risk, Automobile sector is performing so well with 0.44 beta value. Finally, the automobile sector has very strong relationship to the market with 0.89 correlation value

**Table 2: Summary of Banking Sector with Nifty 50**

Particulars	NIFTY BANK	Nifty 50
Return (%)	2.91	3.21
Standard Deviation (%)	8.36	3.86
Beta	1.86	1.00
Correlation	0.86	

When the banking sector compared with the Nifty 50, market has higher return than the sector where the market is having returns of 3.21% and sector has returns of 2.91%. But the banking sector has highest risk with 8.36% standard

deviation and beta value of 1.89 compared to Nifty 50's 3.86 and 1 respectively. Finally, the banking sector has very strong relationship to the market with 0.86 correlation value.

**Table 3: Summary of Consumer Durables Sector with Nifty 50**

Particulars	CONSUMER DURABLES	Nifty 50
Return (%)	2.90	3.21
Standard Deviation (%)	5.61	3.86
Beta	1.19	1.00
Correlation	0.82	

When the returns of Consumer Durables sector are compared with the Nifty 50, the sector is having just 2.9% returns where the market is having just 3.21% and the sector has a higher standard deviation of 5.61% when compared with the 3.86% standard deviation of market.

It means the sector is having a higher risk when compared to the market. In the context of beta the sector also having the higher risk when compared to market with 1.19. Finally, the consumer durables have very strong relationship to the market with 0.82 correlation value.

**Table 4: Summary of Financial Services Sector with Nifty 50**

Particulars	FINANCIAL SERVICES	Nifty 50
Return (%)	2.79	3.21
Standard Deviation (%)	7.48	3.86
Beta	1.72	1.00
Correlation	0.89	

The return of financial services sector has a lesser return (2.79%) than the return of Nifty index. But the standard deviation (7.48) and beta (1.72) value

are higher. So, the sector has less return with higher risk. Finally the sector has very strong relationship to the market with 0.89 correlation value.

**Table 5: Summary of FMCG Sector with Nifty 50**

Particulars	FMCG	Nifty 50
Return (%)	1.87	3.21
Standard Deviation (%)	4.07	3.86
Beta	0.33	1.00
Correlation	0.31	

## Performance of Sectoral Indices during COVID-19 Pandemic

The return FMCG sector is 1.87% which is just below the Market return 3.21%. Standard deviation of the sector (4.07) is

just above the index (3.86). Beta value of the sector (0.33) is less compared to the index.

**Table 6: Summary of IT Sector with Nifty 50**

Particulars	IT	Nifty 50
Return (%)	4.73	3.21
Standard Deviation (%)	5.51	3.86
Beta	0.77	1.00
Correlation	0.54	

The return of IT sector has a higher return (4.73%) than the return of Nifty index. Standard deviation of the sector (5.51) is above the index (3.86). Beta

value of the sector is less compared to the index. The sector and the index have a moderate relationship.

**Table 7: Summary of Healthcare Sector with Nifty 50**

Particulars	HEALTHCARE	Nifty 50
Return (%)	4.36	3.21
Standard Deviation (%)	5.65	3.86
Beta	-0.48	1.00
Correlation	-0.33	

When the returns of Healthcare sector is compared with the Nifty 50, the sector is having just 4.36% returns where the market is having 3.21% and the sector has a higher standard deviation of 5.65% when compared with the 3.86% standard deviation of market. It means the sector is having a higher risk when

compared to the market. In the context of beta, the sector is having the negative value of -0.48, means investment moves in the opposite direction from the stock market. Finally, the health care sector has a negative relationship to the market with correlation value of -0.33.

**Table 8: Summary of Media Sector with Nifty 50**

Particulars	MEDIA	Nifty 50
Return (%)	2.10	3.21
Standard Deviation (%)	8.26	3.86
Beta	1.36	1.00
Correlation	0.64	

Performance of Sectoral Indices during COVID-19 Pandemic

The media sector has less return (2.10), higher standard deviation (8.26) and higher beta (1.36) compared to the

index. The sector and the index have a moderate relationship.

**Table 9: Summary of Metal Sector with Nifty 50**

Particulars	METAL	Nifty 50
Return (%)	7.48	3.21
Standard Deviation (%)	7.78	3.86
Beta	0.96	1.00
Correlation	0.48	

The metal sector has higher return (7.48), higher standard deviation (7.78) when compared to the index and a beta

value of (0.96). So, the sector has a higher return with higher risk. But the sector and Nifty has weak relationship.

**Table 10: Summary of Oil & Gas Sector with Nifty 50**

Particulars	OIL AND GAS	Nifty 50
Return (%)	3.87	3.21
Standard Deviation (%)	4.45	3.86
Beta	0.44	1.00
Correlation	0.38	

The Oil & Gas sector has a higher return (3.87) compared to the market return of 3.21. It also has higher standard deviation (4.45) and beta (.44). So, the

sector has a moderate return with risk. The sector has a weak relationship with the index.

**Table 11: Summary of Pharma Sector with Nifty 50**

Particulars	PHARMA	Nifty 50
Return (%)	4.71	3.21
Standard Deviation (%)	6.99	3.86
Beta	-0.57	1.00
Correlation	-0.32	

Performance of Sectoral Indices during COVID-19 Pandemic

The Pharmaceuticals sector has a higher return (4.71) compared to the market. It has higher standard deviation (6.99.9)

and negative beta value (-0.57). The sector and the index has a negative relationship.

**Table 12: Summary of Private Bank Sector with Nifty 50**

Particulars	PRIVATE BANKS	Nifty 50
Return (%)	2.74	3.21
Standard Deviation (%)	8.21	3.86
Beta	1.84	1.00
Correlation	0.87	

The return of Private Bank sector has a lesser return (2.74%) than the return of Nifty index. But the standard deviation (8.21) and beta (1.84) value are higher.

So, the sector has less return with higher risk. Finally the sector has very strong relationship to the market with 0.87 correlation value.

**Table 13: Summary of PSU Bank Sector with Nifty 50**

Particulars	PSU BANKS	Nifty 50
Return (%)	3.25	3.21
Standard Deviation (%)	12.01	3.86
Beta	2.46	1.00
Correlation	0.79	

The return of PSU Bank sector has a return of (3.25%) return almost equal to Nifty index. But the standard deviation (12.01) and beta (2.46) value are higher.

So, the sector has less return with higher risk. Finally the sector has very strong relationship to the market with 0.79 correlation value

**Table 14: Summary of Realty Sector with Nifty 50**

Particulars	REALITY	Nifty 50
Return (%)	2.89	3.21
Standard Deviation (%)	10.05	3.86
Beta	2.18	1.00
Correlation	0.84	

The return of Realty sector has a less return (2.89%) than the return of Nifty index. But the standard deviation (10.05) and beta (2.183) value are very higher. So, the sector has less return with higher risk. Finally the sector has very strong relationship to the market with 0.84 correlation value.

### VIII. FINDINGS AND RECOMMENDATIONS

- ❖ The market has the return of 3.21%. Eight sectors (Automobile, IT, Financial services 25/50. Healthcare,, Metal, Oil & Gas, pharmaceuticals and PSUs) have higher return than the market and seven sectors (Banking, Consumer Durables, Financial Services, FMCG, Media, Private Bank and Realty) have lower return than the market.
- ❖ Metal sector has a highest return of 7.48% and FMCG sector has a lowest return of -1.87%.
- ❖ The market has a standard deviation of 3.86. All sectors have higher standard deviation than the market.
- ❖ PSU Bank sector has a highest standard deviation of 12.01 and FMCG has lowest standard deviation of 4.07.
- ❖ The Beta of the market is 1. All the except FMCG and IT have lower beta than market. Likewise, Healthcare sector and Pharma sector have negative beta.
- ❖ PSU Bank sector has a highest beta of 2.46 and Healthcare sector has lowest beta of -0.48.
- ❖ The Correlation values of FMCG sector, Oil and Gas and Metal sector are less than 0.5. Also the beta value of pharma sector and healthcare sector shows negative values. So, we

accept the null hypothesis (there is no significant relationship between sectoral indices and market index).

- ❖ The Correlation values of other sectors (Automobile, IT, Media, Metal, Banking, Consumer Durables, Financial Services, Private Bank, PSU Bank and Realty) are higher than 0.5. So, we reject the null hypothesis and accept alternative hypothesis (there is a significant relationship between sectoral indices and market index).

From the above findings we can suggest the following:

- ❖ The Metal sector is the high performing sector during the COVID-19 Lockdown period. If the investor capable of taking a high risk, it is the most suitable sector to make gains from investment.
- ❖ The IT sectors and health care sector have higher return than the market and having small risk. If the investor can take a small risk these sectors are recommended.
- ❖ The safer sector for investment is Oil & Gas. This sector has return with comparatively lower risk compared to other sectors. If the investor can't take risk, this is the most suitable sector for investment.

### IX. CONCLUSION

Through this analysis, we can conclude that the COVID-19 Lockdown affected the stock market and the market has influence on the performance of the sectors. 10 out of 14 sectors have strong relation with the market.

This study identified the well performed and underperformed sectors. And suggested which sectors are suitable for investment. This study is very helpful in

taking investment decisions for the short period of time. Because the market is volatile, we don't know what will happen in future.

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# **A STUDY ON BUYING BEHAVIOUR TOWARDS GOLD JEWELLERY IN ACCORDANCE WITH GOLD PRICE VOLATILITY WITH SPECIAL REFERENCE TO CHITTUR TALUK, PALAKKAD, KERALA**

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## **ABSTRACT**

*Demand for gold in India is interwoven with culture, tradition, the desire for beauty and the desire for financial protection. Gold is one of the oldest ways to store wealth. Gold is respected throughout the world for its value and rich history, which has been interwoven into cultures for thousands of years. Most of the businesses borrow based on collaterals such as property or land. However, when it comes to small businesses or proprietorship firms, they often borrow by keeping family gold as collateral. The gold rate in the market depends on the demand and availability of the metal. The gold price has become unpredictable but those in commodities market seem to have a better grip on this. Due to its appeal, gold has been historically priced above other commodities most of the time.*

**Keywords**---Buying behaviour, Gold jewellery, Volatility

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## **I. INTRODUCTION**

India has an ambivalent relationship with gold. For people, gold is a prized asset cherished as both an adornment and an investment. Gold is reflected as auspicious and a status symbol in the southern part of India. Jewellery is not only for the purpose of admiration but as well as security in times of emergency on often expensive and can be sold on every occasion there is want in need of money. Throughout the centuries people have continued to hold gold for various reasons. Jewellery is valued as an important savings and investment vehicle in India. Jewellery is very popular among farmers, with an upsurge in gold sales after a good agricultural season. In India, the government will make hallmarking for gold jewellery

mandatory from 15th January 2021 to ensure quality. This will enhance the demand and supply of gold. The amount of gold Keralites spend on festivals and other occasions shouldn't come as a surprise that three of the largest gold loan companies in Kerala together hold more gold-250 tonnes which is more than the individual gold reserves of countries such as Belgium, Singapore, Sweden and Australia. Hence, we can say that Kerala dominates the gold market in India.

## **II. OBJECTIVES**

Objectives of this research are to study people's buying behaviour towards gold jewellery and to identify the impact of gold price volatility on consumption in Chittur taluk, Palakkad district, Kerala.

### III. SCOPE AND SIGNIFICANCE

Keralites believe that gold is one of the greatest investment opportunities. Their affinity towards gold cannot be ignored. Since the price of gold fluctuates day by day, it doesn't affect the consumption of people. This study is based on the buying behaviour of people towards gold jewellery in accordance with gold price fluctuations. And the study covers the responses of hundred respondents from Chittur taluk, Palakkad district.

Gold is a unique asset based on a few basic characteristics. First it is primarily a monetary asset, and partly a commodity. In much of the world, gold is seen as the only true storehouse of value and wealth. As families improve their financial circumstances, they buy more gold. India's gold consumption during second quarter of 2019 surged 13% on a year-on-year basis to 213.2 tonnes on impressive jewellery and investment demand, helping the India surpass china as the biggest customer of the metal in the world for the first time since 2013, the world gold council (WGC), noted in its latest gold demand trends update. Gold price has appreciated almost 27% in India since the beginning of 2019. But it doesn't have any impact on the consumption. Consumers buying behaviour towards gold jewellery remain unchanged with rise in gold price.

### IV. RESEARCH METHODOLOGY

1. **Research Design:** The study is descriptive in nature. It is a fact-finding investigation and simplest type of research. It is designed to give descriptive information. The data needed for the study are collected by

means of direct personal interview with the help of questionnaire designed for the study.

2. **Sample Design:** In simple random technique, convenience sampling is used in this study. The area covered by this study is Chittur taluk, Palakkad district. Hundred customers were randomly selected from the entire population to conduct the study.
3. **Data:** Primary data are those data which are collected for the first time and are original in character. Hence, they are considered as first-hand information. Here, primary data are collected by means of well-structured questionnaire which is specially designed after considering the objectives of the study. Secondary data are those data which are already been published or completed for any other purpose or study. It includes not only published records and reports but also unpublished records. The secondary data relating to the study were obtained from various websites like gold hub of world gold council and other related journals.
4. **Tools for Analysis:** Simple percentage analysis and weighted ranking methods were adopted for this study.

### V. GOLD: BRIEF HISTORY

Gold is one of the oldest ways to store wealth. Gold is respected throughout the world for its value and rich history, which has been interwoven into cultures for thousands of years. Coins containing gold appeared around 800 B.C., and the first pure gold coins were struck during the reign of King Croesus of Lydia about 300 years later. Throughout the centuries, people have continued to hold gold for various reasons. Societies, and now economies, have placed value on gold, thus perpetuating its worth. It is the

metal we fall back on when other forms of currency don't work, which means it always has some value as insurance against tough times.

The advantages of investing in gold are;

- ❖ There is strong global market demand for gold
- ❖ Gold is an ideal hedge for financial market risks
- ❖ Diversification with gold offsets inflation
- ❖ Gold is a highly liquid asset

The disadvantages of investing in gold are;

- ❖ Gold appears to have no yield
- ❖ Large amounts of bullion may incur some storage fees
- ❖ Gold ETFs may incur brokerage fees (like shares)
- ❖ Gold can be volatile on a short-term basis (again, like shares)

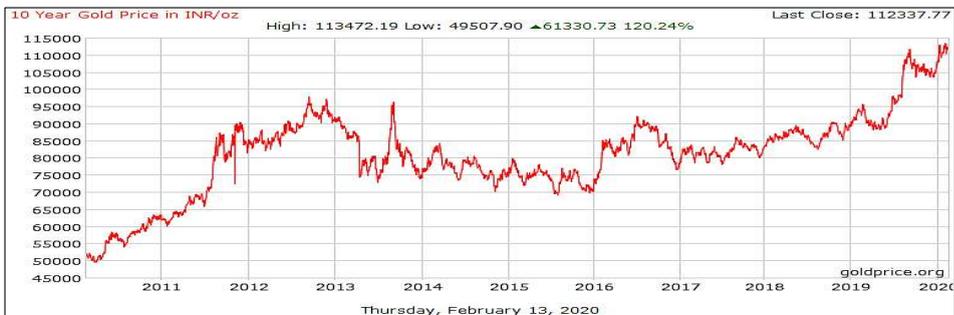
Various forms of investment in gold are;

- ❖ Sovereign Gold Bonds
- ❖ Gold ETFs and Funds
- ❖ Physical Gold
- ❖ Digital Gold

## VI. MARKET TREND IN GOLD PRICES

The gold rate in the market depends on the demand and availability of the metal. The gold price has become unpredictable but those in commodities market seem to have a better grip on this. Due to its appeal, gold has been historically priced above other commodities most of the time. The price of 10 gm of gold in the year 1964 was 63.25 whereas in the year 2012 was 31,050. The gold price of 10 gm in December 2013 was 29,600. Initially the increase in gold price was less from year to year but there is a drastic increase in the recent years. In the past decade, the increase in gold prices has been notable. However, a sudden jump in the price from 18,500 in 2010 to 42,125 in 2020 is an astonishing increase.

Figure 1: Gold Price Trend



## VII. VOLATILITY

It is a rate at which the price of a security increases or decreases for a given set of returns. Volatility is measured by calculating the standard

deviation of the annualized returns over a given period of time. It shows the range to which the price of a security may increase or decrease. Volatility measures the risk of a security. It is used in option pricing formula to gauge the

fluctuations in the returns of the underlying assets. Volatility indicates the pricing behaviour of the security and helps estimate the fluctuations that may happen in a short period of time. If the

prices of a security fluctuate rapidly in a short time span, it is termed to have high volatility. If the prices of a security fluctuate slowly in a longer time span, it is termed to have low volatility.

**VIII. DATA ANALYSIS AND INTERPRETATIONS**

**Table 1: Preferred Saving Avenues: Weighted Ranking**

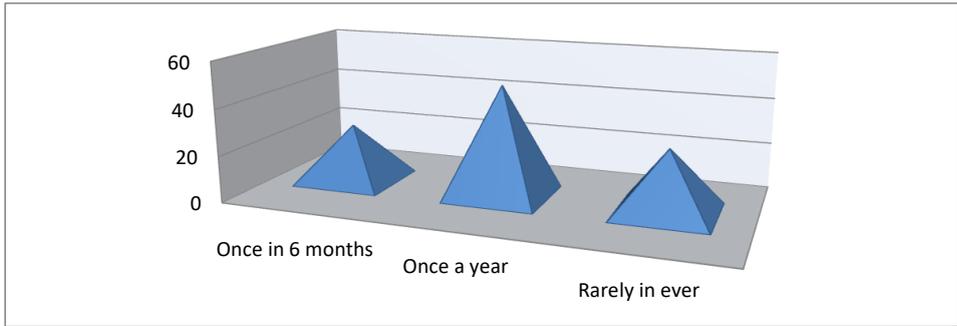
Weight	5	4	3	2	1	Total weight	Weighted mean	Weighted rank
Rank	1	2	3	4	5			
options								
Gold	110	116	78	30	8	342	1.52	2nd
Real estate	70	36	18	42	50	216	0.96	5th
Fixed deposit	190	108	30	38	6	372	1.6	1st
Post office savings scheme/ LIC	85	84	111	22	14	316	1.40	3rd
Chit funds	45	56	63	68	22	254	1.13	4th

Table 1 depicts the saving options that people of Chittur taluk. The weighted mean calculated reveals that fixed deposits are the most preferred saving option of the sample respondents (Mean

Score-1.52). Gold ranks second position followed by and post office/LIC which is in the 3rd position. Real estate is the least preferred saving avenues among the people of Chittur.

**Table 2: Frequency of purchasing Gold**

Particulars	Number of respondents
Once in 6 months	25
Once a year	48
Rarely in ever	27
Total	100



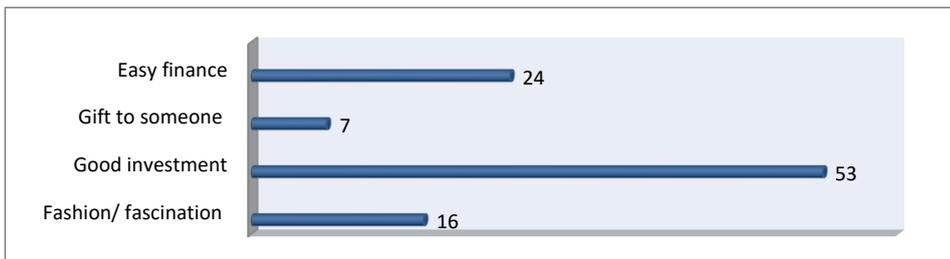
**Figure 2: Frequency of purchasing Gold**

According to the above table it is clear that, about one-fourth of the respondents buy gold once in 6 months. Around half of the respondents used to buy gold once

a year. And 27% of the respondents said that they rarely buy gold up to the occasion.

**Table 3: Purpose of Buying Gold**

Purpose	Number of respondents
Fashion/ fascination	16
Good investment	53
Gift to someone	7
Easy finance	24
Total	100



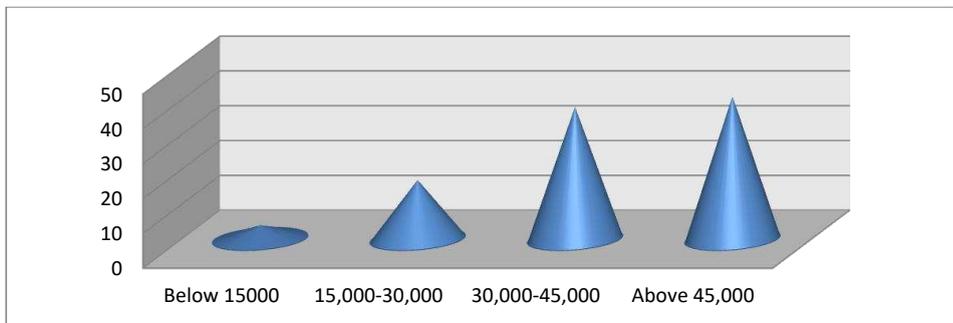
**Figure 3: Purpose of Buying Gold**

Very interestingly, most of the people (53%) buy jewellery as an investment means. Around 24% of the respondents purchase gold for the purpose of hedging against risk and to get finance at the time

of emergency. Finally, 7% of the respondents obtain gold because of family tradition to gift gold to someone at occasions like marriage or anything else.

**Table 4: Annual Expenditure on Jewellery**

Particulars	Number of respondents
Below 15000	4
15,000-30,000	17
30,000-45,000	38
Above 45,000	41
Total	100



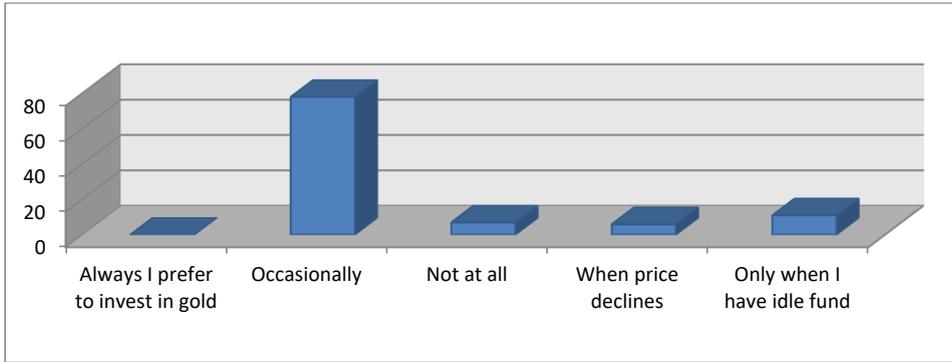
**Figure 4: Annual expenditure on Jewellery**

According to the above table, majority of the people in the Chittur taluk (41%) used to spend more than 45000 rupees to purchase gold annually. And around

38% of the respondents spend 30,000 to 45,000 rupees annually to purchase gold. This indicates that people use to buy more than 8 grams of gold a year.

**Table 5: Preference to invest in Gold**

Opinion	Number of respondents
Always I prefer to invest in gold	Nil
Occasionally	78
Not at all	7
When price declines	6
Only when I have idle fund	11
Total	100



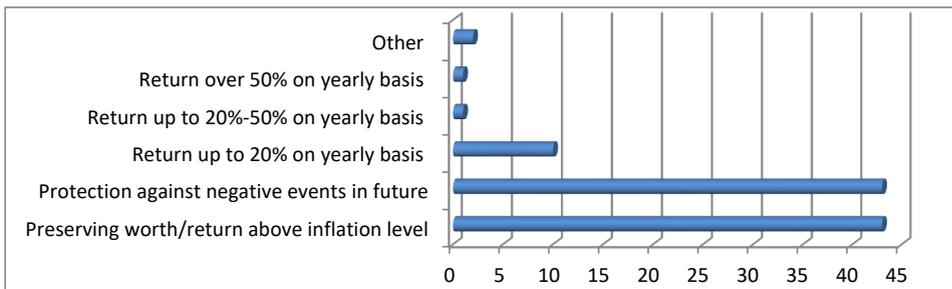
**Figure 5: Preference to invest in Gold**

It is inferred from the above table that more than three-fourth (78%) of the respondents prefer to invest in gold

occasionally. That plays a major role while making investment in gold.

**Table 6: Expectation towards Gold investment**

Expectations	Number of respondents
Preserving worth/return above inflation level	43
Protection against negative events in future	43
Return up to 20% on yearly basis	10
Return up to 20%-50% on yearly basis	1
Return over 50% on yearly basis	1
Other	2
Total	100



**Figure 6: Expectation towards Gold investment**

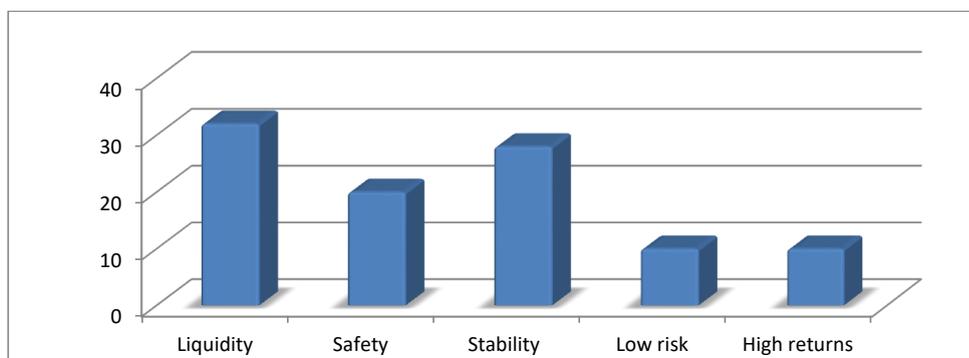
As per the above table majority of the people expects the stability of investment which preserves money's

worth but does not grow so much to make the investor richer. It is also clear

that greater earnings are not at all expected from gold.

Characteristics	Number of respondents
Liquidity	32
Safety	20
Stability	28
Low risk	10
High returns	10
Total	100

**Table 7: Characteristics that people value in Gold investment**



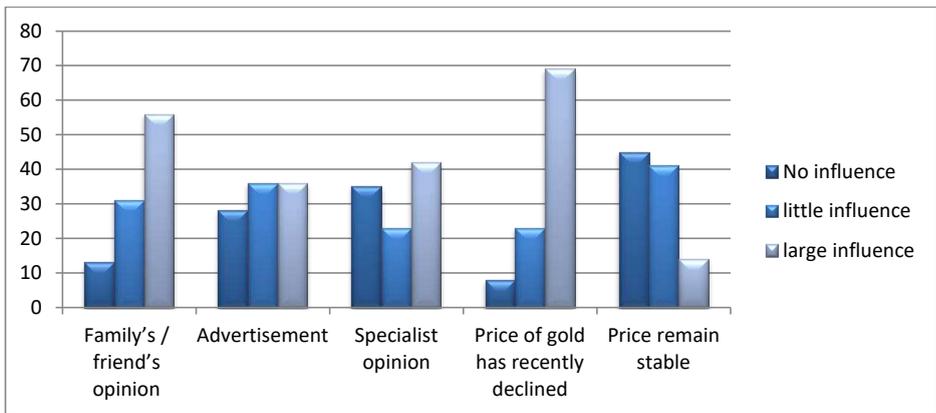
**Figure 7: Characteristics that people value in Gold investment**

It is inferred from the table 7 that most of the respondents value the liquidity of gold which would help them at the time of financial difficulties.

**Table 8: Factors influencing the purchase of Gold & Jewellery (level of importance)**

Factors	Level of importance		
	No influence	Little influence	Large influence
Family's / friend's opinion	13	31	56
Advertisement	28	36	36
Specialist opinion	35	23	42
Price of gold has recently declined	8	23	69
Price remain stable	45	41	14

Study on Buying behaviour towards Gold and Jewellery in accordance with Gold price Volatility



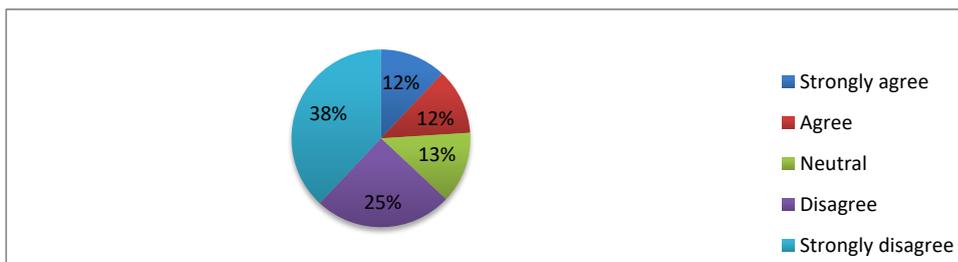
**Figure 8: Factors influencing the purchase of Gold & Jewellery (level of importance)**

It is clear from the above table and charts that low price of gold is one of the

important factors that influence the buying decision of people.

**Table 9: Relevance of Price over Jewellery Design**

Responses	Number of respondents
Strongly agree	12
Agree	12
Neutral	13
Disagree	25
Strongly disagree	38
Total	100



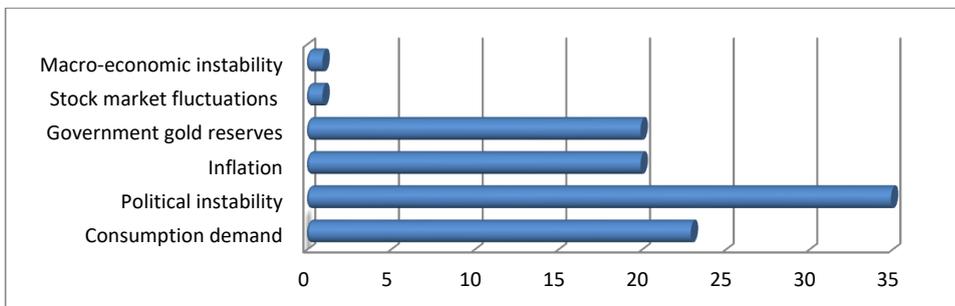
**Figure 9: Relevance of Price over Jewellery Design**

It is inferred that more than half of the respondents shows greater objection towards the statement “price doesn’t

matter for me if I like jewellery design.” It reveals the importance for money given by the people of Chittur taluk.

**Table 10: Reason for Gold price Volatility**

Reasons	Number of respondents
Consumption demand	23
Political instability	35
Inflation	20
Government gold reserves	20
Stock market fluctuations	1
Macro-economic instability	1
Total	100



**Figure 10: Reason for Gold price Volatility**

From the above table it is inferred that, most of the people (35%) are of the opinion that political instability is the reason for the gold price fluctuations. 23% of the people says that consumption

demand is another factor that determines the fluctuations in gold price. Only 20% of people say that inflation and government gold reserves are the reasons for gold price variations.

**IX. FINDINGS**

- ❖ It is found that people of Chittur taluk prefer gold as a second option to mobilise their savings. Moreover, they prefer to invest in fixed deposit.
- ❖ As per the nature of their earnings most of the respondents (48%) uses to buy gold once in a year.
- ❖ The purpose of buying gold is linked with culture as well as tradition. Most of the people (53%) buy gold in the form of jewellery

as a good investment made for future.

- ❖ 41% of the respondents usually spend more than ₹45000 for purchasing gold.
- ❖ Majority of the respondents (43%) expects the stability of investment which preserves money’s worth.
- ❖ It is found that most of the respondents value the liquidity of gold which would help them at the time of financial difficulties.

- ❖ Low price of gold is one of the important factors that influence the buying decision of people.
- ❖ People of Chittur taluk always seek safety as well as stability. Hence, they prefer fixed deposit over gold.
- ❖ More than three fourth (75%) of the respondents prefer to invest in gold according to the context of the occasion they are facing.
- ❖ People are not aware of the effect of Consumption demand, Inflation, Macro-economic instability, Stock market fluctuations and Government gold reserves on gold price fluctuations.

#### X. SUGGESTIONS

- ❖ People should educate about the various forms of owning gold other than gold in the form of jewellery such as sovereign gold bonds, gold ETF'S and digital gold.
- ❖ The exact reason for fluctuations in the gold price fluctuations are not political instability but some other factors like, demand and supply, inflation, central bank's decision to buy or sell gold, interest rates fluctuations, monsoon and agricultural productivity, import duty, Indian jewellery market, government gold reserves, currency fluctuations, correlation with other assets and other geopolitical factors. People are not aware of these factors so they must be properly studied or educated regarding the accurate factors for gold price volatility.
- ❖ Now-days there are so many investment opportunities other than fixed deposit. Gold is one of the safest options to mobilize the savings of people and it is a fact

that its value will never vanish forever. So, it is time to change the priority of people from fixed deposit to some other investment option including gold.

- ❖ People prefer to purchase gold not only because of it is a good investment but for transforming wealth to next generation. It is time to change this attitude of people so that poor people could sleep without fear.

#### XI. CONCLUSION

Gold is next to God is a saying which brings out the importance of gold in society. Throughout the world, possession of gold confers prestige. Investment in gold is an investment forever. The most common form of investment in gold is ornaments. Gold can be called a hedge against inflation or a reservoir for future use or substitute for currency as a means of exchange. Gold is regarded as a store of financial value. Gold loan is very popular in our country especially with low-income households who use it both for consumption expenditure and for sustaining investments on farms. This study is based on a rural area where majority of the people are farmers. They prefer to purchase gold as a good investment option. But they are not ready to take risk. Hence their first option to mobilize their savings is fixed deposit. It is concluded that people prefer to purchase gold only when the price lowers otherwise they will never buy or sell gold. But they consider gold as a good investment option and are packages carrying financial value which can be transfer from one generation to another.

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# IMPACT OF COVID - 19 PANDEMIC ON TEXTILE INDUSTRY IN INDIA

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## ABSTRACT

*The Textile Industry has an important role in the Indian economy and it contributes its export earnings. Textile export has 30% of the country's total exports. It has high weightage of over 20% in the National Production. It provides employment opportunities to million persons in the mill, power loom and handloom sectors. The revenue from textile industry has faced a huge fall in the first half of 2020-2021 due to the Covid – 19 lockdown. On the basis of reports of India Ratings and Research (Ind-Ra), subdued domestic demand and reduced export demand due to Covid-19 lockdown creates a double peril to the textile industry. The scope of online textile has a wide scope in the post Covid situation. The present study was conducted to identify the impacts of Covid-19 pandemic and the re-growth of the textile industry after the lockdown. It also focuses to analyse the Government support provided to the textile industry for recapturing its growth.*

**Keywords---** *Textile Industry, Export, Economy, India, Covid-19, Impacts, Growth.*

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## I. INTRODUCTION

Textile Industry has a phenomenal growth during the last four decades. About 20% of the industrial labour was engaged in the textile industry. Textile industry provides more employment opportunities. At present, 1,719 textile mills in India, from that, 188 mills are in public sector, 47 in co-operative sector and 1,384 in private sector. About three-fourths were spinning mills and the remaining one-fourth composite mills. Apart from the mill sector, there are several thousand small factories comprising five to 10 looms. Some of them have just one loom, based on conventional handloom in the form of cottage industry and it comprises decentralized sector of textile industry. Indian Textiles and Apparels (T & A) industry accounts for approximately 4% of the global T&A market. The Textile

& Apparel Industry is one of the largest sectors in the Indian economy with respect of output, export, foreign exchange earnings and employment. The Textile Industry contributes 7% to industrial output in value terms, 2% to the Gross Domestic Product of our country and 15% to the country's export earnings. The Indian economy has been faced a big challenge due to Covid-19 and go through a country wide lockdown. Transportation facilities such as trains and flights are suspended due to the lockdown. It also led to a temporary closure of industries. The Covid-19 pandemic has adversely affect India's export market.

The textile industry was affected due to the Covid-19 lockdown. All most all the shops were closed. The buyers are cancelled their order because they has bulk stock pending in the shops. They

may not place orders within the next few months also. India's major export destinations, the US and Europe, are the worst affected. It is tough to mention when these countries will return to normal life, and albeit they are doing, how soon consumers will start spending because the lockdown will result in unemployment as well. Volumes may come down, but will not disappear. Once life is back to normal, people are expected to buy as a feel-good element after months of lockdown and depression. All machinery manufacturers have also suspended operations. Neither are they during a position to manufacture machines nor are customers during a position to simply accept delivery. The demand for Hygiene textile would be very high during the time of Covid -19. No product whether its apparel wear or home textiles, knitted or woven, adults or kids, formal or casual, will need to have in build Hygiene in it. This trust-building up are going to be key with consumers to regain business at the earliest. Working on finishes below during development and production will surely help to create up trust with the buyer. The following are the apparel and residential textile Industry would specialize in:

- ❖ Anti microbial/Anti viral/ Anti Bacteria
- ❖ Water repellents
- ❖ Hydrophilic
- ❖ Wrinkle-free
- ❖ Anti-odor
- ❖ Anti Sweating
- ❖ Anti-pilling (to avoid entrapping of Microbial)
- ❖ PU coated Denims
- ❖ Soil release and few more

According to a recent survey by the International Textile Manufacturers

Federation (ITMF), on average 8 percent of orders have dropped worldwide and the expected turnover this calendar year will be down by nearly 10 percent over 2019 figures. The following is the Textile and Clothing index of Industrial Production Growth Rates.

**Table 1: Textile and clothing index of industrial production growth rates**

Sector	March 19	March 20
Textiles	1.10%	-13.10%
Wearing Apparel	14.40%	-20.50%

*Source: Ministry of Statistics Planning and Implementation*

According to Ministry of Statistics Planning and implementation, The textile and Clothing index of industrial production growth rates in the Textiles in March 2019 was 1.10%. It was declined into -13.10% in March 2020. The wearing Apparel Growth rate was 14.40% and it was declined into -20.50% in the March 2020. So this represents the crucial part of the Covid-19 pandemic. The particular study is to identify the challenges faced by textile industry due to the Covid-19 lockdown. The study also focuses to analyse the relief package provided by the Government to the textile industry.

## II. OBJECTIVES

The objectives of this study are to identify the challenges faced by the textile industry during Covid-19 pandemic; and to analyse the relief packages provided by the Government to the textile industry for recapture its growth.

### III. LITERATURE REVIEW

Indian council of Research on International Economic Relations (ICRIER, 2008) the textile and garment sectors play an extremely significant role in India in terms especially of share in value added, foreign exchange earnings, and employment. As stated by the ICRIER, the approaching dismantling of quotas in 2004 under mandate from the Agreement in Textile and Clothing of the WTO, the main target has clearly shifted to the adoption and maintenance of worldwide quality standards, everywhere the Indian textile and clothing exports.

Verma (2003), because Indian textile and clothing sector is predominantly cotton based, this study would focus mainly on the cotton textile and apparel, and look at the entire value chain from fibre to garment and retail distribution.

Ghori (2009), the Textile and garment manufacturing organizations face new challenges globally and are continually making efforts to enhance their services and merchandise, both internally and externally, to supply the very best quality at the best cost.

Bala (2006), Pressures to extend the standard and lower the value of apparel are coming from accreditation boards, the media, and comparisons with other facilities and government agencies. Technology adoption has emerged as a crucial determinant of competitiveness in recent global trade. Gaining competitiveness within the quota trade has become a drive for the garment firms to adopt technologies and maintain quality of as per the accreditations and export orientation, cost of capital, technical skills, and competitive advantage.

Dickerson (2008) argues that the majority developing countries, particularly in Asia, are forced to be overly reliant on textiles industries thanks to economic constraints and for lack of higher alternatives. The textiles and apparel sector has fewer barriers to entry and doesn't require huge capital investment or highly skilled workers. Yet, this sector has also been the topic of in depth protectionist policies since the start of the economic revolution and continues to be an equivalent, post quota regime also.

### IV. SCOPE OF THE STUDY

The particular study focuses to determine the challenges faced by the textile industry and to identify the Government support for the stability of textile industry. This study also helps to know the current status of the industry after the Covid-19.

### V. RESEARCH METHODOLOGY

The data has been taken for the time period of last Three years. The data has been collected from secondary sources such as Research papers, Journals, Newsletters and websites.

### VI. RESULTS AND DISCUSSIONS

Textile Industry contributes to about 14 percent of producing value addition, it earns one-third of the gross export in India. Textile Industry provides more job opportunities to many people. The second largest employer after agriculture was the Indian Textile Industry. The textile sector is split into three categories, cotton sector accounting for 50% share, man-made fibers and jute textile. The Industry provides largest share within the global market. It contributes 2.3% of the GDP. It's analyzed that thanks to the covid-19 pandemic, the textile industry expected

## Impact of COVID-19 pandemic on Textile industry in India

that the domestic market is shrinking by around 28% to 30% to USD 61 billion (INR 4,163 Billion) was decline within the sales mostly within the current fiscal year ending 2020-2021.

The following was the Monthly export data for textile and clothing. It was prepared by Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce.

Export Category	Apr-19	Apr-20	% Change
Cotton Yarn/Fabs/made ups/handloom products	844.22	148.11	-82.46%
Man-made yarn	388.61	61.76	-84.11%
Jute mfg.	22.15	2.08	-90.61%
Carpet	107.26	8.94	-91.67%
Handicrafts, handmade carpet	141.3	11.53	-91.84%
Apparel	1,409.53	126.31	-91.04%
Textile & Clothing	2,913.07	358.73	-87.69%
% of Textile & Clothing in total Exports	11.17%	3.46%	

Source: Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce

From the above, it is evident that the share change of export of Cotton Yarn, Jute mfg, carpet, handicrafts, handmade carpet, apparel, textile and clothing within the year 2019 and 2020. It is identified the cotton yarn/fabs/madeups/handloom products export was 844.22 in April 2019 and it's reduced by 148.11 in April 2020. The share change was -82.46%. The export of artificial yarn in April 2020 was 388.61 and it had been reduced by 61.76 in April 2020. The share change was -84.11%. The export of jute mfg was 22.15 in April 2019 and it had been declined into 2.08 in April 2020. Percentage change was recorded -90.61%. The carpet exported in April 2019 was 107.26 and it's declined into 8.94 in April 2020. The share change was -91.67%. Handicrafts and handmade carpet was exported in April 2019 was 141.3 and it had been reduced to 11.53 in April 2020. The share change was -91.84%. Apparel export in April 2019 was 1,409.53 and it had been declined into 126.31 in April 2020. The share change was -91.04%. The Textile and

clothing export was 2,913.07 in April 2019 and it had been declined into 358.73 in April 2020. The share change was -87.69%. The share of textile and clothing in total exports on April 2019 is 11.17%; it had been fall under 3.46% in April 2020.

The Covid-19 pandemic was affecting the entire export of the Textile Industry. The entire export in April 2020 was 3.46%. As per the info released by the confederation of Indian Textile Industry (CITI), the recovery of the domestic market is estimated to succeed in USD 120 billion (INR 9,074 billion) by 2024. Apparel retail is predicted to shrink to USD 27 billion (INR 2,042 billion) within the present financial year 2020-2021 as compared to pre-covid-19 projections for the same period against the USD 20 billion (INR 1,512 billion) from the bottom of monetary Year 2019-2020. Post Covid-19 has provided a chance for online textile industry. It plays a crucial role within the recovery of the Indian economy thanks to the Covid-19 lockdown. The people even have

interested to get through online thanks to the spreading pandemic. In budget 2021-2022, the govt proposed a scheme for starting a 'MEGA TEXTILE PARKS' within the country. It enables the Textile Industry in India become globally competitive, attract large investments and boost employment generation. It provides seven mega textile parks; it'll be established over 3 years on the idea of this scheme. This mega textile parks will have integrated facilities and quick turnaround for reducing the transportation losses. E-retailers are the most important beneficiary for the event.

A special measure has allotted to recover the difficulties of beneficiaries. Ministry of Textiles initiated Amended Technology Up gradation Funds (ATUFS) during the Covid-19 pandemic. Under this scheme, an option was extended to the applicants, during this the physical examination of the machineries by Joint Inspection Team (JIT) has completed. For avail the subsidies released on submission of Bank Guarantee. The advance release of subsidy against bank guarantee is met from the regular budget allocation under ATUFS. The Government of India has also announced a special economic package viz, Aatma Nirbhar Abhiyan for enhancing economy of the country and making India self-reliant. Relief and credit support measures are announced for various sectors. The relief measure can available to the weavers and artisans. Credit support measures support them in their business which was suffered thanks to lockdown necessitated by Covid-19 pandemic.

Except the Special Economic Package, the Ministry of Textiles provides the subsequent benefits to the handloom weavers and artisans within the country;

- ❖ Government e-Market place (GeM) to enable the handloom and handicraft sectors and to sell their products on to various Government Departments and Organizations.
- ❖ To market e-marketing for handloom products.
- ❖ Social media campaign #Vocal4handmade was launched on the 6th National Handloom Day by the govt with the partnership of all stakeholders to market the handloom products of India. It ensures the support to weaving community.
- ❖ Due to the Covid-19 pandemic, it's not feasible to conduct convention marketing events like exhibitions, melas, etc. To cope up with this crisis, Government provides online marketing opportunities to the weavers and handloom producers.
- ❖ Weavers Service Centres (WSCs) setup Design Resource Centres through NIFT. The target is to create and make design-oriented excellence in Handloom Sector. It facilitates weavers, manufacturers, exporters and designers for creating new designs.

Apart from all the above, Ministry of Textiles was implement various other schemes through the Offices of Development Commissioner (Handlooms) for overall development and success of handlooms and welfare of handloom weavers across the country. The various schemes provided by the event Commissioner (Handlooms) are as follows:

- ❖ National Handloom Development Programme (NHDP)
- ❖ Comprehensive Handloom Cluster Development Scheme (CHCDS)
- ❖ Handloom Weaver's Comprehensive Welfare Scheme (HWCWS)

❖ Yarn Supply Schemes (YSS).

In the above, the schemes provide financial assistance has given for raw materials, purchase of looms and accessories, design innovation, product diversification, infrastructure development, skill up gradation, lighting units, marketing of handloom products and loan at concessional rates.

From this study it is identified that the Government provides relief packages to the Indian Textile Industry. The Central Government provides INR 3,000 billion collateral free automatic loan for business including the MSME is expected to rejuvenate the critical sectors of the economy. It also provides the support to 4.5 million small businesses including many small businesses including many small Textile and apparel units as well.

## VII. SUGGESTIONS

- ❖ Online textile has a huge hike during the Covid-19 pandemic. So online textile activities implemented in all the shops will be a great initiative for the people.
- ❖ During the Covid-19 pandemic many of the customers choose small textile shops for avoiding rush. So there is a wide scope for promoting small textile outlets will helpful for the people during the pandemic.
- ❖ Increasing ads and promotional activities for handloom products will increases the demand and also online sales for handloom products can increases the demand for handloom products.
- ❖ Conducting exhibitions at each district will increases the sales of the products.
- ❖ Textile industry needs to concentrate on new product developments. During the Covid-19 pandemic the

need for mask was increased. So new product development was a wide scope.

- ❖ There is an opportunity for making PPE kits during the Covid-19 pandemic. Textile industry has to make this opportunity with the support of Government.

## VIII. CONCLUSION

From this study, it is concluded that Covid-19 pandemic has made a huge impact in the Indian Textile Industry. Total export of Textile Industry was fall down in 2020 due to Covid-19 lockdown. In 2019, total export in textile and clothing was 11.17% and in 2020, it was declined to 3.46%. The Government of India provides a special economic package named 'Aatma Nirbhar Bharat Abhiyan' for boosting economy of the country and making India self-reliant. Aatma Nirbhar Bharat Abhiyan scheme was a financial support of Rs 20 lakh crore equaling to 10% of the national GDP. It focuses on local manufacturers and service providers. The scheme will support the Indian economy for improving the standard of living and improve the trade deficit and the exchequer balance of the country. Other than the special economic package, the ministry of textiles provides some relief packages to the handloom weavers and artisans. Government e-market enables to handloom weavers/artisans/producers for sell their products directly to various Government departments and organisations.

E-marketing was introduced for promoting handloom products, Now 23 e-commerce entities used online marketing of handloom products. On the 6th National Handloom Day, Government has conducted a social media campaign named "Vocal 4

Handmade” in partnership with all stakeholders. The campaign was launched for promote the handloom heritage in India and to ensure the support for weaving community. The report says that the campaign has increase the sale of Indian handloom products. Due to the Covid-19 pandemic, it is not feasible to conventional marketing events. So the Government provides online marketing opportunities to the weaves and handloom producers. The Ministry of Textiles is launching various schemes through the Offices of Development Commissioner (handlooms) for the development of handlooms and welfare of handloom weavers in the country. The schemes provides as relief package are as follows; National Handloom Development Programme (NHDP), Comprehensive Handloom Cluster Development Scheme (CHCDS), Handloom Weavers’ Comprehensive Welfare Scheme (HWCWS), Yarn Supply Scheme (YSS). These schemes provides financial assistance to raw materials, purchase of looms and accessories, design innovation, product diversification, infrastructure development, skill up gradation, lighting units, marketing of handloom products and also provides loan at concessional rates.

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