

IIBM's Journal of Management Research

Volume : 5, Issue : 1 & 2
January - December 2020



EKTAARA

Exploring Knowledge Through Analysis and Research Across

International Research Conference

The Global Manager - Moving Towards a Futuristic Perspective by Redefining Boundaries

Organised by

Vishweshwar Education Society's

INDIRA INSTITUTE OF BUSINESS MANAGEMENT

(Approved by AICTE, New Delhi & Affiliated to University of Mumbai)



Analytical Study on Machine Learning in Modern Educational Organization using Face Recognition Technique for Biometrics

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1218

Aditi Bhushan

Computer Science Lecturer

Narayana Junior College, Mumbai

Abstract

The technology of Machine Learning has opened wider learning experiences for dumb machines, making them to automatically learn programs from data. Machine learning is widely used in computer science and other fields. The implementation of learning algorithms has now been associated with search engines like Google, Bing, Face book, Emails and Google Maps. It has developed various algorithms getting used for text interpretation, pattern recognition, data mining, face recognition and computational biology. This paper presents an analytical study of implementation of biometric system for attendance and its impact on student-teacher attendance in a Modern Educational Organization. We will be also monitoring, analyzing and comparing this learning experience with help of available learning algorithms.

Keywords: *Machine Learning, Learning algorithm*

Introduction

Machine learning is the science of getting computers to learn, without being explicitly programmed [Samuel, Arthur.]^a. In machine learning the training of machines is being conducted either in supervised or unsupervised environment, where some training samples are being provided to machine. On implementing one of the top definitions by Tom Mitchell¹ in order to make machines understand the learning algorithm better, a training set is provided which estimates the machine performance based on its learning experience. As a result, the training set produces Instances of Training Sets Representations

¹"A computer program is said to learn from Experience E with respect to some task T and some performance measure P, if its performance on T, as measured by P, improves the experience E"

(T_r) that is evaluated by the machine based on its obtained performance efficiency either Accuracy or rate of Error (P). To reach the best of performance measures, combinatorial or continuous optimizations are involved. These optimizations use algorithms like greedy search, beam search, branch-and-bound search, gradient descent, conjugate descent and Quasi-Newton methods with constrained linear or quadratic programming approaches^b. Below Algorithm 1 is based on Barebones decision tree framework (Max-Gain)^c using greedy search.

LearnFaceSet (*TrainDataSet*)

if all samples in *TrainDataSet* have the same class p^* **then**

return CreateNode(p^*)

if no feature q_j has $\text{Info}(q_j, p) > 0$ **then**

$p^* \leftarrow$ Most frequent class in *TrainDataSet*

return CreateNode(p^*)

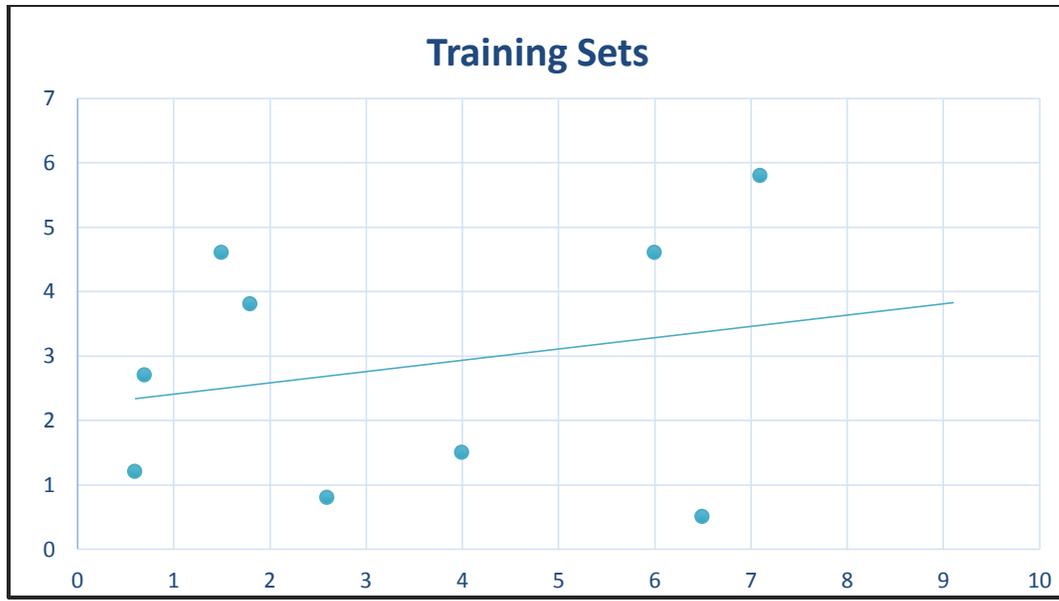
$q^* \leftarrow \text{parmax}_{q_j} \text{InfoGain}(q_j, p)$

$TS0 \leftarrow$ samples in *TrainDataSet* with $q^* = 0$

$TS1 \leftarrow$ samples in *TrainDataSet* with $q^* = 1$

return MakeNode(q^* , **LearnFaceSet** ($TS0$), **LearnFaceSet** ($TS1$))

This algorithm train itself based on combinatorial optimization where training of machine starts with learning of set of faces among various p, q coordinates. q_j specifies the j^{th} coordinate obtained across various facial coordinates. It also follows cluster approach to plot the graph across matching coordinates of various training sets.



The above chart is obtained Training Sets for some individual data coordinates where *TrainDataSet* has created cluster of different sets. The slant blue line is probability distribution line that separates two clusters based on obtained sets and store the clusters results in *LearnFaceSet()*.

Program:

The program to detect is written in Objective C language^d.

```

1 ClarifaiImage *image = [[ClarifaiImage alloc] initWithURL:@"https://samples.clarifai.com/face-det.jpg"];
2 [_app getModelByName:@"face-v1.3" completion:^(ClarifaiModel *model, NSError *error)
3 {
4     [model predictOnImages:@[image]
5     completion:^(NSArray<ClarifaiSearchResult *> *outputs, NSError *error) {
6         NSLog(@"outputs: %@", outputs);
7     }];
8 }];
9

```

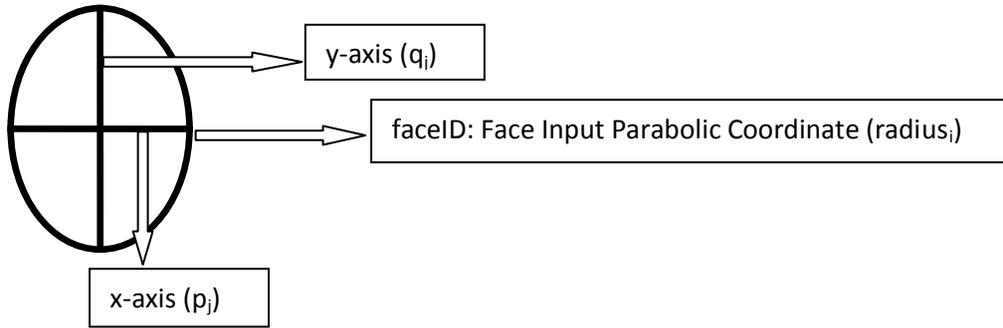
This program ha following given components:

Model [LearnFaceSet]: This is used for making the predictions based on provided input.

Input: We have used faceID as the input.

Data [TrainDataSet]: This involves current data that involves various face inputs with variations in angles to produce a training set of data which helps machine to train itself.

Prediction Algorithm:



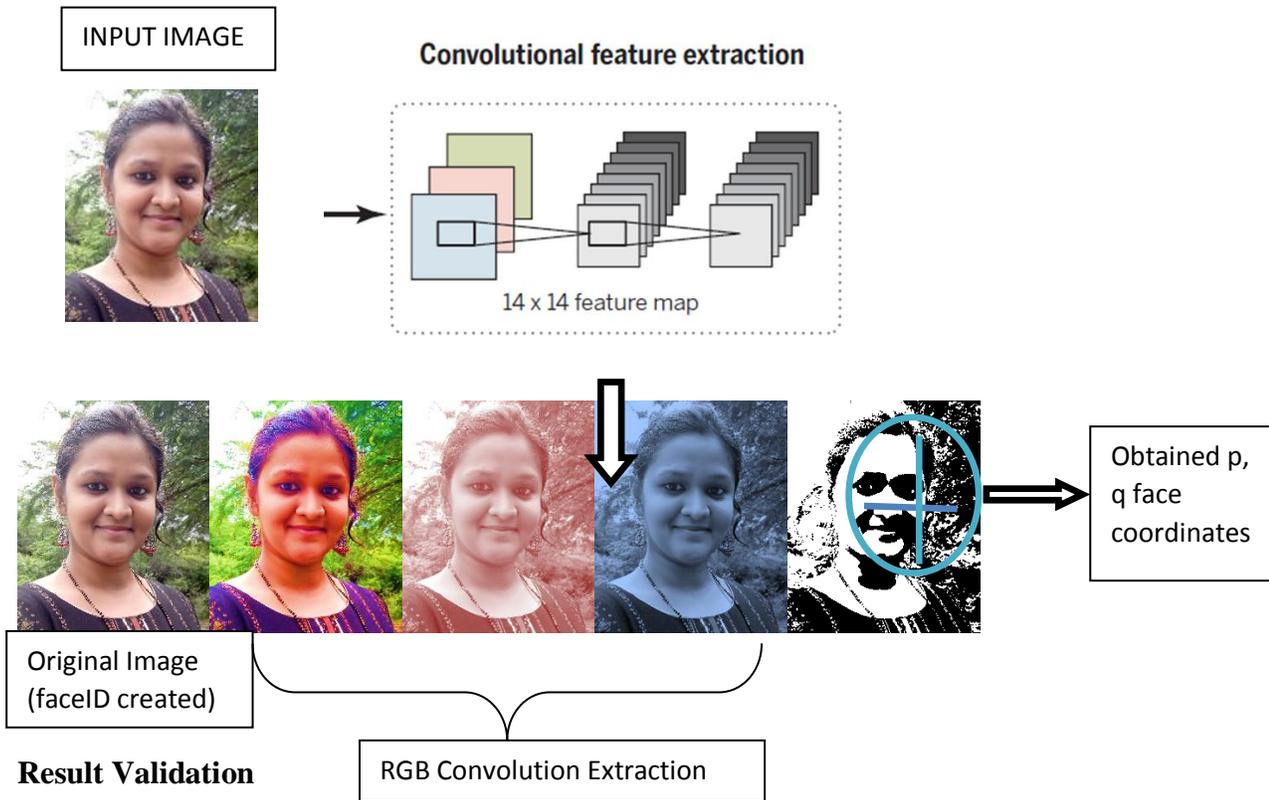
We are first obtaining the coordinates of the face along with its parabolic coordinates that is specified with some radius falling in range of 0 to 1. These are relative positions, which help us to calculate the coordinate along the obtained pixelated image as (left, top, bottom, right). In case of face coordinate our program uses (left, top) as coordinates. Then we are collecting coordinates across p, q axis which is another important coordinate set helping the machine to train itself across chosen variables. For this, Adam optimization method is used in proceeding of training methodology ^f.

$$\omega_t = \omega_{t-1} - \eta \frac{m^{\wedge}_t}{\sqrt{v^{\wedge}_t + \epsilon}}$$

The compilation of above code on set of employee faceID has helped us generating data sets.

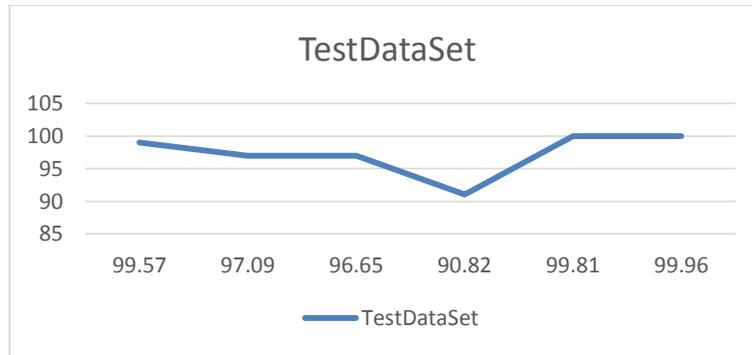


Above are sample employees whose faceID have created data sets for training the biometric machine. The biometric machine was also scanning other features like iris and thumb impression. However, this paper includes only face coordinates obtained data. Below is the output obtained on above program when face coordinates of TrainDataSet were matched in class CreateNode (Algoritm) ^e.



The above data validation was tested using sample distribution method and following was the output.

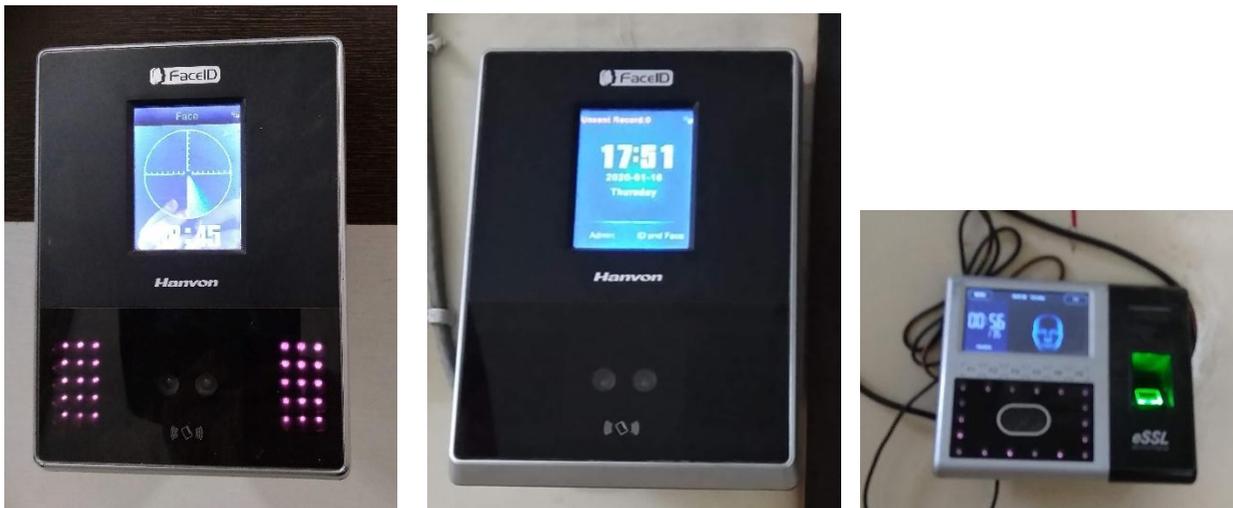
TrainDataSet – (Accuracy)	TestDataSet – (Accuracy)
99.57	99.00
97.09	97.00
96.65	97.00
90.82	91.00
99.81	100.00
99.96	100.00



Conclusion

This paper has highlighted the machine learning activity which involves training using data sets. Here we have considered various correlational parameters to obtain a learning set, that helps the machine to create nodes of information. This information is clustered, which machine uses applying learning algorithms to train itself. For this, we have used face coordinates to generate faceID and have learned its activity. We found out that after repetitively working on same data training sets machine starts working with cent percent accuracy.

Image Appendix





References

[Video] Samuel, Arthur. "Welcome to Machine Learning" accessed on

<https://www.coursera.org/learn/machine-learning/lecture/zcAuT/welcome-to-machine-learning>

(2012, October). Retrieved from doi:10.1145/2347736.2347755

[Website] Framework downloaded from <https://barebone-decision-tree-framework.soft112.com/>

[Website] Visited <https://www.clarifai.com/models/face-detection-image-recognition-model-a403429f2ddf4b49b307e318f00e528b-detection>

print ISSN 0036-8075; online ISSN 1095-9203

A. Ross ,Multimodal Biometrics, 12th European. IEEE, 2004, pp. 1221 –1224.

Acknowledgment

I acknowledge our Institutional Head Mr. Ragavendar Reddy, Principal, Narayana Junior College, Thane (MSc. Mathematics) for providing me his support in completion of this research paper.

Modeling Structural Equation for Quality of Work Life

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1219

Dr. Abdelkader Makhlouf

Faculty of literature, Languages and arts
Moulay Taher Saida University- Algeria

Dr. Abdelkrim Merahi

Faculty of Social and Human Sciences
Moulay Taher Saida University- Algeria

Cicely Greaves

Independent Research Scholar
Regard4Virtues- Principal CEO
United States

Abstract

The concept of work life quality is concerned with studying and analyzing the components and methods on which management is based in the organizations in order to provide a better job life quality for workers. This in turn helps to raise the organization performance. The present study aims at identifying the nature of work life quality for the Algerian employees in order to know their awareness level of work life quality. The study also aims to build a structural equation model (SEM). To achieve the aim of the study the researchers used the Portsmouth University work life quality scale (22WRQoLV). To this end, the study targeted a sample of 437 employees who were chosen using a simple random sampling method. The researchers used the descriptive analytical approach. The results indicated that the Algerian employee's awareness level of the work life quality was average, which is 48.65%. The latter confirms the validity of the hypothesis test stated in the study. The findings also revealed that work life quality data matched the structural equation model.

Keywords: *Work Life Quality- Life Quality-performance-structural equation model*

Introduction

The scientific events have witnessed a continuing and amazing speed both at the level of quality and quantity. This implies increasingly the necessity of being aware of achieving social equality, which has led researchers to try to uncover health, social and psychological effects of a good quality life.

To this end, psychologists have focused on building a positive work environment for individuals and safe emotional well being. In this sense, the issue of quality of life has won the researchers' attention in order to provide better life functions that serve the various individual's needs and help achieve better individuals' performance at work. However, the concept of quality of life differs relatively from one person to another, in both theoretical and practical terms, according to the criteria adopted by individuals to evaluate life and its demands. This is often influenced by many factors that determine the ingredients of quality of life such as the ability to think and make decisions, the ability to control and manage the surrounding conditions (physical, mental and economic).

Tightly connected to a good quality of life is the concept of worklife quality. The latter is concerned with studying and analyzing the components and methods on which management is based in the organizations in order to provide a better job life quality for workers. This in turn helps to raise the organization performance. In this sense, the more the work environment is characterized by satisfaction of the workers the better the chance is to make them fully immersed in their jobs and having better performance.

Research Questions

What is the Algerian employee's awareness level of worklife quality?

Is it possible to match the work life quality data to the structural equation model?

Research Hypotheses

The Algerian employee's awareness level of worklife quality is average-

Matching work life quality data to the structural equation model is possible.

Objectives of the Study

The present research attempts to:

-Determine the Algerian employee's awareness level of work life quality.

-Ensure that work life quality data match the structural equation model.

-Build a structural equation model for work life quality, as well as ensuring the psychometric properties of the scale.

Review of Literature

The concept of quality of life

The term quality of life has been defined as ‘a concept of economics, sociology and political science which encompasses an individual’s spiritual (emotional), social and physical well-being’ (cited in Ruzevicius, 2007). According to Fayers and Machin the term ‘quality of life’ is linked to the components of happiness and satisfaction with life (Fayers and Machin, 2007, p4).

The concept “quality of life” underwent a series of changes and included the concepts of physical, psychological and social well-being (cited in Ruzevicius, 2007 p). According to Mebrouk and Khidr (2011, page 81)Quality of life is a relative concept, which differs from one society to another, and even from time to time. Therefore, the concept of quality of life should be considered as a comprehensive and integrated concept, for it includes all aspects of life. In addition, quality of life includes a set of variables that help satisfy the basic needs of individuals, as it is considered one of the basic requirements at the present time to achieve the psychological health of the individual(Mebrouk and Khidr, 2011, page 81).

In the sameline of thoughtAl Sharqawi (2002, page 41) stated that quality of life affects the different aspects of the individual from mental and physical abilities and social skills, and is affected by the individual's view of the life he is living and the extent of the individual's satisfaction with his life.Allam and Hamed (2000)state that quality of life is a sense of the meaning of life, a comprehensive concept of its various goals, and how to achieve these goals in an appropriate manner.

Abdel Tawab (2000) defines the quality of life as the individual’s feeling of assuming responsibility and satisfaction with life. In here, life is acquainted with the sense of meaning and purpose, while realizing the quality of life that an individual lives well through his awareness of the quality and amount of services provided to him in society.

Adam and Al-Jahan (2014) believe that a person who enjoys a high degree of integration enjoys a high degree of self-esteem, and that achieving self-esteem for a person and the quality of his life is a

necessity for every individual. However, it can be said that the concept of quality of life is a broad concept that encompasses needs' satisfaction, and includes what meets the psychological compatibility of the individual, which is the meaning adopted by UNESCO (Abdel-Moati, 2005, page 18).

Work Life Quality

Work life quality is commonly defined as the practices that management initiates through multiple administrative activities to improve the adequacy of the organization and increase job satisfaction for workers (Meyers, 1992, p. 132). It is also the adoption of human resources policy that enables the provision of a career that satisfies the individuals' needs and achieves better performance for the organization (Nirenberg, 1986).

According to Hian & Einsteion (1990) the term work life quality was first introduced in 1972 during the International Conference on Labor Relations, and this concept gained great attention after United Auto workers and General Motors institutions implemented a set of programs to improve and repair work quality.

It is also important to reveal the fact that the concept of total quality also spread widely, with an increase in the need to re-engineer administrative systems and acquire various skills. In addition, looking at human resources is one of the determining factors for success in Japanese companies as a result of permanent employment policies, learning, training and quality circles as part of the career (Djad Elrab, 2008, pages. 19-20).

Al-Haiti (2003) links work life quality to social, natural and psychological work conditions. He connects high work life quality to the achievement that is equipped with an appropriate work atmosphere and the use of procedures and systems of work. Al-Haiti (2003) considers high work life quality responsible to make individuals feel better in the workplace, which is a source of motivation to pursue better performance.

Al-Maghrabi (2004) conceived the concept of "quality of work life" as "the group of activities practiced by organizations in order to develop life on the job, in a way that positively affects the productivity of the organization" (Al-Mughrabi, 2004, page 5).

Work Life Quality Dimensions

From the previous definitions of the quality of work life, it is clear that the concept of work life quality is one of the multidimensional concepts, which starts from improving work environment moving on to participation in decision-making, and progressing towards the returns and gains that the organization achieves (Jad Al-Rab, 2008, page 7).

Other dimensions called by Al-Balbisi (2012), through which he focused on material work conditions, a healthy and safe work environment, functional factors "design, job safety, promotion opportunities, flexible work schedules, financial factors including financial factors, fair compensation and compensation, employee participation in management, employee welfare, and evaluation procedures grievances and balance in life (Al-Balbisi, 2012, p. 285). The review of the dimensions of work life quality permitted the researchers in the present study to recognise their multiplicity. The researchers found that the dimensions are multiple and differ from one researcher to another according to their objectives. This incited us to adopt a measure for work life quality (22WRQoL V) based on work life quality scale prepared by the University of Portsmouth Department of Psychology, Portsmouth, United Kingdom, Britain in 2011 (Simon & Darren, 2014, p48). This measure consists of following six (6) dimensions: General Well-Being (GWB), Home-Work Interface (HWI), Job and Career Satisfaction (JCS), Control at Work WRQoL (CAW), Working Conditions (WCS), and Stress at Work (SAW).

Research Methodology

In this research, an analytical descriptive approach has been used, in order to identify the level of work life quality for the Algerian employees in Saida.

Research Sample: A sample of 437 employees were chosen using a simple random sampling method.

Instruments of the Study

The present study used the questionnaire as an instrument **to** investigate the research questions and hypotheses.

Questionnaire: A questionnaire was administered to gather data from a convenience sample of 437 employees who were chosen using a simple random sampling method.

The researchers developed the questionnaire based on the Work Life Quality scale (22WRQoL V) prepared by the University of Portsmouth Department of Psychology, Portsmouth, UK, UK for in 2011 (Simon & Darren, 2014, p. 48). This questionnaire was translated to the Arabic language with the assistance of a specialized translator, and it was adapted to the Algerian environment by the researchers. The scale consists of 24 positive items, distributed on six dimensions (General Well-Being and Home-Work Interface, Job and Career Satisfaction, Control at Work Working Conditions, and Stress at Work). A five-point Likert scale was used to measure the questionnaire items as follows: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree.

Psychometric properties of the study

Validity of the questionnaire : The validity of the questionnaire was confirmed in two ways.

A. Review of Expert Panel:

The questionnaire was exposed to a number of specialised researchers with experience and specialization in administration and scientific research from the faculty of the university subject of the study.

B. Internal consistency validity:

The internal consistency of the quality of work life questionnaire was calculated on the study sample of 33 employees, by calculating the Pearson correlation coefficient by using the Statistical Package for Social Sciences (SPSS) version No. (23). The calculation is based on the degree of each dimension and the total score of the Work life quality questionnaire (see the following table).

Table 1: shows the values of the dimensional correlation coefficient in the overall degree to indicate the quality of work life

Statistical significance	Pearson correlation coefficient	Dimensions	N
0.000	,868**	General Well-Being	1
0.000	,753**	Home-Work Interface	2
0.000	,885**	Job and Career Satisfaction	3
0.000	,796**	Control at Work	4
0.000	,828**	Working Conditions	5

0.000	,745 ^{***} 0	Stress at Work	6
-------	-----------------------	----------------	---

Reference

Established by the researchers applying the SPSS outputs

Table1 indicates the existence of a direct correlation between the six dimensions of the work life quality confined between (+0.745) and (+0.885) .It is also noted that the significance level is equal to (0.000) which is a significant value less than the significance level (0.01).Based on this, we reject the null hypothesis and accept the alternative one. Therefore, the correlation between the six dimensions of quality of work life represented in (General Well-Being and Home-Work Interface, Job and Career Satisfaction, Control at Work, Working Conditions, and Stress at Work) differs from zero. This means that the correlation is significant and positive, that is, the higher the level of dimensions, the more the perception of the life quality is a positive.

Reliability of the questionnaire

The reliability of the questionnaire was calculated on the same sample in two ways:

- A- Midway segmentation method: The work life quality questionnaire items were divided into two parts. The first part represents impair questions, and the second part represents pair questions. The Pearson correlation coefficient is calculated for the degrees of impair and pair questionnaire items. the study has a good percentage of reliability with (0.866) This indicates that the questionnaire has a very high degree of reliability.
- B- Alpha Cronbach Factor: The Alpha Cronbach method was used as a second method to establish the reliability of the questionnaire. The value of the Alpha Cronbach coefficient reached (0.891), which indicates that the quality of work quality questionnaireis valid and the study is subject of reliable analysis.

Data Analysis and Results

Data Analysis and Results of the first hypothesis: The hypothesis states that the level of the Algerian employee's awareness of the quality of work life is average. To ensure the validity of the hypothesis, the level of awareness (low, average, and high) has been determined by defining the interval according to

the method prepared by Shrigley and Koballa (1984, Koballa & Shrigley); (Merahi , 2017) and (Maamari, 2016, cited in Mihoubi, 2012) as follows:

Method: Each of the above items has been given grades to be statistically processed as follows:

Answers alternatives and weights: the questionnaire is five alternatives, ranging from 1 to 5, and they are detailed as follows :

level of agreement according the five point Likert scale

Interval Width = maximum point – minimum point\ number of levels (5-1\5= 0.8)

strongly agree	agree	neutral	Disagree	strongly Disagree	Degree of agreement
5	4	3	2	1	level
5 - 4.20	4.19 – 3.40	3.39 – 2.60	2.59 – 1.80	1.79 – 1	Scale Interval
120 – 81.60		81.36 – 62.40	62.16 – 24		24 xInterval borders

Reference

Established by the researchers applying the SPSS outputs

The length of the interval has been previously obtained, multiplying the latter by the number of work quality of life items which are 24 items.

$1 \times 24 = 24$ then $2.59 \times 24 = 62.16$ i.e. [24,62] (low level).

$2.60 \times 24 = 62.4$ then $3.39 \times 24 = 81.36$ i.e. [63.82] (average level).

$3.40 \times 24 = 81.60$ then $5 \times 24 = 120$ i.e. [83,120] (high level).

Accordingly, the results were as follows:

Table No. 3: shows the results of the level of the Algerian employee's awareness of work life quality.

Employee's awareness of work life quality.	Frequency	Percentage
High	191	%43,71
Average	194	%44,39
Low	52	%11,90
Total	437	%100,00

Reference

Established by the researchers applying the SPSS outputs

The results shown in this table indicate that the Algerian employee's awareness level of work life quality was average (44.39%), while the high level of the Algerian employee's awareness of work life quality was estimated at: 43.71%, followed by the low level of the Algerian employee's awareness of work life quality at 11.90 %. This means that the research hypothesis is valid and that the level of the Algerian employee's awareness of work life quality is average.

Discussion of the results of the first hypothesis

The Statistical analyses, when testing the hypothesis, showed that the Algerian employee's awareness level of quality of work life is average. This is proven by the ratio estimated at: 44.39%, meaning that the level of the Algerian employee's awareness of the quality of work life is average. This result goes in line with the results of Wadi Amin's study (2017), and with the results of Merahi and Mezien's study (2017).

The results of the present study also go in accordance with the results reported by Hassan Al-Mahrazi and Ibrahim" (2008) which indicated an average level of quality of life. This result is also consistent with the results of Yosri's (2015) study. Similar results were shown in the study conducted by Ashrafi et al ; (2018) who reported that burnout and quality of work life are among factors affecting employees' performance degradation. Another analogous result was obtained by Suaib et al (2019) who considered work life quality as capable of increasing the participation of workers in the organization.

However, it is necessary to point out that the findings of the present study oppose those of Al-Bilbisi study (2012) which state that the sample has a high quality of life. The result of the current study also differs with the El Meghribi study (2004). The latter indicated that the level of work life quality is low for his sample study.

Data Analysis and Results of the second hypothesis

The hypothesis states that matching work life quality data to the structural equation model is possible. In order to prove the validity of the second main hypothesis, SPSS AMOS program was applied. To examine the hypothesis, the study data were processed using the AMOS program,

(see Figure1).

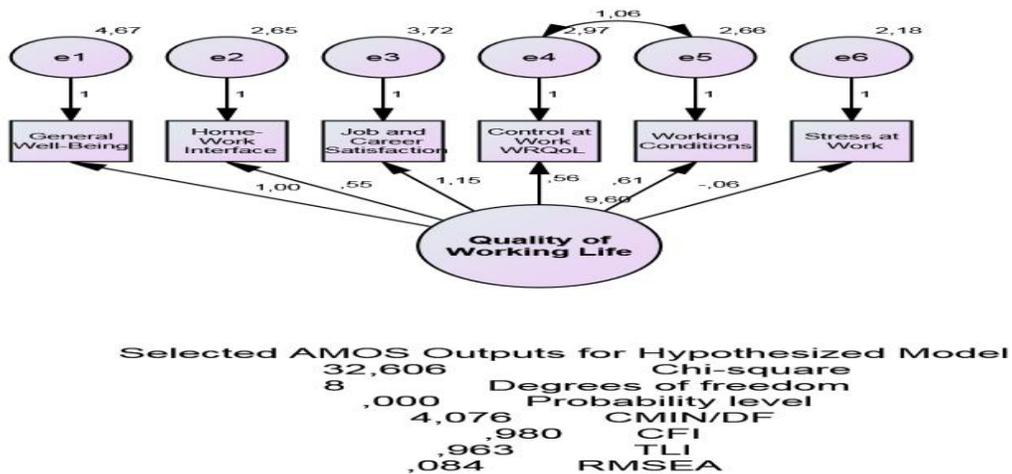


Figure1 Modeling structural Equation for Quality of work Life

Source: Established by the researchers applying the AMOS outputs based on the presumed Model

Discussion of the results of the second hypothesis

Based on the post hoc analyses, we would have concluded that the model shown in figure1 lead to indictive results for an over fitted model. However, because this was not the case, we can only assume that the model fits the data well. The goodness-of-fit statistic test related to the model revealed that incorporation of the error covariance between Items (e5) and (e4) made a substantially large improvement to model fit.

In particular, the overall chi square value decreased From 65.021 to 32.606 and the RMSEA from 0.138 to 0.084, while the CFI value increased from 0.954 to 0.980 and the TLI from 0.901 to 0.963. In assessing the extent to which a respecified model exhibits improvement in fit, it has become customary when using a univariate approach to determine if the difference in fit between the two models is statistically valid.

Conclusion

Through this scientific contribution in providing field data on the reality of work life quality in the Algerian institutions, and the extent to which the model indicators correspond to the quality of work life, the results of the study revealed the existence of a correlation between the dimensions of work life quality and an average level of work life quality. The present study has also determined that the findings offer a more comprehensive understanding of work life quality factors because it proves that the SEM analysis is a reliable technique in identifying critical pieces of information.

On the basis of the present study findings there is a need to pay a close attention to the concept of work life quality. In this sense, it is recommended that the human resources department in the institutions should lead to well organized efforts and activities in order to provide a better job life for workers, and satisfy their needs (security, job stability and emotional requirements). This would provide a valid work environment and lead workers to participate in decision-making. And promote appropriate work opportunities.

References

- Ashrafi , A., Ebrahimi,H, Khosravi,A, Navidain,A, Ghajar,A (2018) *The Relationship Between Quality of Work Life and Burnout: A Linear Regression Structural-Equation Modeling*. Health Scope. p. 7. ISSN 2251-8959.
- Hian, C., & Einsteion, W. (1990). "Quality of work life (QWL): What can unions do. *SAM Advanced Management Journal* . vol 55 no 2 pp 17-22.
- Meyers, D. (1992). *Human Resources Management : Principles and practice*. New York: commerce clearing House, Inc.
- Nirenberg, J. (1986). The Quality of work life Issue: The corporation as The Next political frontier. *International Journal of Manpower, June*, p. 27.
- Peter M. Fayers and David Machin.(2007).*Quality of Life: The assessment, analysis and interpretation of patient-reported outcomes*.England : British Library.
- Ruzevicius, J. (2007). Quality of Life and its Components' Measurement.*Engineering Economics*.Vol. 2, p. 43-48.
- Simon, e., & Darren, v. l. (2014). *user Manual For the Work-Related Quality of Life (WRQOL) Scale A Measure of Quality Working Life*. United Kingdom: University of Portsmouth.
- Suaib, S, Syahrul,S,2, Takdir T.(2019).Nurses' Quality of Work Life. *Journal of health science and prevention*.Vol _ 3 No. 3Shttp://jurnalfpk.uinsby.ac.id/index.php/jhsp ISSN 2549-919X (e)
- أحمد رفعت عبد الواحد الشرفاوي. (2002). *نوعية الحياة والنكاه الوجداني ومستوى التوافق النفسي لدى عينة من ذوي التوجه الديني الجوهري والظاهري*. رسالة ماجستير غير منشورة، كلية الآداب، جامعة المنية.
- أسامة البليسي. (2012). *جودة الحياة الوظيفية وأثرها على الأداء الوظيفي للعاملين في المنظمة الغير حكومية في قطاع غزة*. رسالة ماجستير غير منشورة. الجامعة الإسلامية، غزة فلسطين.

- علام، حسن و حامد، خيرى. (2000). دراسة تحليلية لنموذج العلاقة بين الإغراءات السببية ومستوى التحصيل الدراسي في ضوء معنى الحياة لدى طلاب الجامعة. *مجلة البحث في التربية وعلم النفس*، 14(1)، 59-82.
- حسن مصطفى عبد المعطي. (2005). الإرشاد النفسي وجودة الحياة في المجتمع المعاصر. *المؤتمر العلمي الثالث للإنماء النفسي والتربوي للإنسان العربي في ضوء جودة الحياة (الصفحات 13-25)*. جامعة الزقازيق: مصر.
- عبد الحميد عبد الفتاح المغربي. (2004). إدارة الموارد البشرية مدخل استراتيجي لتعظيم القدرات التنافسية. *بجامعة الزقازيق. الدراسات والبحوث التجارية*.
- عبد العظيم مبروك أحلام، و منار عبد الرحمن محمد خضر. (2011). جودة حياة الأسرة وتأثيرها على قدرة الأم لاكتشاف وتنمية الذكاء المتعدد لدى الأطفال في سن ما قبل المدرسة. *بحوث التربية النوعية*.
- محمد السيد جاد الرب. (2008). *إدارة الموارد البشرية مدخل استراتيجي لتعظيم القدرات التنافسية*. مصر: دار الفكر العربي.
- محمد عبد التواب . (2000). الهدف من الحياة وبعض المتغيرات النفسية المرتبطة لدى عينة من طلاب الجامعة. *مجلة البحث في التربية وعلم النفس*، 14(1)، 36-43.
- يسماء آدم، و ياسر الجاحان. (2014). جودة الحياة وعلاقتها بتقدير الذات. *مجلة جامعة تشرين للبحوث والدراسات العلمية، سلسلة الآداب والعلوم الإنسانية*، 63 (5)، 3-22.
- مراحي، عبدالكريم ومزيان، محمد. (جوان 2017). إدارة هندسة النظام الإداري وجودة حياة العمل (دراسة ميدانية على عينة في المؤسسة العمومية الجزائرية). *مجلة روافد (مجلة فصلية دولية)*، 1 (1)، 11-36.

The Saga of Women Entrepreneurship

Dr. Bhupesh Rane

Director, Rohidas Patil Institute of Management Studies

Prof. Raj Joshi

Assistant Professor, Rohidas Patil Institute of Management Studies

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1220

Abstract

The study focuses on Women Entrepreneurship & its journey. It studies the all the activities from pin to plane i.e. the start-up, current issues & the way ahead for women entrepreneurs in India. It encompasses their reasons for starting their business and factors that leads to success of their entrepreneurial journey. The aim is to study the problems faced by women in India to start their entrepreneurial journey.

Keywords : *Women Entrepreneurship in the new age India, Work-life balance, Challenges related to start-ups.*



Introduction

In the recent past we have seen a tremendous surge in the number of women starting their own companies globally. This was not the scenario three decades prior. In countries in the Europe we can see more than 70% of the new businesses were started by women. This could be the best answer to the glass

ceiling that prevails in the corporate, where it's completely ruled by the males at the top of the organisation. The similar trend has been observed in smaller countries like, New Zealand, Norway, Indonesia and Singapore. This is widely accepted in the modern society however, in a typical male-oriented, tradition and old organisation, it is an effort worth an appraisal in India. It is being said that a small or a negligent number i.e. below 5% of women population engages in entrepreneurship say a decade ago. Several reports in the Canada and United States indicate the work place issues faced by men and women entrepreneurs. As men were considered for top position and jobs were like designed and crafted for them, whereas women were looked up with zero managerial qualities, lack of prior experience and less career orientation.

Literature Review

Women Entrepreneurship in India: A Literature Review Neha Tiwari I.I.S.E Group of Institutions, Lucknow, India proposed that various gender specific issues are also related to their entrepreneurship venture. It is observed that it is very low in India & mostly in the states of South India. Entrepreneurial activity is quite low in India and is mostly concentrated in states of Tamil Nadu, Kerala, Andhra Pradesh, West Bengal and Maharashtra.

Cooper proposed that many factors influence entrepreneurship i.e. background of the family and generic factors, the "incubator organisation" is a learning organisation where the entrepreneur was employed prior to starting his business and possessed skills required to run the show. Even the Environmental factors like economic situation of the country, access to Venture Capital, etc also contributes to the entrepreneurship development.

The researchers from the west concludes that compared to men, women have greater difficulties in approaching for initial capital or venture capital, they lack financial resources and network, skills, they have fewer informal support systems, have less required experience to make the start up running full-fledged.

Furthermore, women lack the business acumen, have less professional interaction, lack of role models, hindrances in gaining confidence from the clients and suppliers, no formal training and the utmost important requirement i.e. is the relevant experience.

Research Objectives and Methodology

1. Identify various businesses where women made an attempt to make an entrepreneurial success.
2. To study problems faced by Women Entrepreneurs in their start up, their work life balance and their success.

Based on various personal interviews, telephonic conversations and success stories on the internet, we could come to following points:(Questions both open and close ended with multiple choice were given to women entrepreneurs on various parameters related to problems they face, work life balance and their success factors)

1. Majority of women would prefer to start their entrepreneurial journey with household products, cooking, manufacturing, retail business, wholesale, services and others with maximum focus on household products and minimum focus on services.
2. Number of women opting for Full time entrepreneurship venture was very low as they wanted to focus on family too and wanted to explore the entrepreneurial venture in their free time.
3. No. of Full-time employees hired were very low in the initial years was very low closed to below 20% due to limited funds.
4. Number of women opting for Full ownership was more than 70% and remaining 30% was with partnership.
5. The funds to run the show large came from Bank loans approximately 50%, followed by self approximately 20%, later 15% by spouse and remaining 15% by friends and family.
6. Maximum women force would start their entrepreneurial journey at the age of 32 and above and very few would start at an age of 22 and above. The least found was 55 years and above for those women who would have lost their husbands and children left with no source of income.
7. Very few women would get support from their family and friends.

Problems faced by Women Entrepreneurs

1. Liquidity Crunch
2. Lesser Funds in Hand.
3. Quality of the Products.

4. Marketing and sales.
5. Lack of Experience
6. Lack of Time
7. Family Issues

The most important requirement to run the business is the funds and cash flow. It starts with inadequate funds and later cascades to the quantity of the products. In the beginning the quantity is maintained however it is discounted at later stage. They also face a lot of problems in dealing with marketing, advertising and sales of their products with the right channel. Getting hold of sales staff and maintaining discipline with them is also a big task for women entrepreneurs.

It further gets difficult with lack of Experience and have no proper time for family, kids, spouse and friends. Also, in the male at the top decision-making model, women face a lot of problems in the family for starting the project.

The women had to play the role of spouse, home maker and mother that makes the task little more difficult compared to men. Very few women had a supportive husband or had someone as a help at home for their daily chores. Their commitment and level of engagement was high for very few women. They received their emotional support from their spouse.

Why Entrepreneurship Journeys?

Most women entrepreneurs started their journey due to following reasons:

1. To get engrossed in free time.
2. Passion for the Entrepreneurship or Interest.
3. Money as motivator.
4. To support the Family.
5. Family Business
6. Flexibility

7. Enjoy challenging Tasks
8. Self-Satisfaction
9. Set an example for next generation
10. Employment to others.

Successful Women Entrepreneurs

Successful businesswomen with a heart for society

Padma Subramaniam, also known as Pizza Granny is a 75-year-old entrepreneur who runs Pizza Haven, which is well known among the software techie crowd of Bangalore for their mouth-watering vegetarian pizzas. Padma, along with her business partner Jayalakshmi (77), started Pizza Haven to raise funds for VISHRANTI, the old age home that they started building in 2003.

Padma was brought up in a typical South Indian family and she lost her husband in an accident in just 10 years of her marriage. She was struggling to raise her 2 children and was surrounded with sympathy for few days. However, she took a difficult step on joined her husband's office as an accountant where she retired as Finance Manager. The problems that she faced in her life made her start an NGO Vishranti in Bangalore and later her entrepreneurial venture PIZZA HEAVEN to support her NGO. This Pizza business made her famous, successful and made her to fame.

Now they have several outlets in Bangalore and they also operate out of the premises of many software companies. The success of Pizza Haven goes to Padma and the connection that she has been able to build with the younger generation.

She wanted to give something back to the society that has given so much to her...

NGO Vishranti is now providing vocational training to youngsters and has several other social service projects in the pipeline. "Women must think big. If you are making pappadom and pickle for the local market, why not think about exporting? Why not pack an energy bar?" questions Padma in an interview. Vishranti and Pizza Haven help these entrepreneurs build meaningful connections with society and enrich their own lives.

There are many such successful stories, we can't miss out on Jaswanti Ben Jamnadas Popat owner of the most popular LIJJAT Papad, Ekta Kapoor owner of Balaji Telefilms, Kiran Mazumdar Shaw owner of Biocon, Alka Talwar owner of Okhai, Gujratand Mira Kulkarni owner of Forest Essentials – luxury Ayurveda are the living examples of successful women entrepreneurs.

Reasons for Success

The Study also focused on reasons for Success and we found that most women entrepreneurs agreed on them were

- a. Hard work
- b. Quality assured Product.
- c. People and Managerial Skills.
- d. Support from spouse.
- e. Innovation
- f. Perseverance

We found the problems related to their start up, their entrepreneurial journey and their success stories. A lot depends on their background, their family values, culture that they come from, support from their family and spouse, finances, venture capital, conflicts, household help and support.

Women entrepreneurs are being successful and we see that there are large number of women entrepreneurs now, as compared to last few years.

References

- Aldrich. "Networking among Women entrepreneurs" In women owned Business. – Networking among Women Entrepreneurs -January 1989, Women Owned Businesses (pp.103-132), Praeger.
- Hisrich. "The female Entrepreneur: A career Development Perspective" - The Female Entrepreneur: A Career Development Perspective Donald D. Bowen and Robert D. Hisrich The Academy of Management Review, Vol. 11, No. 2 (Apr., 1986), pp. 393-407 (15 pages). Published By: Academy of Management, DOI: 10.2307/258468, <https://www.jstor.org/stable/258468>
- Hisrich. "The Women entrepreneurs, start up, Characteristics, Skills, Problems and Prescription".- The Woman Entrepreneur: Management Skills and Business Problems November 2009, Robert Hisrich,11.19, Thunderbird School of Global Management, Candida Brush, 32.09, Babson College
- 10 Successful female Entrepreneur – <http://knowstartup.com/>

Study of Emotional Intelligence and its Impact on Couple Relationships and Work-life Balance in and Around Mumbai

IIBM's Journal of Management Research
Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)
DOI : 10.33771/iibm.v5i1-2.1222

Dr. Harshada Mulay

Dean Academics: MasterMyLife EQ Education Pvt Ltd,
Garware Institute of Career Education and Development

Ms. Sruthi Jaganathan

Student: Masters in Emotional Intelligence and Human
Relations, MML, GICED

Abstract

In the current scenario, it is seen that both the partners prefer working. Due to this, one of the major concerns is maintaining a proper work-life balance. The mind-set of the employee majorly affects his/her productivity. In this case, it is important for the partners to be emotionally intelligent. They need to understand their partners, they need to be self-aware and maintain a healthy relationship which would ensure better work productivity. This paper focuses on how Emotional Intelligence leads to better couple relationship which in turn increases productivity and facilitates better work-life balance.

Keywords: *Emotional intelligence, Romantic Relationship, Relationship Management, Interpersonal Relationships, Emotional Stability, Couple Relationships, work-life balance.*

Introduction

Emotional Intelligence refers to 'capacity to be aware of, control and express one's emotions', as well as to 'handle interpersonal relationships judiciously and empathetically'. It is the ability to be aware of your own and other people's emotions. There are 5 major components of Emotional Intelligence which include Self-Awareness, Self-Regulation, Motivation, Empathy and social skills. Emotional Intelligence is not only applied in organizations but also can be used in building and maintaining personal relationships. Emotional Intelligence can be applied in each and every aspect of life and work. We often overlook the importance of EI but unknowingly we can see the effects of EI on all our relationships as Emotional Intelligence directly affects the social skills of a person.

Emotional Intelligence in Couple Relationships for Better Work-life Balance

It is generally the case that couples with strong relationships that have lasted long have well- developed emotional intelligence knowingly or unknowingly. Every relationship involves two people. In this case, understanding is one of the most important factors that contributes to the long- term happiness of the couple. To be able to understand others, one needs to understand himself and that is where emotional intelligence comes into picture. A person who is aware of himself and is able to understand others can handle relationships well and resolve conflicts much better than a person who lacks self-awareness or has low self- awareness.

The following are the key areas where emotional intelligence can be used in a relationship:

1. Friendship
2. Deep Respect
3. Communication
4. Conflict Management
5. Exercising Healthy Boundaries
6. Being aware of meaning, purpose and value of oneself and their partner
7. Sharing life

Personal relationships affect professional relationships. A person who is emotionally intelligent has a better relationship with his/her better half which in turn reduces his personal life stress and increases his organizational productivity, which in turn improves his work-life balance. These days people are looking to spend more time with their family and prefer not to carry their work stress home. In order to achieve this balance, emotional intelligence is very important.

Review of Literature

- Emotional intelligence (EI) is a group of mental abilities related to understanding, experiencing, and managing emotions (**Jensen, Kohn, Rilea, Hannon, & Howells, 2007**). Researches have been conducted that look to find out how Emotional Intelligence affects various areas in life right from academic performance, interpersonal relationships, intimate relationships. These researches look to find how EI may be used at an individual as well as group context to deal with various unforeseen situations and conflicts. Research (e.g. **Brackett, Warner, & Bosco, 2005**) has found out a crucial or a major relationship between EI and ability to deal with conflicts in any relationships.
- Achievement at work and enjoyment in life are the two aspects that need to be balanced right. Although most people think that work-life balance is something that an organization needs to provide them with, it actually is the individual's ability to understand and sort his priorities based on the situations and devote equal time and importance to both personal and professional life. He needs to enjoy with his family and enjoy his work life as well, which would mean healthier mind and a better work-life balance. (**Voydanoff, 2004**). There can be various reasons for stress but the main reason for it still remains work. The theories relating to work life balance deal with the concept of boundary-spanning resources and stress and strain in the family life (Patterson, 2002). Work place related stress theories focus on many aspects like organizational environment, work stress, interpersonal relationships. The Border theory states that although work and family influence each other, they are different entities. According to **Desrochers and Sargent** "the central proposition of border theory is that integrating work and family facilitates transitions between these domains" (**Desrochers and Sargent, 2004**). Due to industrialization and modernization, both the partners prefer working now. Studies tried to find out the reasons of conflict reductions between work place and home. It was often seen that the workplace conflicts and stress brought about conflicts in personal life and vice versa. This is because one entity has a spilled over effect on the other and both are affected due to each other. (**Rossi, Quick and Perrewe, 2009**). Studies have found out that stress can be reduced considerably if one has less work-related conflicts and has a better work-life balance. This means equal time and importance to work and family, which promotes happy and a healthy life.

Hypothesis

H0: Emotional Intelligence means better couple relationship which in turn results in a better work- life balance.

H1: Emotional Intelligence does not affect couple relationship and does not contribute to a better work- life balance.

Objectives of the research

The objectives of the research are as follows-

1. Identify the relationship between Emotional Intelligence and Romantic Relationships.
2. Identify how better couple relationship contributes to a better work-life balance.

Research Methodology

The study is descriptive in nature. Both **primary and secondary data** have been used in the research. A structured Questionnaire was made and circulated to people who are married and both the partners are working. The sample size is 50. The first few questions were personal in nature i.e. Designation of the person, age, occupation, gender. The rest of the questions focus on their personal and professional work life, and how emotional intelligence impacts it. The questionnaire was prepared using Google forms and circulated.

Link to the Questionnaire

<https://docs.google.com/forms/d/1tS7ld7a22haoLDmSrWFtpwxyVDYJoXKWC30cYmS1fYA/>

Inference and Conclusion of Research

The research survey was conducted amongst a group of 50 people who are married and working. The average age is found out to be between 33-38 years.

The Results of the Research are as Follows

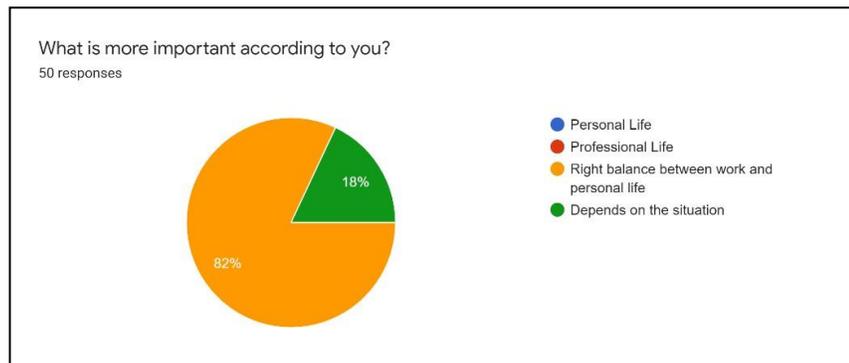


Figure i: Personal vs Professional Life

Out of 50 respondents, 41 respondents feel that work-life balance is more important while 9 respondents say that based on the situation, they decide which on is more important, work life or personal life.

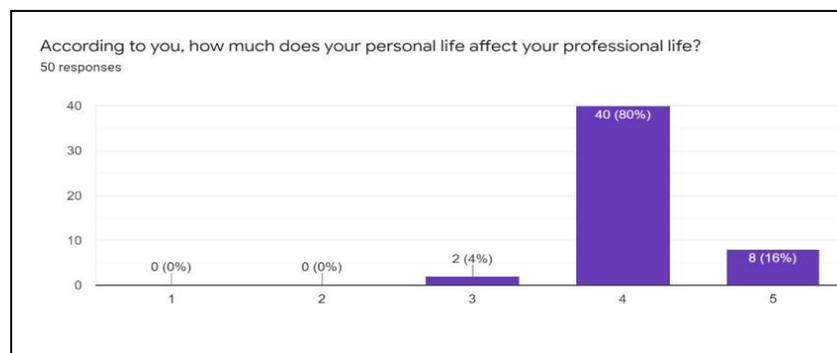


Figure ii: Effects of personal life on professional life

Both personal and professional life affect each other, when the respondents were asked if their personal life had an effect on their professional life and rate how much it affects the professional life, majority of the respondents (40 out of 50) stated that it has a high effect while 8 out of 50 respondents state that it has the highest effect.

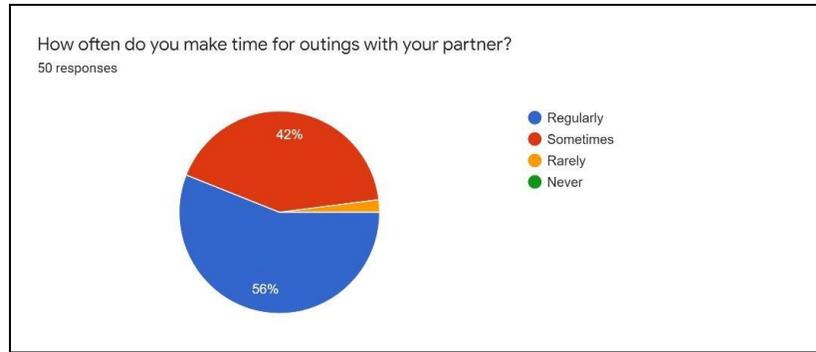


Figure iii: Outings with partner

It is necessary to often take a break from work and spend time with your partner. As per the survey, majority of the respondents (28 out of 50) prefer to go on vacations regularly while 21 out of 50 respondents plan out vacations once in a year or so.

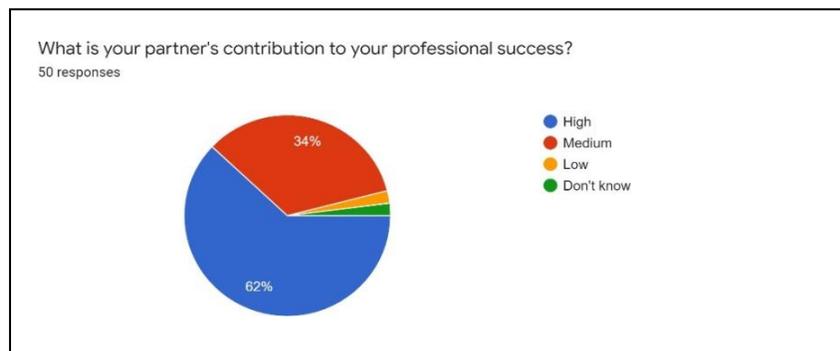


Figure iv: Partner's contribution to professional success

Directly or indirectly, the effect of personal life is seen in professional life. When asked, 62% of the respondents have said that their partner’s contribution to their professional success is high while 34% of the respondents say that their partner has some effect (medium effect) in their professional life.

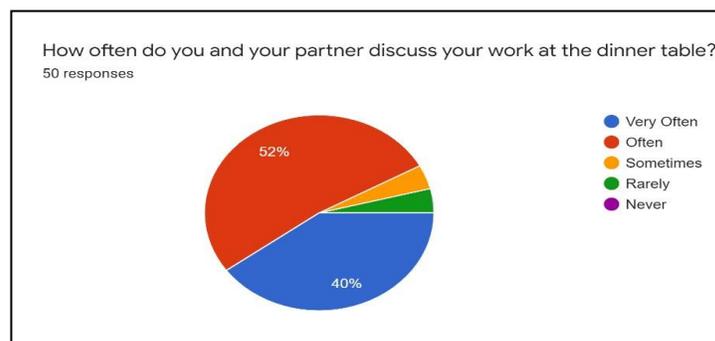


Figure v: Discussing work on dinner table

It is seen that often work issues and work discussions are brought to dinner table. When asked about it, it can be seen that majority of the respondents i.e. 26 respondents have said that they often discuss work and 20 have said that they “very often” discuss work.

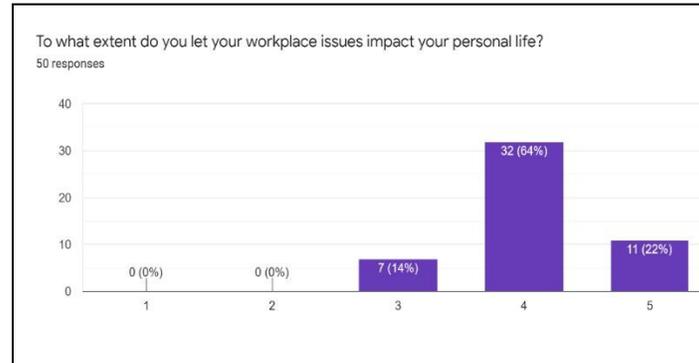


Figure vi: Professional life affecting personal life

It can be seen from the *Figure vi* that workplace issues have a major impact on personal life of the respondents. Maintaining a good work-life balance could be one solution to not let personal and professional life affect each other.

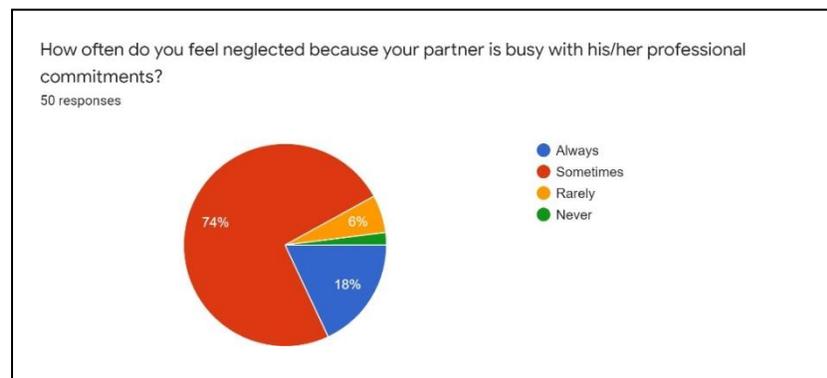


Figure vii: Neglected due to busy work life of partner

The basic expectation of every partner in any relationship is spending quality time with their significant other. Often it is seen that people carry work home which reduces such quality time. According to the responses, it can be seen that when the partner is busy, 74% of the partners' feel neglected sometimes while 18% always feel neglected.

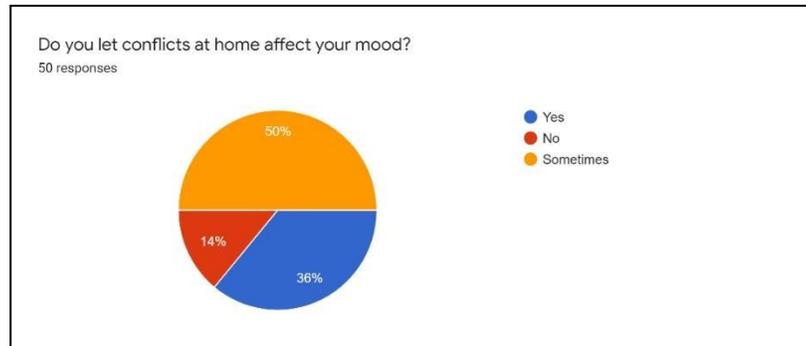


Figure viii: Conflicts at home affect mood

Conflicts between the partners are a major reason that affects the mood of the employees. 50% of the respondents have said that their mood is sometimes affected by conflicts at home and 36% of the respondents have said that it always affects them and their mood which in turn has a negative impact on work.

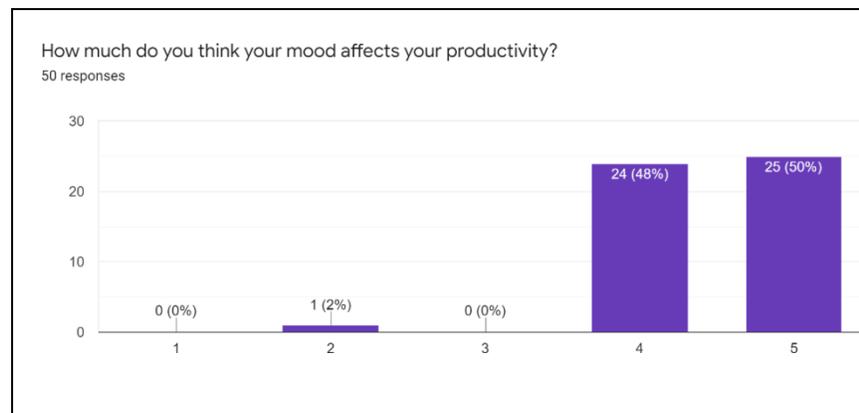


Figure ix: Mood affects productivity

The mood of the employees affects their productivity as they tend to work lesser efficient when they are stressed due to various reasons. As per the diagram, 98% of the respondents have agreed that their mood affects their work productivity.

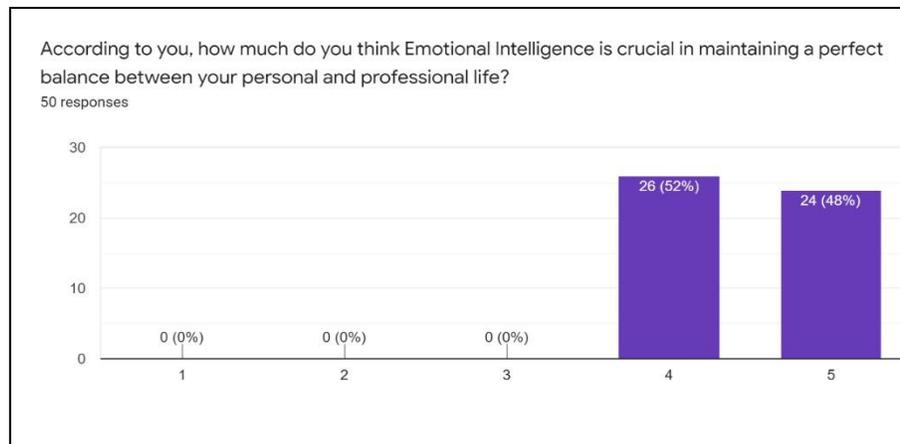


Figure x: Emotional Intelligence and work-life balance of couples

Emotional Intelligence is understanding oneself as well as others. In order to maintain healthy couple relation as well as maintain a proper work-life balance, emotional intelligence is very crucial. 100% of the respondents have agreed to this and it can be seen from the above figure.

Inferences

As per the survey, it is seen that personal life has a direct impact on one's professional life. It is always better to maintain a healthy work-life balance. Being Emotionally Intelligent can help maintain healthy personal relationship, as well as increase work productivity.

Emotionally intelligent couples are-

1. Vocal about their emotions.
2. Don't hide their emotions
3. Look for self-development and are self-aware
4. They are empathetic
5. They try to resolve conflicts by talking and discussing about the problems rather than avoiding it.
6. They think for themselves as well as their partners so that their relationship works out.

All of these are the signs of emotional intelligence. Emotional Intelligence impacts all relationships and is important to maintain healthy, long term and favorable relations that help in personal growth.

Emotionally Intelligent employees are-

- 1) Well aware of their duties and know what is expected out of them
- 2) They work well under stress
- 3) They know the importance of work-life balance and do not let personal and professional life crossover or affect each other.

Conclusion and Recommendations

In order to build and maintain relationships especially Romantic relationships, it is every essential for the partners' to be aware of themselves, their expectations from the relationship, focus on the emotions and resolve conflicts not be ignoring the problems but by understanding why a problem has occurred and find out the solutions for the problems that wouldn't cost the happiness of either of the partners' involved in the relationship.

A happy couple-relationship contributes to better work focus which in turn improves the efficiency.

The Global Business future looks like a one that is more competitive yet the one in which employees are more dedicated and determined but also know the importance of a healthy work-life balance and so they would look and focus more on the quality of their work rather than over-work and not attain useful results.

From the survey some suggestions are- As an organization-

- 1) Focus on the employees and communicate to them what is to be done on a regular basis.
- 2) Ensure they get regular holidays which would help productivity.
- 3) Arrange outdoor trainings and picnics wherein the employees can bring their families along.
- 4) Acknowledge and appreciate the employees regularly
- 5) Focus on mental wellness of the employees

- 6) Hire an in-house counselor to ensure the employees have someone to talk to vent out their concerns be it personal or professional.

For better couple relationship-

- 7) Make sure you don't carry your work home and don't have work conversations at the dinner table.
- 8) Take a break from work and go on regular outings
- 9) Support your partner and always help each other grow
- 10) Don't mix your professional and personal problems
- 11) Communicate and share everything with your partner and similarly hear her out actively.

H0 is proved to be true as per the research and the results are evident. Emotional Intelligence places a very crucial role in shaping the relationships, nurturing it and helping it grow in the right direction. As per research it is seen that when the partners' in the relationship are emotionally intelligent, half of the conflicts are resolved easily, the relationship doesn't come to a point of stagnation and there is constant growth. This in turn is a factor that increases employee's productivity in the organization and contributes to a healthy work-life balance.

References

- Ahmetoglu, G., Leutner, F., & Chamorro-Premuzic, T. (2011). EQ-nomics: Understanding the relationship between individual differences in trait emotional intelligence and entrepreneurship. *Personality and Individual Differences*, 51(8), 1028- 1033. Doi
- Brotheridge, C. M., & Lee, R. T. (2008). The emotions of managing: An introduction to the special issue. *Journal of Managerial Psychology*, 23(2), 108-117.
- Brackett, M. A., Mayer, J. D., & Warner, R. M. (2004). Emotional intelligence and its relation to everyday behaviour. *Personality and Individual Differences*, 36, 1387-1402.

- Gottman, J. M. (1982). Emotional responsiveness in marital conversations. *Journal of Communication*, 32, 108–120.
https://www.researchgate.net/publication/247685654_Emotional_Intelligence_and_Relationship_Quality_Among_Couples
- Lopes, P. N., Brackett, M. A., Nezlek, J., Schu'tz, A., Sellin, I., & Salovey, P. (2004). Emotional intelligence and social interaction. *Personality and Social Psychology Bulletin*, 30, 1018–1034.
- Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Differences*, 35, 641–655.
- Desrochers, S., & Sargent, L. D. (2004). Boundary/border theory and work-family integration. *Organization Management Journal*, 1(1), 40-48.
- Glencoe, IL: The Free Press. Sources on work-to-family conflict and facilitation. *Journal of Marriage and Family*, 66(2), 398-412.
- Mennino, S. F., Rubin, B. A., & Brayfield, A. (2005). Home-to-job and job-to-home spillover: The impact of company policies and workplace culture, *The Sociological Quarterly*, 46(1), 107

Causal Relationship Between Macro-Economic Variables and the Indian Stock Market

*IIBM's Journal of Management Research**Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)**DOI : 10.33771/iibm.v5i1-2.1223***Hetal Chauhan**Student, GNVS Institute of Management, Mumbai

Abstract

In this research paper, attempt has been made to explore the causal relationship between Indian stock market i.e. SENSEX and five macro economic variables of the Indian economy by using correlation, unit root test , descriptive statistics , regression and Granger causality test. Quarterly data has been used from the quarter beginning April 2000 to quarter ended September 2019 for all the variables which are BSE Sensex, exchange rate (IND/USD), inflation rate, FDI, interest rate and unemployment rate. The regression analysis show us that only exchange rate is a significant indicator of Sensex while the results of Granger causality test indicated that only FDI has a bilateral causal relationship with Sensex and hence FDI results can be used to predict changes in Sensex.

Introduction

Stock markets play a vital role in growing industries and commerce of a country that eventually affect the economy. Their importance has been well acknowledged in industries and by investors. Unlike mature stock markets of advanced countries, the stock markets of emerging economies began to develop rapidly only in the last two and half decades. While there have been numerous attempts to develop and stabilize the stock markets, the emerging economies are characterized as the most volatile stock markets (Engel and Rangel, 2005). Moreover, the stock markets of emerging economies are likely to be sensitive to factors such as changes in the level of economic activities, changes in the political and international economic environment and also related to the changes in other macroeconomic factors. There is a long term relationship between stock market and the macroeconomic variables. The impact of exchange rate on stock price depends on a nation's international trade as well as the degree of the trade balance. Depreciation of a domestic currency against a foreign currency increase return on foreign currency and

encourages the investor to shift fund from domestic assets (stocks) toward foreign currency assets therefore depressing stock price in home country. An appreciation of a domestic currency lowers the competitiveness (firm value) of exporting firms and may negatively affects the stock prices. On the other hand if the country is import dominant, the exchange rate appreciation reduces import costs and generates a positive impact on domestic stock price.

The impact of inflation on stock price is empirically mixed. Some researchers found negative correlation between inflation and stock price. Their explanation for the negative coefficient is based on Fama's proxy effect. According to Fama (1981), the real activity is positively associated with the stock return but negatively associated with inflation through the money demand theory; therefore, stock return will be negatively influenced by inflation. However, the previous studies also found a positive relationship between inflation and stock return (e.g. Ratanapakorn and Sharma, 2007) suggesting that equity act as a hedge against inflation. The relationship between interest rate and stock price can be explained as the following ways. When the companies finance their capital equipment and inventories through borrowings, a reduction of interest rate means the cost of borrowing is decreased. This may serve as an incentive for expansion via the increased investment capacity of the companies which in turn increase their stock prices. When a substantial amount of stocks are purchased with borrowed money, an increase in interest rate would make stock transaction more costly. Investors will expect a higher rate of return before investing which results the demand to fall and hence leads to price depreciation.

Review of Literature

“Macroeconomic variables and stock market Interactions: New Zealand evidence”, Minsoo Lee (2006)

This paper had the objective of examining the relationships between the New Zealand Stock Index and a set of seven macroeconomic variables using the Johansen Maximum Likelihood and Granger-causality tests to determine whether the New Zealand Stock Index is a leading indicator for macroeconomic variables. This paper also investigates the short run dynamic linkages between NZSE40 and macroeconomic variables using innovation accounting analyses. The result of the study indicates that the NZSE40 is consistently determined by the interest rate, money supply and real GDP and there is no evidence that the New Zealand Stock Index is a leading indicator for changes in macroeconomic variables.

“The impact of Macroeconomic Fundamentals on Stock Prices revisited: An Evidence from Indian Data”, Pramod Kumar Naik & Puja Padhi (2012)

This paper investigates the relationships between the Indian stock market index (BSE Sensex) and five macroeconomic variables, namely, industrial production index, wholesale price index, money supply, treasury bills rates and exchange rates. Johansen’s co-integration and vector error correction model were applied to explore the long-run equilibrium relationship between stock market index and macroeconomic variables. The analysis reveals that macroeconomic variables and the stock market index are co-integrated and, hence, a long-run equilibrium relationship exists between them.

“Macroeconomic variables and the performance of the Indian stock market”, Atsuyuki Naka, Tarun Mukherjee, David Tufte (1998)

This paper had the objective to analyze relationships among selected macroeconomic variables and the Indian stock market where the researcher used vector error correction model. The study shows that domestic inflation is the most severe deterrent to Indian stock market performance, and domestic output growth is its predominant driving force.

“The Role of Macroeconomic Variables on Stock Market Index in China and India.”, Seyed Mehdi Hosseini, Zamri Ahmad, Yew Wah Lai (2011)

This paper had the objective of investigating the relationships between stock market indices and four macroeconomics variables, namely crude oil price (COP), money supply (M2), industrial production (IP) and inflation rate (IR) in China and India and it used the Augmented Dickey- Fuller unit root test, Johansen-Juselius, Multivariate Cointegration and Vector Error Correction Model technique. The study indicated that there are both long and short run linkages between macroeconomic variable and stock market index in each of these two countries.

“Causal Relationship between Macro-Economic Indicators and Stock Market in India.”, Dr. Naliniprava Tripathy (2011)

The study had the objective of investigating the market efficiency and causal relationship between selected Macroeconomic variables and the Indian stock market and it used Ljung-Box Q test, Breusch-Godfrey LM test, Unit Root test, Granger Causality test. The study confirms the presence of

autocorrelation in the Indian stock market and macro economic variables. Further the Granger-causality test shows evidence of bidirectional relationship between interest rate and stock market, exchange rate and stock market, international stock market and BSE volume, exchange rate and BSE volume.

“Causal Relationship Between Macro-Economic Variables and Stock Market: A Case Study for India”, Dharmendra Singh (2010)

The objective of the study was to calculate correlation and causality between the stock market index SENSEX and macro-economic variables, and to shed light on the nature of causal relationship that exists between the stock market and macro-economic variables, as well as explore that to what degree the two cause each other. To analyze the unit root test and the granger-causality test were conducted. The study shows that the index of industrial production (IIP) is the only variable having bilateral causal relationship with BSE Sensex. Wholesale price index(WPI) is having strong correlation with Sensex but it is having unilateral causality with BSE Sensex. Therefore, the study concluded that, Indian stock market is approaching towards informational efficiency at least with respect to two macroeconomic variables, viz. exchange rate and inflation (WPI).

Objectives of the study

1. To calculate the correlation and causality, if any, between the stock market index SENSEX and macro-economic variables.
2. To shed light on the nature of causal relationship that exists between the stock market and Macro-economic variables.
3. To explore that to what degree the two, stock market and macroeconomic variables cause each other.

Research methodology and Data source

The study uses the quarterly data for a period of 78 quarters beginning from April, 2000 to the quarter ended September, 2019. The data collected was secondary data which was collected from sources like investing.com, yahoo finance and various other reliable sources. For the study 5 macro-economic variables were selected namely, Exchange rate (USD), Inflation rate, FDI, Interest rate and unemployment rate. To fulfill the objectives different analysis were conducted like correlation, regression, Descriptive statistics, Unit root test and Granger causality test.

Tools for Analysis

1. Descriptive statistics
2. Unit roottest
3. Correlation
4. Regression
5. Granger Causality

Descriptive Statistics

Particulars	Sensex	Exchange rate	FDI	Inflation	Interest rate	Unemployment rate
Mean	3.624293	0.649782973	1.895986	0.096659	0.245820128	-0.080716822
Standard Deviation	14.77541	2.518563423	7.110116	7.816816	7.87639238	1.511030653

Interpretation

The average return on Sensex is 3.624% while the average return on exchange rate is much lesser which is 0.649%. The average unemployment rate is negative this indicates that there are more no. of unemployed people in India. The variance level was at an acceptable level of risk for all the variables which were considered in the study.

Unit roottest

Particulars	At level	Difference
Stock market	-56.434 (0.001)	-8.08 (0.64)
Exchange rate	-84.66 (0.01)	-3.54 (0.91)
FDI	-101.84 (0.01)	84.67 (0.01)
Inflation rate	-11.98 (0.40)	-75.19 (0.01)
Interest rate	-11.87 (0.41)	-86.46 (0.01)
Unemployment rate	-7.72 (0.66)	-17.34 (0.09)

Interpretation

The financial time series have to become stationery only then other analysis can be conducted. In this case, Sensex , exchange rate and FDI all the three variables are stationary at level where as inflation , interest rate and unemployment rate were differenced and then they became stationary. This was done by Phillips-Perron unit tests.

Correlation

	<i>Sensex</i>	<i>Exchange Rate</i>	<i>FDI</i>	<i>Inflation</i>	<i>Interest rate</i>	<i>Unemployment rate</i>
<i>Sensex</i>	1					
<i>Exchange rate</i>	-0.2281	1				
<i>FDI</i>	-0.13032	-0.02585	1			
<i>Inflation</i>	0.105652	-0.10592	0.163341	1		
<i>Interest rate</i>	0.044489	-0.21076	-0.02854	0.031217	1	
<i>Unemployment rate</i>	-0.14889	0.075446	0.107128	-0.00259	0.043283	1

Interpretation

The correlation between Sensex and macro-economic variables exchange rate, FDI, unemployment rate is negative which indicates that there is an inverse relationship between Sensex and the variables. An inverse relationship indicates that they move in opposite directions. While the correlation between Sensex and macro-economic variables; inflation rate and interest rate is positive indicating a positive relationship thus showing that they move in the same direction.

Regression Analysis

Summary output

<i>Regression Statistics</i>	
Multiple R	0.308684
R Square	0.095286
Adjusted R Square	0.032458
Standard Error	14.53364
Observations	78

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	5	1601.759	320.35	1.516626	0.031
Residual	72	15208.32	211.23		
Total	77	16810.07			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	4.873885	1.769088	2.755	0.00742	1.347272	8.4004	1.34727	8.40049
X Variable 1	-1.24476	0.67902	-1.833	0.04191	-2.59836	0.1088	-2.59836	0.10884
X Variable 2	-0.29217	0.237794	-1.228	0.2232	-0.7662	0.1818	-0.7662	0.18186
X Variable 3	0.200204	0.215964	0.927	0.35701	-0.23031	0.6307	-0.23031	0.63071
X Variable 4	-0.00462	0.215726	-0.021	0.98296	-0.43467	0.4254	-0.43467	0.42541
X Variable 5	-1.14833	1.108328	-1.036	0.30362	-3.35774	1.0610	-3.35774	1.06108

Interpretation

In the above table, it is observed that the P value is 0.04191 for variable 1 i.e Exchange rate this indicates that the exchange rate does impact the stock market performance.

While the P value for all the other variables which are FDI, inflation rate, interest rate, unemployment rate, is more than 0.05 which indicates that these variables are not significant indicators of Sensex.

The Anova significance value is 0.031 which is less than 0.05 this shows that this model is significant.

The Adjusted R square is 0.0324 i.e 3.24%, this indicates that Sensex is influenced by the independent macro variables by 3.24%.

Granger Causality Test

Particulars	F Statistics	Probability
Stock Market does not Granger cause Exchange rate	0.7357	0.66
Exchange rate does not Granger cause Stock market	1.27	0.27
FDI does not Granger cause Stock market	1.93	0.07*
Stock Market does not Granger cause FDI	2.22	0.04*
Stock market does not granger cause Inflation rate	0.64	0.73
Stock market does not Granger cause Interest rate	0.16	0.99
Stock market does not Granger cause unemployment rate	0.44	0.86
Inflation rate does not Granger cause stock market	0.55	0.81
Interest rate does not Granger cause stock market	0.25	0.97
Unemployment rate does not Granger cause stock market	4.06	0.83

Interpretation

The Granger causality test indicates cause and effect relationship. The analysis indicates that FDI and Sensex have shown significant Granger Cause with a probability of 0.07. This means that an increase and decrease in FDI has a significant impact on Sensex performance. The reason being that when there is an increase in FDI inflow this would mean that there is more cash flow in the country which indicates that more money is being invested in the stock market hence leading to a better performance of Sensex.

The probability for Sensex does not Granger cause FDI is 0.04 which is significant and it indicates that an increase or decrease in the performance of Sensex has an impact on the FDI inflows in the country. The reason being that when the stock market is performing well it would attract more FDI in the country. And when the stock market does not perform well it would discourage foreign investors to invest in our country hence leading to have a significant impact on the FDI inflows in India.

Conclusion

The aim of the research is to find out and study the causal relationship between Sensex and five macroeconomic variables in the Indian economy. The analysis shows that there is a negative correlation

between Sensex and exchange rate, FDI and unemployment indicating an inverse relationship between them. Sensex and inflation rate, interest rate has a positive relationship indicating they move in the same direction. The regression analysis shows us that except exchange rate no other macroeconomic variable is a significant indicator of Sensex. But the granger causality test varies, it shows us that out of all the five macroeconomic variables only FDI granger cause Sensex and also Sensex granger cause FDI which indicates that any change in the FDI causes changes in Sensex and vice versa. As observed there is a bilateral causal relationship only between Sensex and FDI. This means that of all the variables selected only the FDI results can be used to predict the changes in the stock market.

References

- Amadi S N, Odubo TD 2002. Macroeconomic variables and stock prices: Causality analysis. *The Nigeria J of Economic and Management Studies*, 4(1 and 2): 29-41.
- Aylward, A. and Glen, J. (2000). Some International Evidence on Stock Price as leading indicators of Economic Activity, *Applied Financial Economics*, 10(1): 1-14.
- Brooks. C. (2002). *Introductory Econometrics for Finance*, 2nd Edition, Cambridge University Press.
- Chen, Nai-Fu (1991). Financial Investment Opportunities and the Macro economy. *Journal of Finance*, 46, 529-554.
- Cooper, R. 1974. Efficient capital markets and the quantity theory of money. *Journal of Finance* 29(3): 887-908.
- Sarkar, P. (2005). *Stock Market, Capital Accumulation and Growth in India since 1950*, SSRN.

Strategizing Risk Management for Achieving Business Sustainability

Indranil Ghosh

Director, Learners & Winners Training Consultancy
Pvt. Ltd.

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1224

Abstract

For achieving business sustainability, the foundation of the business has to be made rock solid with Profit, People and Planet (3P). Hence, the concept of sustainability shall be included in the Business strategy. The convenient way for this could have been sincere implementation of ISO systems like ISO9001 for Quality, ISO 45001:2018 for Health & Safety and ISO 14001:2015. However, inadequate and non-sincere methods of ISO certification have resulted into niche focus on sustainability.

Business sustainability is largely dependent on the right & adequate Risk Assessment and stringent adaptation of Risk Mitigation measures. This paper stresses the importance of inclusion sustainability approach during the business strategy formation and percolating it down to the rank & file level to effectively mitigating the HSE risk. It also discusses a framework that may be initiated in the organization for this purpose.

The author, based on his study and experience, has developed one low-cost generic, fairly simple and straightforward tool named as “Winners’ Sustainability Model” that would help the organization to achieve a high level of sustainability.

In this paper, the author has tried to figure out how inadequate or absence of Risk Assessment leads to accidents and disasters, which may result even into business closure. Focused attention towards sustainability shall be considered as a proven option. A few organizations have already incorporated the Sustainability Frame work in their business strategy, which are then percolated as lead & lag measurement parameters in the corporate Balance Score Card or unit level SMART objectives and even upto KRA & KPI of the individuals. Training is then given to the associates to implement the protocol points of the frame work. An audit or assessment is conducted by a third party and the organization is then assessed for its sustainability performance and a score in form of Organizational Sustainability Index is given.

Introduction

Business sustainability is essential component for the sustainable profit generation and long-term prosperity of the organization. Sustainability principles are to provide maximize the business opportunities with minimum negative impact the environment, communities and economies in places where the business operates. For developing a Business Strategy, an eye towards business sustainability is something, which is always desired entity yet often ignored, *as profit making* is more luring.

The concept of sustainability is composed of three pillars: **Economic, Environmental, and Social**—also known informally as **Profits, Planet, and People** or **3Ps**. This gives a frame worked called '**Triple Bottom Line**'. However, in this paper, we will discuss only about **PEOPLE**.



Figure 1:
Sustainable Business Pyramid, whose base is 3P (profit, Planet & People) reflected as Quality, Environment and Health & Safety

For achieving business sustainability, the foundation of the business has to be made rock solid; of which Profit, People and Planet (3P) are fundamental aspects. Hence, the development of business strategy shall be with a balanced focus on 3P.

The convenient way may be sincere implementation of ISO systems, commonly known as Integrated Management Systems consisting of ISO9001:2015 (Quality Management System), ISO45001:2018 (OHSMS) and ISO 14001:2015 (Environment Management System). We may also include ISO 26001 (Social Responsibility) to this triad.

Risk Management is one of the important aspects, which shall be looked into not only for the safety of its employees but also as a social commitment towards the welfare of people.

Strategizing Business Sustainability

Strategizing Business Sustainability with the inclusion of Risk Management approach is a proven technique for achieving high level of safety. We developed a frame work for assessing the sustainability of the organization with a focus on the intersection of environmental, social/cultural and economic systems through the lenses of the sciences, social sciences and humanities. We named it “**Winners’ Sustainability Model**”, which is one such low-cost generic model that helps the organization to achieve a high level of sustainability.

The objective of the Winners’ Sustainability Model is to produce a fairly simple and straightforward tool that they could enhance business sustainability considerably. One of the major strengths of this model is that it is quite compact and focused, while still maintaining the depth of sustainability issues and coverage of both human and ecosystem dimensions along with the organization work method and system improvement. Assessment questions are slightly skewed towards health, safety, environmental and human issues along with addressing of the system and managerial effectiveness.

Winners’ Sustainability Model

The model has been made with input taking from various ISO standards, Indian Factories Act, Indian Boilers Act, Static & Mobile Pressure Vessel Act Indian Electricity Act/Rules, various IS standards including IS 14489: 1998, Other Applicable Rules & Regulations, Best Industry Practices etc. However, it may be customized based on the nature, corporate requirements and QHSE & CSR Policy of the auditee organization.



Figure 2:

Strategy for Sustainable Business should start with an assessment study. Further action will depend upon the assessment findings

The Application of the Winners' Sustainability Model shall follow the following important steps:

1. The model is incorporated from the Strategy Development phase itself. Considering the model as a framework, the management of the organization and the assessors agree on a protocol. The protocol points become the parts of the business strategy.
2. The next step is the deployment of strategy. The organization ensures implementation of the protocol points with sanctity.
3. Third major step is assessment or audit. The protocol is used to pinpoint the positioning of the organization for the sustainability parse. The assessment report will contain the following:

S – Strength; **C** – Conformity; **OFI** – Opportunities for Improvement; **NC** – Non-Conformity
 Impact Level of the Non-Conformities as **“High”**, **“Medium”** & **“Low”**
 and
 NC closure activities as **“Easy”** and **“Difficult”**

4. After this, the organization may even go for a compliance audit/assessment
5. There may be possible benchmarks of performance for each of the categories included in the framework.

The modules

The framework of the Winners' Sustainability Model is divided into 10 (ten) distinctive Non-finance Modules. The Modules of the Model (or Framework) are as follows:

- Module 1 - Leadership & Governance (L&G)
- Module 2 - Legal & Regulatory Requirements / Compliance (C)
- **Module 3 - Risk Assessment (RA)**
- Module 4 - Work & Organization Management (WM)
- Module 5 - Occupational Safety (OS)

It is further sub-divided into a few sections:

- Electrical Safety (ES)
- Fire Safety (FS)
- Mechanical Safety (MS) – Physical Hazard
- Chemical Safety (MS)
- General Safety (GS) etc.
- Module 6 - People's Competency / Learning & Development (L&D)
- Module 7 – Human Focus
- Module 8 – Environment
- Module 9 - Corporate Social Responsibility (CSR)
- Module 10 – Operational & Business Excellence

Risk Assessment (RA)

Quality risks are the potential failure to meet key stakeholders' expectations. To deliver high quality products and services in sustainable way, the organization must identify current and future stakeholder expectations, and ensure it has the capability to meet them at all times.

Employees must have a good awareness of risk at all times. Risk Based Thinking is one of the prime elements of the business and the most probable prerequisites for the proper Risk Assessment. Risk-based thinking is now essential for achieving an effective quality management system. All the standards require the organization to plan and implement actions to address risks and opportunities. The organization is responsible for deciding which risks and opportunities need to be addressed. The results of the risk-based thinking process should be direct input into the PDCA (Plan-Do-Check-Act) process.

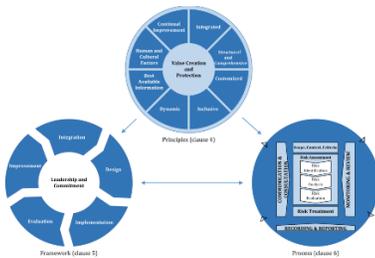


Figure 3:

Principles, framework and process of RA

Organizations of all types and sizes face external and internal factors and influences that make it uncertain whether they will achieve their objectives. Managing risk is iterative and assists organizations in setting strategy, achieving objectives and making informed decisions. Managing risk is part of governance and leadership, and is fundamental to how the organization is.

Avoiding risk is nothing but missing out opportunity. However, the risk shall be as low as reasonably practical (ALARP). There are both Quantitative as well as Qualitative Risk Assessment techniques e.g. HIRA (Hazard Identification & Risk Assessment), HAZOP (Hazard & Operability Study), What If, JSA (Job Safety Analysis), ETA (Event Tree Analysis), FTA (Fault Tree Analysis), FMEA (Failure Mode Effect Analysis) etc. Selection of right Risk Assessment technique is dependent on various factors like size, nature, complexity etc.

For the Principles and Guidelines of the Risk Management, ISO 31000 may be referred. The international risk management standard (ISO 31000) has a different definition of risk than the financial risk management - Risk is the effect of uncertainty on objectives. ISO 31000 provides a good framework

for embedding sustainability into the core business no matter what sector or size of the business. HIRA is one of the popular Qualitative Risk Assessment techniques used for sustainability assessment.

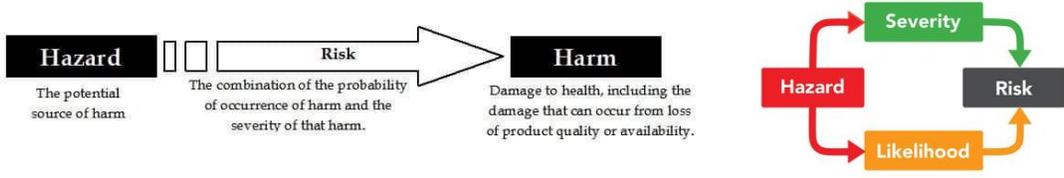


Figure 4:

Risk = Probability X Severity

Risk Management is to ensure minimization of harm due to the hazard

Risk Mitigation Measures

Elimination

e.g. Eliminate the use of extension cords with properly laid wiring

Substitution

e.g. Replace the ordinary tools by double insulated tools

Engineering Control

e.g. Isolate/ guard the exposed electrical parts

Administrative Control

e.g. Work instructions, safety instructions, etc.

Personal Protective Equipment (PPE)

e.g. Wearing Safety Helmet, electrical hand gloves, safety shoes, etc.

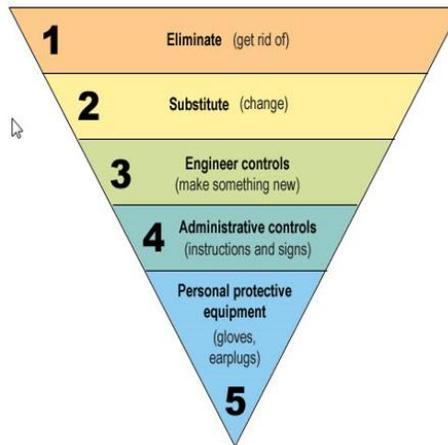


Figure 5:

Determine Control Measures in the order of following hierarchy and establish controls

Please find below a sample HIRA template:

Sr. No.	JOB/Task/Activity	Hazard related to the Activity	Risk involved with the Hazard	Existing Control applied to mitigate the risk	Likelihood / Probability of the occurrence	Severity	Existing RPN (= Likelihood X Severity)	Risk Level – High/Medium/Low	Proposed Control	Revised Likelihood	Revised Severity	Revised RPN	Revised Risk Level – High/Medium/Low	Remarks /Action Plan

Case Studies – Accidents due to poor or no Risk Assessment

Many disasters happen due to improper risk assessment. Let me share two case studies here. In both the cases accidents could have been averted if appropriate risk assessment would have been taken.

Case Study No. 1: Fatal Flashover Accident

- **Site Location:**

Metro Railway Project at one of the metro cities

- **The accident:**

Commissioning of 25kV outdoor switchyard with single pole breaker, Ref. the Fig 6 (a) &6 (b), was going on. The commissioning team found that one of the six circuit breakers took more than usual time to close & trip. The OEM was called to look into. The site in-charge after instructing the OEM's persons to check & rectify the faulty breaker left for another site. The OEM's persons finished the job and on the verge of leaving. Another person (not the site in-charge) came with another set of instruction to check all other breakers as well. One of the OEM's persons climbed a partly energized breaker, which resulted into a fatal accident.

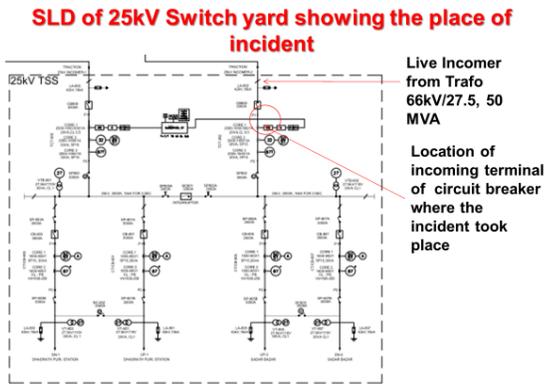


Figure 6 (a):
Single Line Diagram of Metro Sub-station

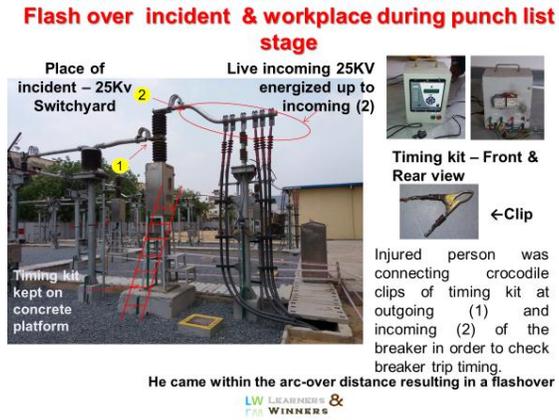


Figure 6 (b):
Post-accident Site location photograph

○ **Investigation:**

The accident, investigated using Swiss-Cheese Model, revealed that the main cause of the accident is no Risk Assessment was carried out for this non-routine activity.

Proper Risk assessment would have highlighted the appropriate control measure to mitigate this risk.

Probable control measures could be use of PTW, LOTO system, TBT, Competency Development, cordoning off the area etc.

(Note - PTW – Permit-To-Work; LOTO – Lock Out Tag Out; TBT – Tool Box Talk)

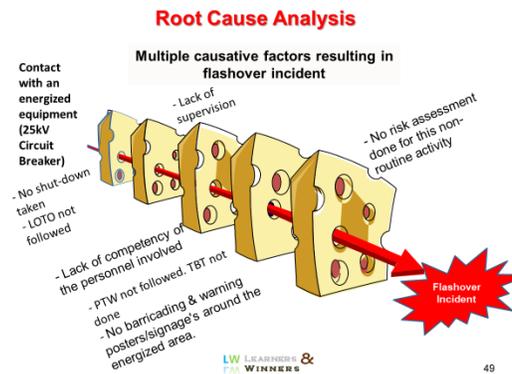


Figure 7:
Accident Analysis to pin point the cause

Case Study No. 2: Flashfire while painting a confined space

- **Site Location:** Cylindrical silo, a confined space, of a plant

- **The accident:**

A team of four workers were roller painting a confined space. The area was illuminated with 24 volts normal electrical lamps.

In the morning of the day of the accident, an entry permit for cleaning and painting work was taken and a gas test was conducted. No flammable or toxic gas was found and the available oxygen was also adequate. However, during the painting, the workers used thinners, paint and hardener causing generation and accumulation of flammable vapors.

A flash fire occurred due to electrical spark from the illumination system. One worker was killed and others got major injuries.

- **Investigation:**

The accident took place as Risk Assessment was not proper. Accumulation of flammable vapors was not perceived. Illumination should have been from flame-proof lighting system.

Case Studies – Accidents resulting into Business closure

In the world, there are many numbers of examples, where man-made disasters due to ignorance and inappropriate risk assessment ended with bad reputation, huge financial burden and even business closure. Here are a few examples:

- IOCL Jaipur fire was the result of ignoring warning signs and apathy. Result Closure of unit and destruction of industries in the neighborhood.
- Chernobyl disaster of Ukraine was result of overconfidence laced with less information, no experience and ego. Damage of International reputation.
- NTPC Unchhar was greed, overconfidence, throwing aside safety precautions and ignoring norms.

- Bhopal Gas tragedy was lack of maintenance, unmindful of non-operating safety devices and sheer callousness. Result business unit closure.

All could have been averted if there would have been adequate, proper, stringent and periodic sustainability assessment

Business Strategy based on Sustainability Framework

Focused attention towards sustainability can be achieved conveniently if a proven sustainability framework is followed. A few organizations have already incorporated the Sustainability Framework in their business strategy, which are then percolated as lead & lag measurement parameters in the corporate Balance Score Card or unit level SMART HSE objectives and even upto KRA & KPI of the individuals covering a wide spectrum of sustainability issues like – Number of GEMBA walk involving Senior Management, HIRA Review & Audit, Awareness level on HSE, Functioning of safety committee, Involvement of associates in HIRA process etc.

Training is given to the associates to implement the protocol points of the framework. An audit or assessment is conducted by a third party and the organization is then assessed for its sustainability performance and a score in form of Organizational Sustainability Index is given. To develop such a sustainability index, various factors critical to the business are considered and the most suitable ones are adopted.

Here is a table that deals with a few typical sample protocol questions related to Risk assessment and their respective scoring pattern:

Protocol questions (Answers must be supported with evidence)	Evidence	S/C/OFI/NC	Impact Level - High/Medium/Low	Implementation - Easy/Difficult	Score	Scoring Guidelines and Remarks
Has the organization defined a structured process for hazard identification and risk assessment on an ongoing basis?			High	Easy	0 or 5	If evidence available, score is 5 or else 0
Does it cover all categories of sources of hazards - people, equipment, environment, materials?			High	Easy	0 to 5	Depending upon of the level of implementation
Do risk management processes cover all routine, non-			Medium	Easy	0 To 5	Depending upon of the level of coverage

routine, normal, abnormal activities in the organization?						
Are hazard identification and risk evaluation conducted process/department wise in detail?			High	Easy	0 to 5	<p>0 - if any critical department/process is left out.</p> <p>1 to 5 – depending upon the coverage</p>
Are risk assessments revisited periodically on fixed dates (at least half yearly), irrespective of whether triggered changes have led to revaluation?			Medium	Easy	0 or 5	<p>0 – for no review;</p> <p>If evidence available, score is 5</p>
Does risk assessment have participation of relevant			Medium	Easy	0 To	<p>0 - if the most sought expertise is left out.</p>

personnel with expertise from each area to identify the hazards, included?					5	1 to 5 – depending upon the participation
Is the HIRA process effectively implemented in all Areas? Are HIRA conducted for the area adequate and controls implemented and effective?			High	Difficult	0 to 10	Scoring shall be judicially done depending upon Potential Fatality, Legal / Statutory Compliance Risk
Does the organization report formally all high risks to the Top Management/C EO/ Director?			Low	Easy	0 or 5	If yes 5 ; If no 0 <i>Also 0 in case of selective reporting</i>
Is the hierarchy of control adequately			Medium	Difficult		0 for no control 1 if Administrative

considered in the HIRA process?					Control and PPE are used 2 for engineering control 3,4,&5 – for elimination and substitution
---------------------------------	--	--	--	--	--

References

This paper has been written based on the author’s experience gained while assessing and providing management consultancy to various organization. Hence, no specific reference can be given. However, ISO 31000:2018(E) – Risk Assessment Guidelines and IEC 31010, Risk management — Risk assessment techniques may be referred to know more about the Risk Assessment.

Impact of Social Cause Advertising on Society

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1225

Kshamata Sachin Lad

Assistant Professor, BMS

K. J. Somaiya College of Arts and Commerce,

Vidyavihar.

Abstract

Advertising has always been an important, mainstream tool to showcase the commercial aspects of a product. An offshoot of one of the components of the marketing mix, it has traditionally been directly incorporated by marketers for generating sales. However, advertising can also be a potent tool for creating awareness of social issues. Like most societies across the globe, India too is subject to certain social evils. This has been amply made clear by numerous news reports. Advertising can also be used as a means to achieve positive social implications and advertisers have been trying to do so for many years. This paper aims at understanding the impact of advertising done for awareness of social causes and creating a platform for development of society through social awakening. For research purposes, the paper will highlight domestic violence, female infanticide and sanitation. The research methodology includes conducting a close-ended questionnaire survey on respondents selected by simple random sampling. The questionnaire includes Likert, Ordinal Rating, Dichotomous questions and one descriptive question for the researcher to understand the impact generated by advertising of social cause. The conclusion attempts to explore the importance of advertising in highlighting and addressing the social causes.

Key words: *Social Cause, advertising*

Objective of the Research: The Research aims at analyzing the presence of social cause advertising in the minds of viewers. It will also analyze the various forms in which social issues can be addressed at a spatial level. It envisions to address the issue of reach of the social cause advertising.

Introduction

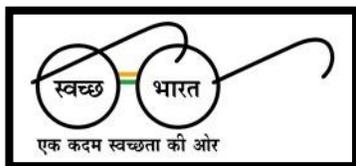
Social cause advertising is the use of advertising to inform the public about a social issue or to influence their behavior. While social advertising campaigns are often successful in raising awareness, they are typically unsuccessful in producing long-term behavior change of the type that can be achieved through the use of social marketing. Social advertising may, however, form a part of a social marketing intervention. Social advertising makes people understand what the government does. Now a days we find a lot of advertisements with a social message i.e. conveying a social message of creating awareness among the masses of India about key issues which are of prime importance and act as a democratic right to the common man. Corporates get involved in doing this to ensure their Corporate Social Responsibility and thus it helps the social issue to get highlighted at a mass level.

Research paper focuses on following issues:

1. Save Girl Child



The Beti Bachao Beti Padhao (BBBP) is a government initiative which works on sensitizing the gender imbalance and issues associated with female foeticide and promoting education to girls. It has two major components. i) Mass Communication Campaign and ii) Multi-sectoral action in 100 selected districts (as a pilot) with adverse CSR, covering all States and UTs .Mass Communication Campaign aims at ensuring girls are born, nurtured and educated without discrimination to become empowered citizens of this country. The Campaign interlinks National, State and District level interventions with community level action in 100 districts, bringing together different stakeholders for accelerated impact. The campaign targeted at highlighting the issue at a grass root level.



2. Swachh Bharat Abhiyan

Swachh Bharat Abhiyan, India's biggest cleanliness drive ever, launched by the government of India, has provided the whole nation an opportunity to join hands

with the government for the achievement of a common goal – clean India. The Ad features Kangana Ranaut as Goddess and she starts disappearing from the places of worship as soon as the worshipper starts littering and not following the basic rule of “Cleanliness is next to Godliness”. The disappearance of her photo is enough to make people realize their misdeeds.

3. Domestic violence



Domestic Violence has always been the most silent social issue of the society. The only reason of it being silent is more than half the times, the acts done by the

oppressor are not considered as violence and hence it is not recorded. The ad featuring Boman Irani was initiated by Breakthrough in the year 2008. The campaign focuses on people or spectators to step forward and just ring the bell towards the violence. This momentary lapse acts as a signal to the oppressor that someone is there outside the four walls and the violence is being noted. In the Bell Bajao advertisements, whenever a case of domestic violence is witnessed, the people nearby simply go and ring the bell of the particular house in which this crime is being carried out.

4. UNICEF for Sanitation



The ad features Vidya Balan who raises the voice against sanitation and invokes attention to the defecation issues. It is a part of national program run by government to ensure that no one defecates in open. The issue was highlighted in major due to it being one of the reason of Health issues in rural India. The ad features Rural India where it is been shown that defecation is always on tertiary priority.

Vidya Balan through the campaign throws light upon the primary importance.

Research Methodology

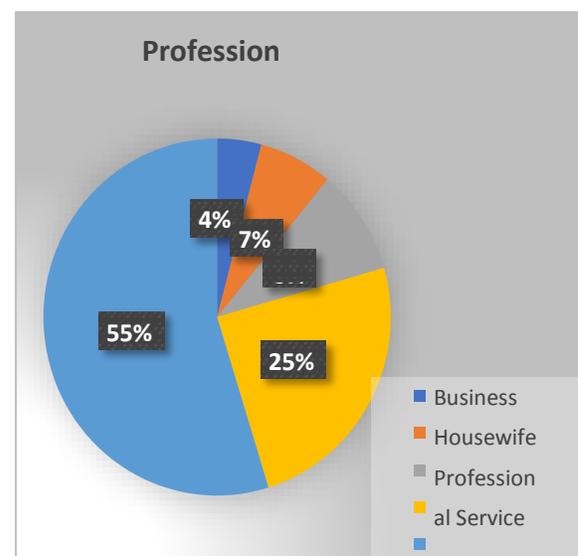
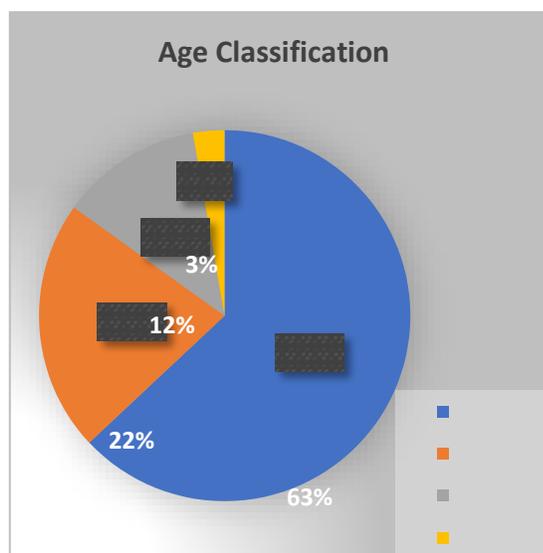
Methodology adopted for the research includes sampling, preparation of questionnaire, data collection and graphical presentation to analyze the data. Researcher prepared a questionnaire (with a Likert Scale of 1 to 5) comprising of close ended questions. The method of sampling was stratified random sampling for 85 respondents.

Data Analysis & Inference

Out of 85 respondents, 72 surveys were valid. Remaining 13 surveys were not properly filled and cannot be considered for analysis. The analysis is done on the following main categories:

1. Awareness towards the social issue
2. Scope for improvement towards social cause advertising

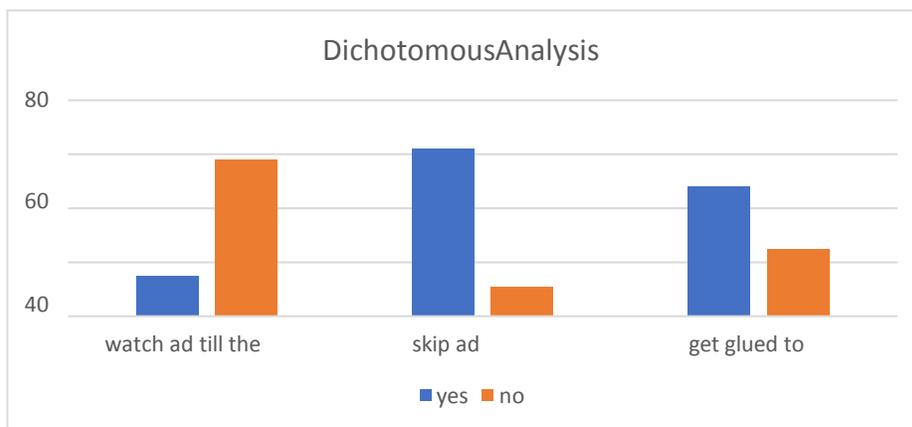
Demographic Analysis of Respondents



The pie-charts above just give a glimpse of respondents and also highlights the fact that majority of the respondents were from the adulthood age criteria and belonged to student segment. These are the future of any nation and needs to be accessed with minute detail towards them. The social message needs to be reaching the future for better formulation and construct of the nation.

Analysis of Dichotomous questions

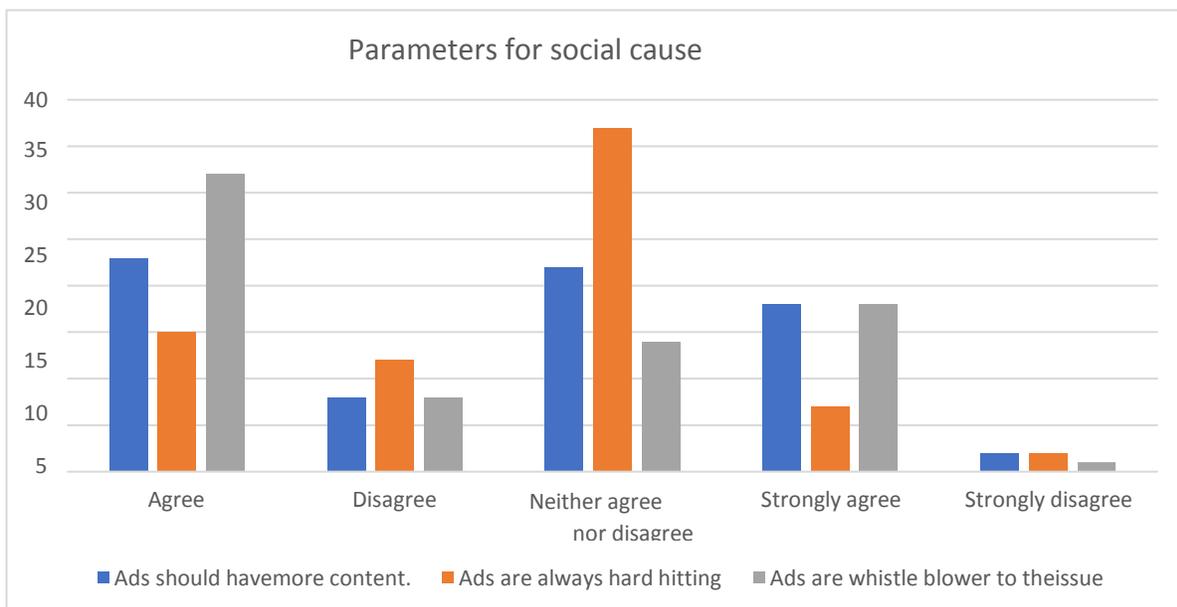
Parameters	yes	no
Watching ads till the end	15	58
Using skip ad button	62	11
get glued to the social message ad	48	25

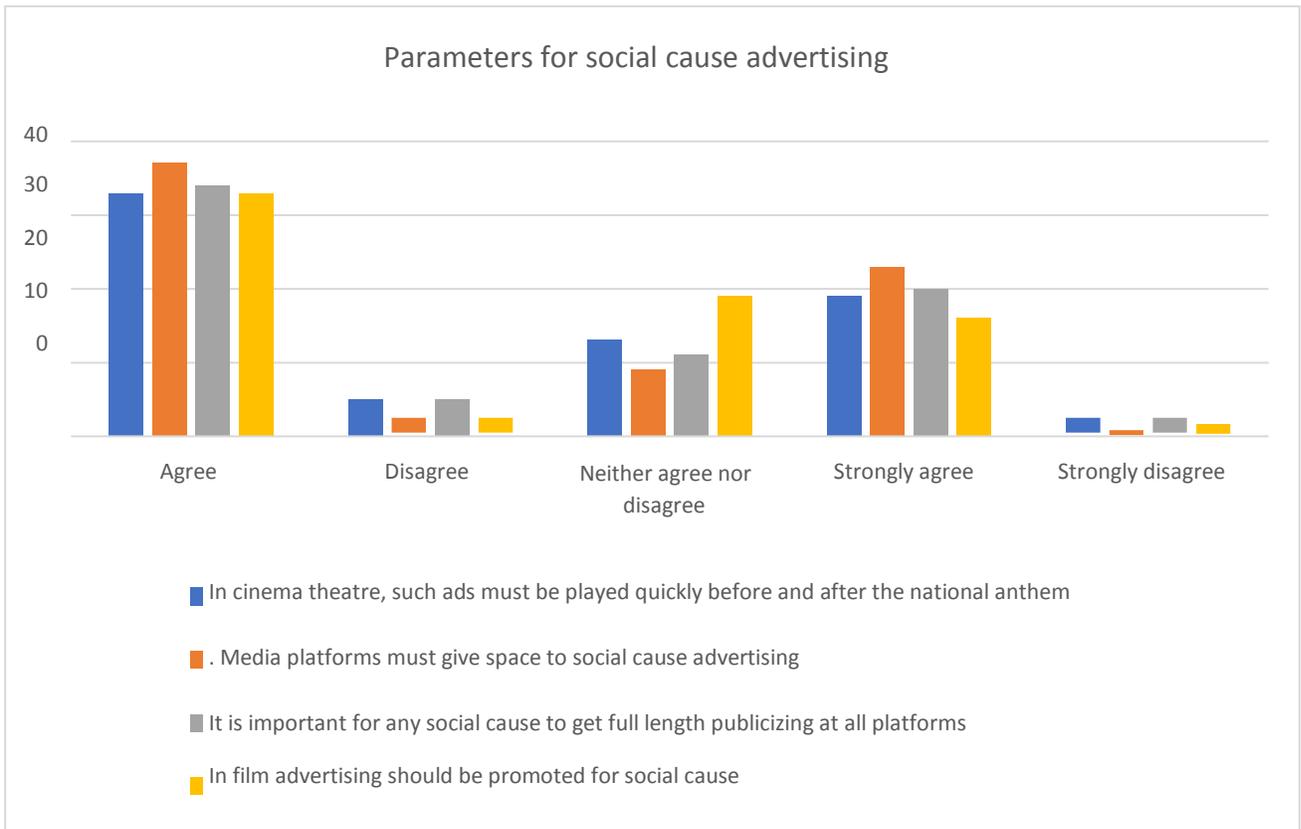
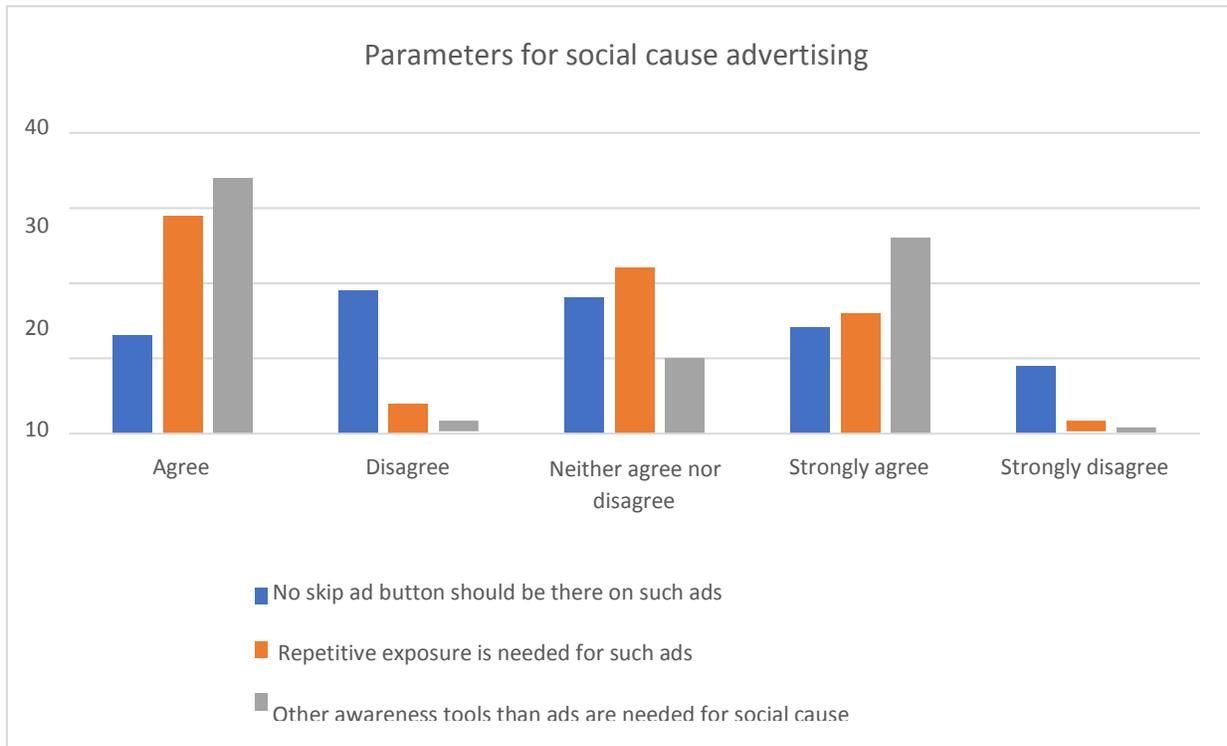


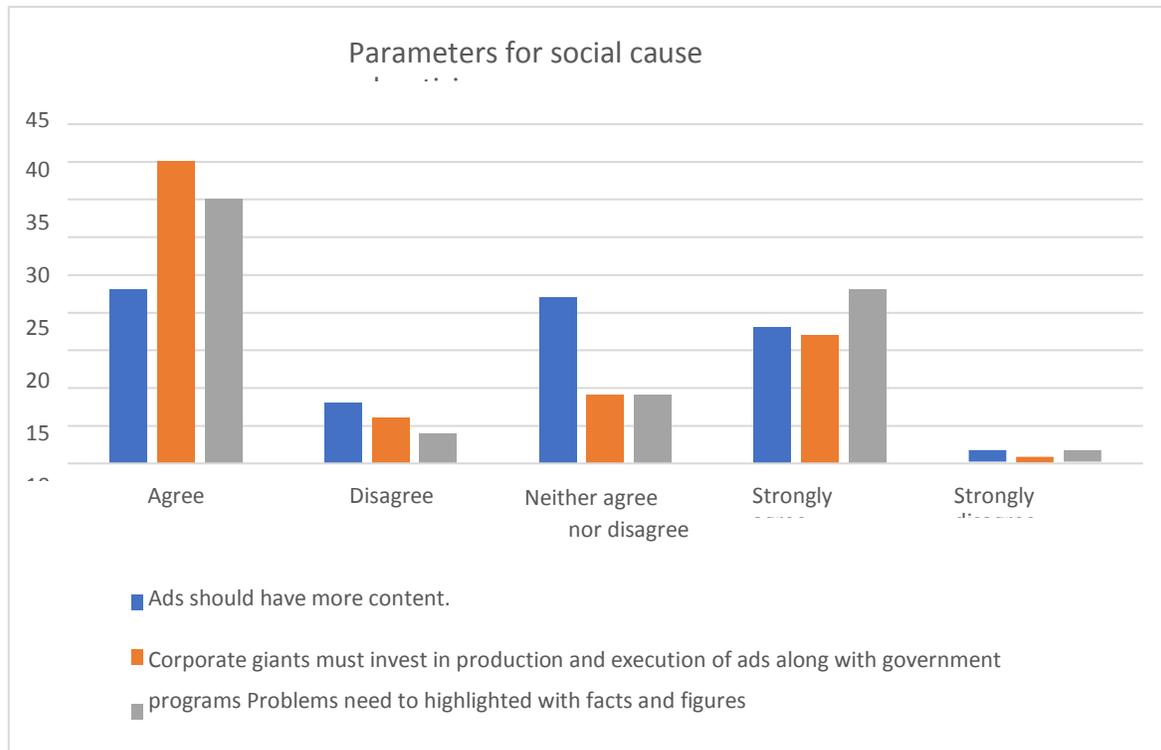
Analysis of Likert Scale

Parameters for social cause advertising	Agree	Disagree	Neither agree nor disagree	Strongly agree	Strongly disagree
Ads should have more content.	23	8	22	18	2
Ads should present statistics to awaken the issue.	31	4	10	26	2
No skip ad button should be there on such ads	13	19	18	14	9
In cinema theatre, such ads must be played quickly before and after the national anthem.	33	5	13	19	3
Repetitive exposure is needed	29	4	22	16	2

for such ads					
Corporate giants must invest in production and execution of ads along with government programs	40	6	9	17	1
Other awareness tools than ads are needed for social cause awakening	34	2	10	26	1
Ads are always hard hitting	15	12	37	7	2
Problems need to highlighted with facts and figures	35	4	9	23	2
Media platforms must give space to social cause advertising	37	3	9	23	1
It is important for any social cause to get full length publicizing at all platforms	34	5	11	20	3
In film advertising should be promoted for social cause	33	3	19	16	2
In film advertising should be promoted for social cause	33	3	19	16	2
Ads are whistle blower to the issue	32	8	14	18	1







Recommendations

1. High light the social message more than the other content. Short ads are much preferred than the long ones. Statistics, facts and figures are important they high light the depth of an issue in a country
2. Social cause ads should be interesting and not irritating. Ads should be in story form so that people come to know the exact feeling while watching it
3. Use emotional approach. Ads that target a niche audience work better than ads targeting a huge chunk of audience. eg; A creative advertisement by a local politician about how he improved the roads of Andheri will work more than Serena Williams making a video about roads of India.
4. Relatable to current or trending issues. To keep the transparency between the social cause promises and actual work done for the cause, the ads should have proper and logical content. They should expose the culprits responsible and make the public aware.
5. Good Content and repetitive showcase of these ads. Boring ads don't help in seeking attention.
6. An advertisement with a nice story and strong message would be much more effective. As mentioned above in the question, these ads should have statistics, true statistics which help in

motivating the viewer even more, so that the ads hit harder.

7. Ads should have some nice and very strong content that it immediately catches people's attention. Should be more creative and more social media awareness should be there.
8. Casting stars with high stardom. Creating short ads (45secsto1min).Social cause ads need to be made by the best advertising team. Instead of hiring Cricketers or Actors/Actresses for these ads, the advertising team should hire common people who have faced such issues and how their issues were resolved. This will have a positive impact on the others.
9. Social ads are required to improve better to understand all age of people. There should be quality content. Viewers should feel moved and touched. Motivation must ignite once they finish viewing thread
10. Select a suitable target audience with proper positioning of the ads, Ads shouldn't hurt any sentiments of the audience. Ad should be short simple and sweet for the audience to understand.
11. While social advertising campaigns are often successful in raising awareness, they are typically unsuccessful in producing long-term behavior change of the type that can be achieved through the use of social marketing. Social advertising may, however, form a part of a social marketing intervention
12. Starring children and youth may grab more attention and be more appealing. Nice background music also make a viewer want to watch the entire ad.
13. Repetitive telecast should be done. Advertisement should be sensible and main content should be added in social advertisement. They can also include remote or rural area and language or different categories in advertising.
14. Even if the content of the ad is about social cause, if is presented in an entertaining way, might appeal more to the viewer. They need to be made more relatable as per the medium they are being advertised at.
15. Include a message from a celebrity in the beginning and the respective department's minister towards the end of the ad for better connect .Ads should focus more on getting message across than look at award potential. Keep it short, crisp and factual to have visual impact.
16. Make it more interesting and focus on the main content. It should be more in sync with reality rather than unrealistic dramatic representation. Over exaggeration kills the purpose.
17. Social causes should not have any political parties logo or should not in a way show whether some parties or caste are involved. Should be made relevant to the youth as they make up the

largest part of our population.

18. Should be short and quick. It must be made more interactive. They should reach targeted audience .Hence the platform should be according to the audience

19. It should be impactful and the message should be understood by the target audience

Conclusion

Marketing and advertising play a huge role in shaping our society — the way we see, think, understand and act. The advertising we are constantly consuming paints a picture of society, thus shaping how we view ourselves and what many aspire to.

Even more profound than influencing our consumption behavior, advertising has the ability to shape our aspirations. A great deal of damage can be done in setting unhealthy or unattainable expectations.

The advertising industry will never act as the first pioneer instigating social change-but that doesn't mean it can't be an important part of the process. We consume massive amounts of advertising day in and day out, and when this content promotes an inclusive picture of society, marketing and advertising can work as an accelerator for social progress. Its value is not in starting the fire, but in fanning the flames. After analyzing the issue it can be stated that social ads need repetitive exposures of that reaches the mass. Emotional appeal can trigger the thought process and is must to connect with audience. Also the netizens today are only convinced with the logical explanation and hence ads should contain statistical data to awaken to the issue. Also, involvement of influencers in any form is always appreciated to highlight the importance of the issue and get it to the limelight.

References

https://wcd.nic.in/sites/default/files/About_BBBP_Scheme.pdf

<https://www.youthkiawaaz.com/2016/09/kangana-ranaut-swachh-bharat-ad/>

<https://www.exchange4media.com/advertising-news/creativity-for-societytaking-social-awareness-mainline-41896.html>

https://wittysparks.com/indian-social-advertisements-waking-india-up/advertisements/?utm_source=google&utm_medium=organic&utm_campaign=organic

<https://listsurge.com/top-10-best-indian-advertisements-social-issues/>

<https://www.lifelovelemons.com/2019/04/14/best-indian-advertisements-that-send-across-powerful-social-messages/>

<http://www.socialsamosa.com/2017/12/top-50-social-media-campaigns-2017/>

[https://en.wikipedia.org/wiki/Social_advertising_\(social_issues\)](https://en.wikipedia.org/wiki/Social_advertising_(social_issues))

<https://brainly.in/question/2187861>

<https://www.mapsofindia.com/my-india/society/swachh-bharat-abhiyan-making-india-clean-more>

A Study on Investor's Perceptions Towards Investment in Fixed Deposit and Share Market

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1226

Kiran Yadav

Thakur Institute of Management Studies and Research

Zalak Prajapati

Thakur Institute of Management Studies and Research

Regina D'silva

Thakur Institute of Management Studies and Research

Dr. Shebazbano Khan

Assistant Professor, Thakur Institute of Management Studies and Research

Akhil Shetty

Assistant Professor, Thakur Institute of Management Studies and Research

Abstract

In India, usually all investment approach supposed to be risky by the investors. The main features of investment are security of principal amount, liquidity, income stability. There are lots of investment choice available in the market such as fixed deposit, share market, mutual funds, gold , real estate etc. The required level of returns and the risk tolerance decided the choice of the investors. This research paper wants to check the investors' perceptions towards investment in fixed deposit and share market.

Keywords: *investors perception, fixed deposits, share market.*

Introduction

A well structured financial system leads to an economic development of any country. The financial system is a broader term which brings under two fold the financial markets and the financial institutions which support the system. The main objective of the country is to develop the savings in the form of money. It helps to promote investments and savings which help faster economic growth of the country. In order to derive future benefits investor needs to make savings in present. Two most important features of an investment are current saving and future profit. Investment is the surrender of certain present

values for the undetermined future benefit. Investment may be defined as a process of investing money for future profit. Investor's perception refers to the choosing, purchasing and consumption of goods and services the satisfaction of their wants. Investors perception is basically to find out what Kind of investments he/she would like to have, after that investors prefer only those investments that provides them higher return. After selecting the investment product, the investor takes decision how much money they want to invest.

Literature review

- **S. Sankar and K. Maran (2013)** has observed in the research paper titled Market trading in India- Customer perceptions that majority of Indian investors like to trade in equities than in future and options. This shows there is need to create awareness among investors regarding probability of investment in future and options. Indian people mainly invest their money in share market followed by mutual funds and fixed deposits. Investors main motive behind investment in share market is high returns.
- **Pallavi Singh and Shivani Kuckian (2017)** has analyzed in the research paper titled A comparative study of consumer perceptions of investment instruments that demographics have a significant influence on investing patterns and has a direct impact on the decisions related to investing. In this study it was revealed that salaried people prefer to invest more in investment which have less risk factors such as fixed deposit and ppf. It also showed that women preferred to invest more in gold and fixed deposit compared to other instruments.
- **M. Muthu Meenakshi (2017)** has observed in the research paper titled perceptions of investors towards the investment pattern on different investment Avenue-A review that in this fast affecting world, we keep extra money added risk directs to more profit .for example total liquidity, income stability, a variety of shares, bank companies, gold and silver, real estate, life insurance postal etc. But most of the investors are to preferred bank deposit because most of the respondents invested for purchasing home and long term growth but most of the investors could not aware of investing their money in mutual funds. They are not aware about different investment opportunity.
- **Hemant Kumar P. Bulsara , Heta n Desai (2015)** analyzed in the research paper titled An

exploratory study of consumer demand or towards financial investment that customer's focus was concerning demographic variables and various parameters of selecting scripts. Mainly risk minimization, brand perceptions, social responsibility and financial expectations, past performance of firm these all influence the behavior of individual investors. As regards investment decision in bank fixed deposit we can say that socio-economic variable shave influence on attitude of investors towards investment. Age, return on investment, safety of funds, tax benefits and income level have major impact on the buying decision of the investors.

Research Gap Identification

There is already studies done on customers perception on different securities. But our study is based on customers perception towards fixed deposits and sharemarket.

Research Methodology

Scope of Study

- The study would cover the fixed deposit and share market only.
- The study will be conducted in Mumbai only.

Objective of Study

- To study investor's perceptions towards investment in fixed deposit and shares.
- To study factors affect investors investment in fixed deposit and shares.

Hypothesis

- **Null hypothesis:** There is no significant differences between the investor's perceptions towards investment in fixed deposit and shares market.
- **Alternate hypothesis:** There is difference between the investor's perceptions towards investment in fixed deposit and shares market.

Variables

- Dependent variables: Investor's perceptions.
- Independent variables: Share market and fixed deposits.

Techniques of Data Collection

- The data was collected through primary and secondary sources. The sufficient and relevant literature is available pertaining to the investors perceptions towards securities.
- The primary data was collected with the help of questionnaire which is related to fixed deposit and share market.
- The secondary data was collected through the books, journal and information available on internet was referred and considered for the study.

Sampling universe

- Investors who invested in fixed deposit and share market or other people's perceptions toward investment.

Size of sampling

- For the purpose of the study, researcher has selected 50 respondent who have different age, education, gender and occupation.

Statistical tools

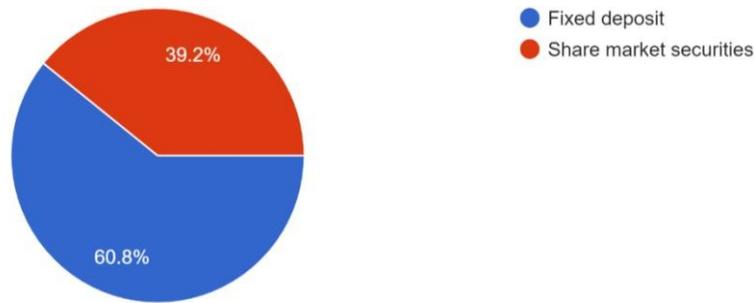
- The researcher has selected t-test for the study.

Limitations of the study

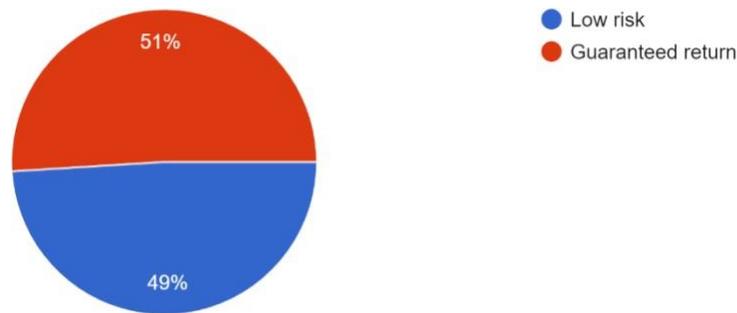
- Respondent may not be 100% truthful with their answer.
- There is no way of checking misinterpretation and unintelligible replies by the respondents.

Data Interpretation and Analysis

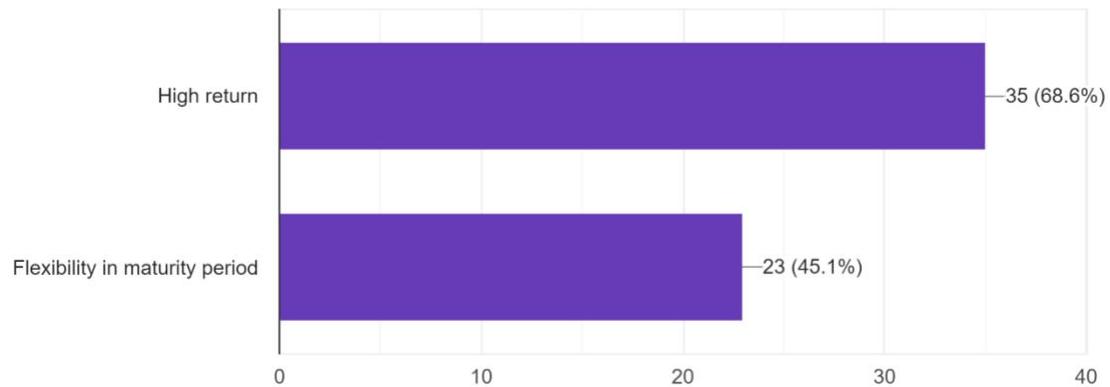
Data Interpretation



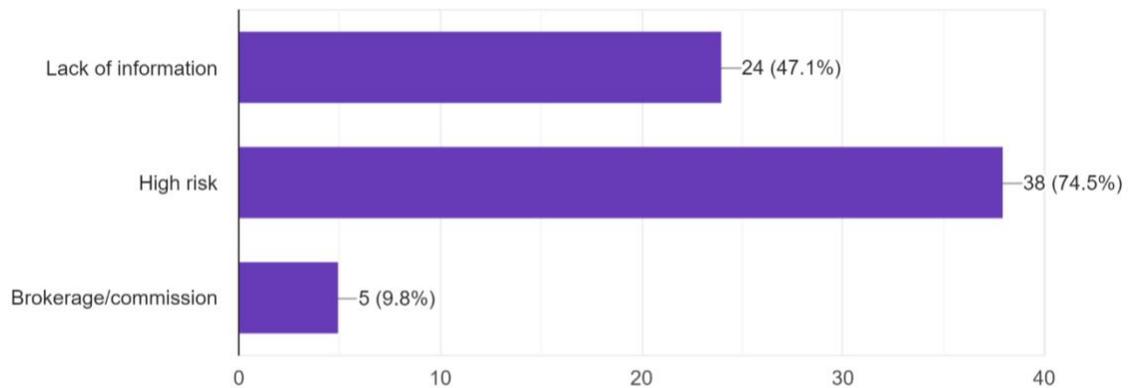
It is observed that out of 100% of population, 39.2% of population prefer fixed deposit security and 60.8% of population prefer share market securities.



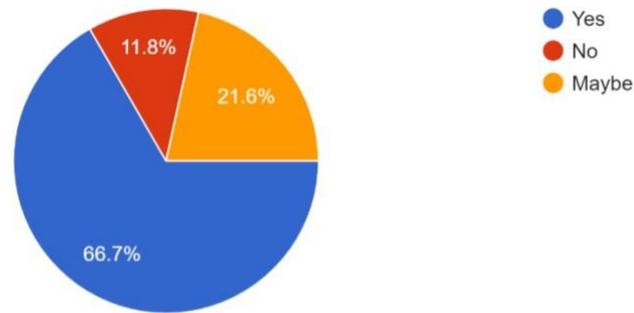
It is observed that out of 100% of population 51% of population prefers investing in fixed deposit due to low risk and 49% of population prefers investing in fixed deposit due to guaranteed return.



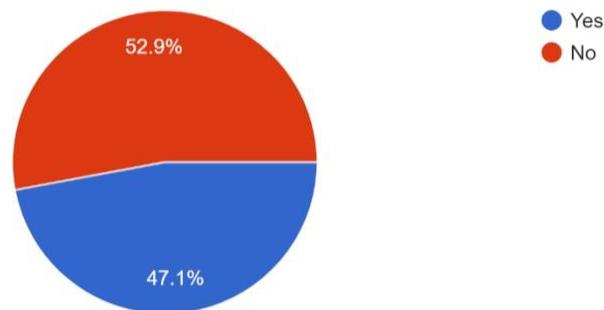
It is examined that 68.6% of population prefers investing in share market due to high return and 45.1% of population prefers investing in share market due to flexibility in maturity period.



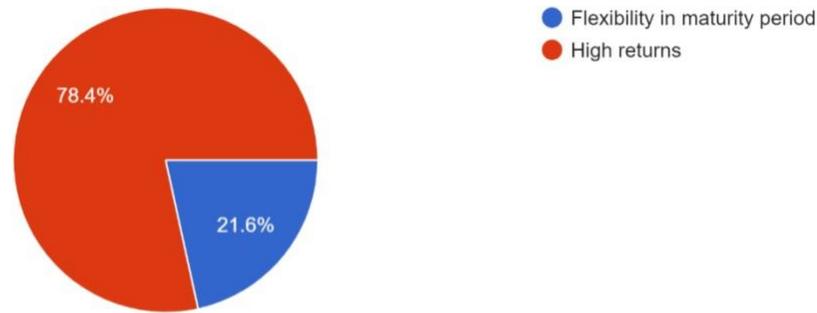
It is examined that 47.1% of population do not prefer investing in share market due to lack of information and 74% of population do not prefer investing in share market due to high risk and 9.8% of population do not prefer investing in share market due to brokerage or commission.



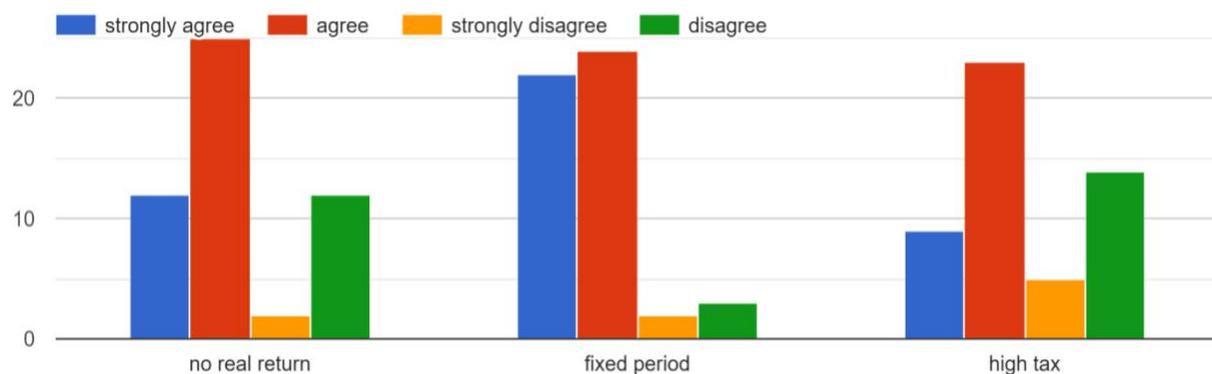
It is observed that before taking investment decision 66.7% of population take feedback from their friends and relatives, 21.6% of population might take feedback from friends and relatives before taking investment decision and 11.8% of population does not take any feedback from friends and relatives before taking any investment decision.



It is observed that out of 100% of population, 47.1% of population have invested in share market and 52.9% of population did not invest in share market. It is observed that out of 100% of population, 78.4% of population think benefits of investing in share market is high returns and 21.6% of population think benefits of investing in share market is flexibility in maturity period.



It is observed that out of 100% of population, 78.4% of population think benefits of investing in share market is high returns and 21.6% of population think benefits of investing in share market is flexibility in maturity period.



It is observed that, in case of challenges related to fixed deposit, out of 51 population approximately 12 people strongly agree there is no real return, approximately 27 people agree there is no real return, approximately 2 people strongly disagree there is no real return and approximately 12 people disagree there is no real return. Out of 51 population approximately 22 people strongly agree there is fixed period, approximately 24 people agree there is fixed period, approximately 2 people strongly disagree there is fixed period and approximately 3 people disagree there is fixed period. Out of 51 population approximately 8 people strongly agree there is high tax, approximately 23 people agree there is high tax, approximately 5 people strongly disagree there is high tax and approximately 14 people disagree there is high tax.

Data Analysis

Hypothesis testing

- **Null hypothesis:** There is no significant differences between the investor's perceptions towards investment in fixed deposit and shares.
- **Alternate hypothesis:** There is difference between the investor's perceptions towards investment in fixed deposit and shares. People strongly disagree there is high tax and approximately 14 people disagree there is high tax.

t-Test: Paired Two Sample for Means		
	Variable1	Variable2
Mean	18.62745098	16.66666667
Variance	8.578431373	14.50617284
Observations	51	51
Pearson Correlation	-0.053359328	
Hypothesized Mean Difference	0	
df	50	
tStat	2.842068711	
P(T<=t)one-tail	0.003235776	
t Critical one-tail	1.675905026	
P(T<=t)two-tail	0.006471553	
t Critical two-tail	2.008559072	

Interpretation

Above research indicates that p-value is less than 0.05. t-test is rejected. Hence null hypothesis rejected and alternate hypothesis is accepted.

Findings

- It is observed that most population prefer investing in fixed deposit as compared to share market securities as they find fixed deposit has guaranteed return and low risk.
- It is examined that the population which invest in share market securities are due to high return and flexibility in maturity period.
- The population which does not invest in share market are due to lack of information, high risk and brokerage or commission.

- It is observed that the population which takes feedback from their friends and relatives before making investment decision high and average number of population might take feedback from their friends and relatives and only few population does not take feedback from their friends and relatives.

Conclusion

From the above data analysis, it is concluded that

- Male and female respondents are giving more preference to fixed deposits.
- Different age group have different perception towards fixed deposits and share market.
- Different kind of challenges faced by each investors.
- 66.7% investors take feedback from their friends and family.
- Due to high risk in share market, investors do not prefer investing in share market.

Reference

M muthumeenakshi, 2017 journal of internet banking and commerce “ perceptions of Investor’s towards the investment pattern on different investment Avenue-A review.

Pallavi Singh and shivanikuckian 2017 journal of management a comparative study of consumer perceptions of investment instruments.

S sankar and k maran, international journal of engineering and management research 2013 “market trading in India- customer's perception.

www.investopidea.com

Annexure

Questionnaire

A. General questions:-

1) Name of respondent

2) Gender

3) Age

4) Education

5) Occupation

B. Questions:-

Which product do you prefer?

- Fixed deposit
- Share Market

Which age group you belong?

- 21-30
- 31-40
- 41-50
- 50 Plus

Why do you prefer investing in fixed deposit?

- Low risk
- Guaranteed return

Why do you prefer investing in shares?

- High return
- Flexibility in maturity period

Why do you not prefer investing in shares market?

- Lack of information
- High risk
- Brokerage / Commission

Do you take feedback from friends or relatives before investing?

- Yes
- No
- Sometimes

Challenges related to fixed deposit?

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Agree
- 4 = Strongly agree

From the following which problem do you face?

Questions	1	2	3	4
No real return				
Fixed period				
High tax				

Have you ever invested in shares market?

- Yes
- No

According to you what is the benefit of investing in shares market?

- Returns
- Flexibility in maturity period
- Less investment

Pradhan Mantri Awas Yojana Urban: Are There Any Bottlenecks?

*IIBM's Journal of Management Research**Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)**DOI : 10.33771/iibm.v5i1-2.1227*

**Author: Navneet Sharma¹ Co-Authors: Amol Sudam
Shimpi², Sanjay Govind Patil²**

1- Research Associate, 2-Professor- RICS School of Built
Environment, Amity University Mumbai

Abstract

India has arisen as the fastest growing economy and is predicted to become one of the topmost three economic authorities of the world in the upcoming 10 to 15 years' time. Assisted by a strong democracy and corporations, the country has witnessed a change in the built environment sector. India with 1.3 Billion population is rapidly urbanizing at a rate of 31% which is forecasted to grow by 34% in 2021. India as an emerging economy has become an attractive market for the affordable housing segment. With this urban transformational change, the demand for urban affordable housing is valued at 1 Crore homes for which the government in the year 2014 launched Pradhan Mantri Awas Yojana Urban.

Affordable housing in India has now become a critical aspect and is a national agenda with its gravity in the urban areas. Grant of infrastructure status to Affordable housing has further boosted the development in the real estate sector. Across the 7 cities in India, 6.73 lakh is the unsold residential units out of which one-third is the affordable segment (houses priced below 40 lakh). The demand for 1 Crore housing units is mainly driven by the urban poor comprising of economically weaker sections, lower-middle-income groups, and middle-income groups. Also, government incentives for the developers and the buyers have also acted as a catalyst towards the increase in demand for affordable housing.

As per the Ministry of Housing and Urban Affairs (MoHUA, 2020) over 21,566 project proposals are considered for development. The investment in the sector is estimated at Rs. 6.16 Lakh crore, central assistance of Rs. 1.63 Lakh crore has been sanctioned out of which only Rs. 64,000 thousand crores have been released, with 1.03 Crore housing units sanctioned only 32.07 Lakh houses have been completed.

The present paper discusses a huge demand potential with limited supply options. Observations behind this limited supply are primarily identified as limited participation of private developers, financing

options, delay in approvals, limited availability with high cost of land, inadequate infrastructure provisions, appropriate construction technology, and slow delivery.

The research aims to identify and analyse the bottlenecks in the vision “Housing for all 2022”. Therefore, recommendations are made towards solving the urban affordable housing problem in the country with suitable suggestions such as: unlocking surplus land available with the government and subsidizing it for development, reduction in construction cost via utilization of modern technology, effective operations & management strategies, access to credit for developer and the end-user, effective and compact pricing strategies, revision of density norms and sustainable aspects which can correlate and make the vision a success.

Keywords: *Affordable housing, Pradhan Mantri Awas Yojana Urban, Infrastructure, construction technology & finance.*

Introduction

India is on the verge to outgrow its ranking in terms of a highly populous country. According to the report of the International monetary fund, India currently stands at a population size of 1.3 billion people. With an aspiration of becoming the third largest economy by the year 2025, the country is not only progressing, but is currently suffering from an urban housing shortage of around 100 million urban housing units (PMAY-U, 2019). The year 2014 witnessed a transformational change in the housing sector as the government announced the Pradhan Mantri Awas Yojana (Urban). This yojana was directed as a mission towards providing central assistance for all eligible families or beneficiaries with the support of states and union territories. The duration was set with a time frame of 7 years which finishes with the 75th Independence year of 2022.

According to the report of the Technical Group on Urban housing (TGC-Urban, 2012), the total housing shortage is estimated at 18.78 million in 2012, with low-income group (LIG) and economically weaker sections (EWS) accounting to a blend of 96%.

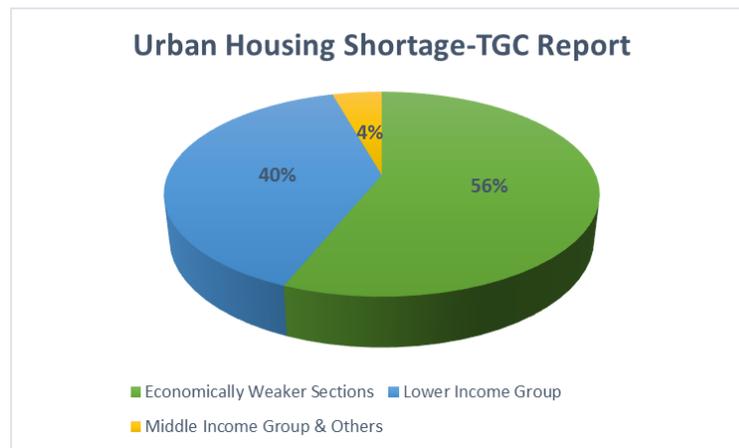


Figure 1 Housing shortage in %age Source: TGC-Urban Technical group report on urban housing shortage

With reference to the census of India (GOI, 2019) and wordometers.info (worldometers, 2020), the current urbanization rate is forecasted at 34% in year 2021 and further in the next census year of 2031 to reach at 39% with an appreciated new housing demand. Currently, India's population in the year 2019 accounted at around 18% of the total world population and a population density of 460 people per Km² with a median age of 27 years. With this increasing urbanization rate, the potential demand for housing in the urban areas will also see an appreciation with a greater number of houses to be added.

Pradhan Mantri Awas Yojana Urban is a mission with a vision towards achievement of housing for all status by 2022. The government has positively acted as a home-facilitator and the hope and buttress of the future housing.

Affordable Housing Definition

The notion for the affordable housing need is well recognized as the necessity of households whose incomes are not adequate to allow them an access for germane housing in the market without any support and assistance (Vivienne Milligan, 2004). Further the term 'affordable housing' is the housing which supports and facilitates lower income households without laying any financial stress (Vivienne Milligan, 2004).

According to United States Department of Housing and urban development, urban housing is defined on spending, as the housing for which the expenditure and costing is a lesser amount of 30% of the

household income. The 30% income threshold is a set standard for houses which are being occupied the owners (EDGE, 2017).

According to the Housing for All - Urban scheme guidelines , affordable housing project is defined as the housing project where 35% of the houses are constructed for Economically weaker sections category (MoHUA, Affordable Housing in Partnership (AHP), 2015).

According to the Ministry of Housing and Urban Poverty Alleviation , affordable housing refers to a housing unit ranging from the size of 300 square feet (super built up area) for economic weaker sections, 500 square feet for lower income group and 600 to 1200 square feet for middle income group, at a cost not to exceed 30% to 40% of the monthly income of the buyer (MoHUPA, 2015).

As per the report published by Anarock, “Affordable housing- the blue-eyed boy of Indian Real Estate”, affordable housing is defined by the Reserve Bank of India in terms of location, the loan amounts the cost of the property. For metro locations the loan amount limit is set between Rs 28 to 35 lakh with cost of property not more than Rs 45 Lakh, for non-metro locations the loan amount limit is set between Rs 20 to 25 lakh with cost of property not more than Rs 30 lakh. Where cost of property outlines the ticket size of the housing unit (Virendra joshi, 2019).

According to a report on Affordable housing in India by Jones Lang LaSalle (JLL, 2016), affordable housing can be defined as

Category of Income	Area specification (Carpet Area)	Basic Amenities
EWS*	260 Sqft	<ul style="list-style-type: none"> • Electricity • Drinking water and sanitation • Access to social and public Infrastructure • Basic health care facilities and Security • Community space (Open lung areas)
LIG**	320-620 Sqft	
MIG***	640-1250 Sqft	
Costing in terms of Equated Monthly Installment		
<ul style="list-style-type: none"> • Costing not to increase more than 25-35% of monthly income bracket of the buyer 		

<ul style="list-style-type: none"> • Maintenance costs with reasonable pricing
Location
<ul style="list-style-type: none"> • Positioned not more than 25 km of the workplace • Connectivity to the public transport system such as (Railway, bus, and metro)

Table1 Defining Affordable Housing.

*Source: <https://smartnet.niua.org/sites/default/files/resources/Affordable%20Housing-ICC%20-%20Final.pdf>- *Economically Weaker Sections, **Lower Income Group, *** Middle-Income group*

PMA Y (U) policy framework on affordable housing

The Pradhan Mantri Awas Yojana Urban- housing for all 2022 mission framework is categorized in four pillars, where each pillar represents an opportunity towards the affordable housing development. This mission provides central government assistance towards the provision of housing to all the families which are eligible under the following schemes:

1. **In Situ Slum Redevelopment (ISRR)**- The approach favours towards leveraging the locked potential of the huge portion of land which is currently under slums and provides with housing opportunities to the eligible slum owners, this not only covers housing but also covers basic amenities such as water, electricity, sanitation with the secured environment. With benefits such as provision of Additional FSI (Floor space Index), TDR (Transferable Development Rights) options, per housing unit grant of Rs. 1 lakh, ownership related options will be decided by the State/UTs, and incentivisation in terms of additional FAR/FSI to the landowners(MoHUA, Pradhan Mantri Awas Yojana Urban, 2020).
2. **Credit Linked Subsidy scheme (CLSS)**: This approach has been introduced towards the expansion of credit flow from various Institutions towards the mission. Subsidization towards home loans has been initiated for mortgages taken by eligible urban poor segment (EWS/LIG) for both acquisition and construction of affordable residential estate. With an interest subsidy of 6.5% with a tenure of 20 years (MoHUA, Ministry of Housing and Urban Affairs, 2020).
3. **Public private partnership for affordable housing (AHP/PPP)**: The government of India has taken decisions in order to encourage private sector towards developing the vision statement into a reality. Private Sector has great potential towards the development of India via collaboration with the government in the form of PPP- Public-Private Partnerships. Such partnerships will help in the

application of real-time solutions for the shortage of affordable housing in India. PPP enhances financial access as well as fundraising capabilities with simultaneously reducing the costs by speeding up construction activities, well-organized operations, and timely delivery.

- 4. Beneficiary led individual home construction subsidy (BLC):** Beneficiary led individual home construction provides assurance, benefits up to Rs. 1.50 lakh for new house construction and enhancements of the existing home.

PMAY (U) policy Financial & Physical progress in 2020

According to the data provided by the Ministry of Housing & Urban Affairs (MoHUA, Pradhan Mantri Awas Yojana-Urban, 2020), the urban housing demand is valued at 100 Lakh to Housing for All mission 2022. Also, in continuation to the affordable housing mission government of India has also made a mandatory provision where the female head of the family to become an owner or co-owner of the house.

The year 2022 will be when India celebrates the most awaited 75th Independence anniversary and achievement of the vision towards providing roofs to the people who are in need.

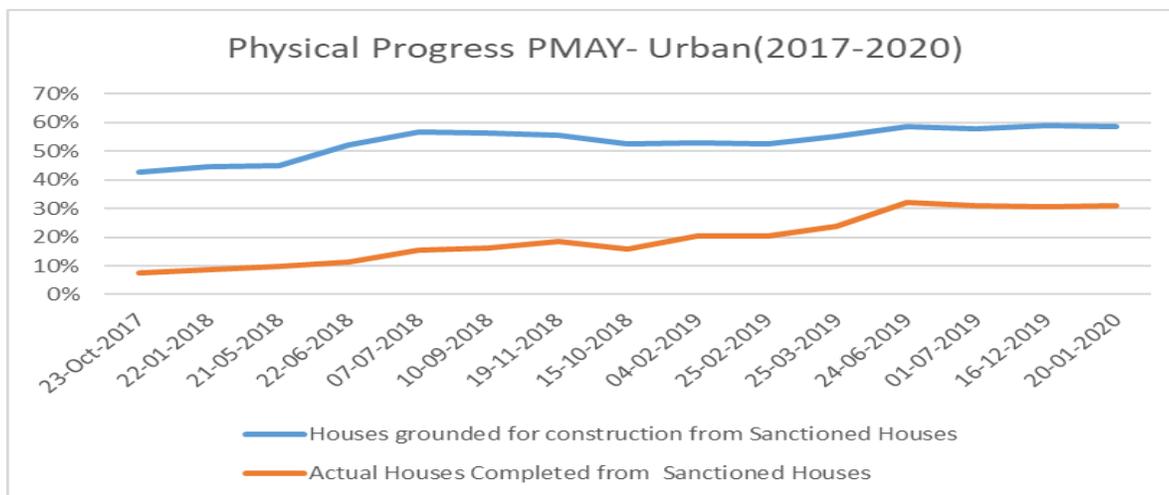


Figure II Physical Progress, Source: (MoHUA, Progress PMAY, 2020) , * including incomplete houses of earlier NURM

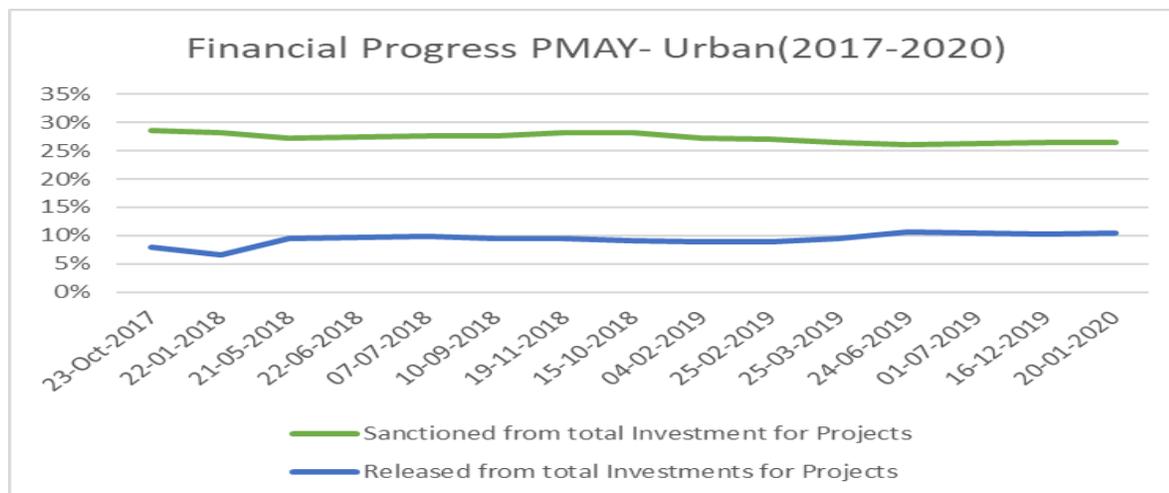


Figure III Financial Progress, Source: (MoHUA, Progress PMAY, 2020) , * including incomplete houses of earlier NURM

According to the physical progress (refer Figure II), project proposals considered is 21,566 with a total investment of Rs 6.16 lakh crores the government has achieved the sanctioned demand of 100% of the total 1 crore housing units. With 1.0 crore housing units sanctioned 59% units are under various phases of construction and 10.4 lakh units are yet to start the construction. Further breaking down from the lens, the completion rate stands at 31% as on January 2020 (ratio of houses completed to houses grounded for construction) and comparing the ratio of houses completed to houses sanctioned underlines that for every 100 houses sanctioned only 30 houses are yet completed, which is a huge gap in terms of completion of the houses. Also, completed houses are rapidly absorbed and occupied by the end users as for every 100 houses completed 89 houses are occupied.

According to the financial progress (refer Figure III), a total investment of 6.16 lakh crore has been facilitated till yet (from 2017 to 2020). The central assistance sanctioned from the total investment stands at only 26% valued at Rs 1.63 Lakh crore, out of which 39% of the investments have been released from the sanctioned assistance.

Based on the physical and financial progress and as per the report on Assessing employment generation(NIPFP, 2019) , employment generation is not only witnessed in the construction sector but also in the other sectors of the economy. In terms of the number of job creations, about 61.5 lakh jobs are created under all the four verticals of Pradhan Mantri Awas Yojana -Urban.

Affordable housing bottlenecks with suggestions

Affordable housing can be considered a lucrative business, but the fact remains the same that affordability is still something which is not available in Tier 1 cities. According to a report published by Technical group on urban housing shortage, the housing shortage can be categorized as: economic weaker sections at 56%, lower income group at 40% and the middle income group and above at 4% (TGC-Urban, 2012).

As per the reserve bank of India report on residential asset price monitoring survey, the housing affordability has worsened from 2015 to 2019, since house price to income ratio (HPTI) has increased from 56.1 in 2015 to 61.5 in 2019 with Mumbai as the least affordable city status. The movement of median loan to income ratio (LTI) also rings an alarm for similar or worse scenario with an increase from 3.0 to 3.4 in 2019 (India, 2019).

The grant of infrastructure status to affordable housing will be a game changer but alone the status cannot conclude towards achievement of the mission housing for all 2022. The bottlenecks must be dealt with due supervision and care to bring efficiency in the housing sector. Some of the highlighted challenges are as follows:

1. **Availability of land:** Majorly for a real estate development land is a primary objective. Availability of land is directly proportional to the development nature of housing. With this scarcity of land in the core areas, the development has a major impact. If the land is available in the city the costs associated with acquisition are not suitable towards affordable development. Potential innovative solutions can be categorized as:
 - Unlocking excessive land available with the government and public sector undertakings (PSUs).
 - Mandate should be provided for every municipal corporation who are involved in creation of development plans to reserve zones for affordable housing.
 - Standards to be maintained as per the National Building Code with avoiding low density developments.
 - Cross subsidy element to be explored with government to allot the land and private developers to construct.
 - Separate chapter for affordable housing to be created in the Real Estate Regulatory Authority Act with higher Floor spacing index (FSI) and tenement density.

- For every industrial zone change, provision for keeping at least 15% of affording housing element to be considered except for industries where dangerous chemicals are involved.
2. **Limited participation of private developers:** The challenges such as lower profit margins, approval delays & rising costs have disfavoured the private real estate developers to venture into this affordable housing market. As it is a price sensitive market, following suggestions can be considered:
- Encouragement of construction contractors and cooperatives to fill the gap.
 - Concession in the corporate tax.
 - Availability of subsidized land.
 - The concept of self-certification up to Occupancy certificate can also be encouraged to the developers/contractors with a natural display of probity.
 - Permissions granted before obtaining occupancy certificates will not only encourage the developers to undertake these projects but also save time, input costs and will further enhance on time delivery.
 - Single window clearance for approvals will boost the sentiment and encourage more developers to enter into the lucrative affordable housing market.
3. **Financing:** Availability of easy financing options with the supply side and demand side is a major concern in the affordable housing segment. Project delays are the major outcomes of the lack in finance availability. With appropriate opportunities in the financing sector and reduction in the goods and service tax (GST) to a marginal 1%, the rest is merely a question of long and assiduous practice. Towards strengthening the sector, following options can be considered as:
- Towards the supply side and demand side financing, group financing and market based micro financing options can be considered.
 - National housing bank can request finance distribution at the local level with a ticket size of mere Rs 10 to 15 lakh amount.
 - Group structure can be also be considered where support can be provided towards avoiding foreclosure of the mortgages (social collateral).
 - Project assessment and repayment capacity should also be considered at the local level with bringing down the servicing cost of loans and risk factors such as eligibility for easier credit assessment of economically weaker sections and lower income groups.

- Micro- housing finance companies should be separately created for swift appraisal and disbursement of loans to the borrowers which are not eligible as per standard housing finance eligibility criteria.

According to a research by David Hulme, on microfinancing of the Grameen bank of Bangladesh, a microfinancing Grameen model was introduced with features such as lending to poor especially women (as they are less likely to utilize the loans more effectively and more reliable for repayment). Organizing women into cells of five, that undertook a collective responsibility towards each other's loans, establishment of various centres where the cells created can meet at a standard set time each week towards loan applications and repayments. Encouraging the clients to make compulsory micro savings towards creation of financial discipline and generate collateral for groups. Training and recruitment of young graduates towards administering the services towards minimizing and eradicating corruption and bring in best practices (Hulme, 2008).

For developers' similar models can also be applied but the finance should be routed through National Housing Bank. With strengthening the existing housing finance companies, encouragement of construction contractors to play a vital role in the development of affordable housing units can also make it a success. Beneficiary led construction of units can also be given lucrative discount options. Construction finance given to developers should be considered as priority sector lending with lower risk asset weightage. Re-Financing of these loans from National housing bank (NHB) or Reserve bank of India should be allowed at a differential rate.

4. Construction Technology: With utilization of superior and innovative construction technology quality and standards, the completion time of the affordable project can be further reduced. New construction technologies can achieve a successful completion rate up to 3 to 4 times than the traditional methods of construction. Construction technologies such as precast modular technology, MIVAN (aluminium formwork) for mass housing, Glass Fibre Reinforced Gypsum technology (GFRG) and monolithic reinforced concrete construction system can bring down the costs, boost economy, encourage sustainability and bring swiftness in affordable housing construction (BMTPC, 2019).

5. Infrastructure provisions: Infrastructure development nearby affordable housing zones are very critical aspects for a successful development. The aspects such as water, electricity, connectivity and availability of public transport can have a direct impact on the input costs for the affordable housing development. Absence of these provisions certainly lowers the margins and hence disheartens private developers to participate in the affordable housing market. Towards strengthening the Infra spine, Infrastructure Investment trusts (InvITs) should be strengthened. Affordable housing fund can also be introduced with tax exemptions to a certain extent.

Housing Gap Analysis

Houses to be built under the mission housing for all 2022	1,00,00,000
Houses completed till January 2020	32,07,000
Remaining houses	67,93,000
Houses grounded for construction in various phases	60,51,000
Remaining houses to be built by the year 2022	7,42,000
Months remaining (starting January 2020)	26
Houses to be built per month under PMAY (U)	28,538

Table III Housing gap analysis Source: PMAY(U) state wise progress last accessed 25th January 2020,

KPMG in India Analysis 2018

Towards achievement of the mission housing for all 2022 status which is 1.00 Crore housing units (refer table III), with 26 months remaining approx. 7.42 lakh housing units must be constructed with a rate of approximately 28.53 thousand units per month. Achieving the above number of units requires efficiency, starting with land acquisition, design development, construction to final delivery and consistency on the policy upfront.

Conclusion

The opportunity for urban affordable segment is massive. Even though the shortage is largely driven by economically weaker sections and lower income groups segment in India, with lower margins for the developers, tremendous opportunity lies in the future where affordability is the principal objective.

The three bugbears of affordable housing perception which are distance (far away from the city), smaller unit size and poor quality, each of these needs to be turned on their head towards opening the opportunity.

Taking this vision forward, various collaborations of- Central government, State government, Urban land bodies, financial institutions (banks, microfinancing institutions, housing financing companies and non-banking financing companies), and the private sector is the need of the hour.

The government must play a vital role of a facilitator- by acting as an authority towards providing appropriate land, a partnership framework between non-profit and private real estate developers using public resources towards development of priority housing units. Incentivizing in terms of reduction in the approval timelines by providing fiscal incentives, will support and act as a motivation tool for private sector to participate and take the vision forward.

Regulation in the zoning process with dedicated affordable zones and a separate chapter in RERA Act will boost the sentiment and enhance efficiency into the system.

Also, with proper monitoring the planning process and the end user education with respect to the schemes and benefits being provided by the government will create a pathway towards the betterment of living standards and ease of living at an affordable cost. Effective stakeholder management is the key to success in collecting and tracking down the key objectives.

With effective selection of the right material and right construction techniques, standardized business models and proper financing decisions is a potential way to boost the affordable housing sector.

With increasing demand, the affordable housing market will now rapidly grow and will provide new opportunities for various stakeholders in the affordable housing segment. This increase in demand, assisted by incentivised development policy, supportive social infrastructure, ease of obtaining finance and use of technology can address the need of the hour, which will not only boost the economy but also prevent the creation of urban slums.

References

- BMTPC. (2019). *Building Materials & Construction Technologies*. Retrieved October 29, 2019, from <http://www.bmtpc.org/topics.aspx?type=main&mid=55>
- EDGE. (2017, February 28). *US department of Housing and Urban development*. Retrieved from Defining Housing Affordability: <https://www.huduser.gov/portal/pdredge/pdr-edge-featd-article-081417.html>
- GOI, C. (2019). *Office of the Registrar General & Census Commissioner, India*. Retrieved July 21, 2019, from <http://censusindia.gov.in/>
- Hulme, D. (2008). *The Story of the Grameen Bank: From Subsidised Microcredit to Market-based Microfinance*. The university of manchester.
- India, R. B. (2019). *Residential Asset Price Monitoring Survey*. Mumbai: RBI.
- JLL. (2016). *Affordable Housing in India*.
- KPMG. (2018). *Indian real estate and construction consolidating for growth*.
- MoHUA. (2015). *Affordable Housing in Partnership (AHP)*. Ministry of Housing and Urban Poverty Alleviation. Retrieved October 27, 2019, from <http://mohua.gov.in/upload/uploadfiles/files/11.pdf>
- MoHUA. (2020, February 28). *Ministry of Housing and Urban Affairs*. Retrieved from Credit Linked Subsidy Scheme: <http://mohua.gov.in/cms/credit-linked-subsidy-scheme.php>
- MoHUA. (2020, February 28). *Pradhan Mantri Awas Yojana Urban*. Retrieved from IN-SITU SLUM REDEVELOPMENT: <https://pmay-urban.gov.in/issr>
- MoHUA. (2020, February 28). *Pradhan Mantri Awas Yojana-Urban*. Retrieved from Pradhan Mantri Awas Yojana (Urban)-PMAY (U): <https://pmaymis.gov.in/>
- MoHUA. (2020, February 28). *Progress PMAY*. Retrieved January 25, 2020, from Ministry of Housing and Urban Affairs: <http://mohua.gov.in/cms/progress-pmay.php>
- MoHUPA. (2015). *Pradhan Mantri Awas Yojana*. Government of India.
- NIPFP. (2019). *Assessing Employment generation under Pradhan Mantri Awas Yojna(Urban)*. New Delhi: National Institute of public finance and policy.
- PMAY-U. (2019). *PMAY*. Retrieved July 21, 2019, from <https://pmay-urban.gov.in/>
- TGC-Urban. (2012). *Technical group on urban housing shortage*. Retrieved July 2019, from <http://www.nbo.nic.in/Images/PDF/urban-housing-shortage.pdf>
- Virendra joshi, A. B. (2019). *Affordable Housing - The Blue-Eyed Boy of Indian Real Estate*. Mumbai: Anarock.

Vivienne Milligan, P. P. (2004). *A practical framework for expanding affordable housing services in Australia*. Sydney: AHURI Final Report No. 65.

Worldometers. (2020, February 28). *India Population*. Retrieved July 21, 2019, from Worldometers: <https://www.worldometers.info/world-population/india-population/>

Investment Decisions for Real Estate Asset Classes Based on Market and Marketability Study for Chosen Micro- Market

*IIBM's Journal of Management Research**Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)**DOI : 10.33771/iibm.v5i1-2.1228*

Payal Shende¹, Jeel Joshi², Sushrut Sonar³ and Shekhar Nagargoje⁴

^{1,2,3}MBA Student, Real Estate and Urban Infrastructure, RICS School of Built Environment, Amity University, Mumbai, India

⁴Associate Professor, School of Real Estate, RICS School of Built Environment, Amity University, Mumbai, India

Abstract

The real estate sector is one of the most recognized sectors worldwide. By 2040, real estate market is expected to grow to Rs 65,000 crore (US\$ 9.30 billion) from Rs 12,000 crore (US\$ 1.72 billion) in 2019. (Indian brand equity foundation, 2019). The real estate sector is mostly dependent on the economy of a country. The real estate sector consists of various asset classes namely residential, commercial, retail, warehousing, etc. Demand for each asset class is dependent on a combination of different factors. For example, according to the colliers report 40% of the foreign investment inflows in 2020 will be into commercial real estate sector. Also the foreign investment inflows for commercial sector in 2019 was 46% of the total inflows. Reason for such inclination to commercial real estate sector can be estimated as the increased transparency in the sector because of Real estate regulatory authority, Goods and services tax, relaxation of FDI norms and roll out of the insolvency and bankruptcy code. (Colliers, 2020). Technological advancements into Big data, e-commerce, IoT, etcetera play a very active role into the boom of commercial and warehousing asset class.

Along with the macro economic factors and technological advancements the changing population, changing trends, zoning, development plans, etcetera affect the demand and supply for real estate asset classes.

In order to achieve planned return on investment a market research and data analysis is of tremendous importance. A proper strategy would help achieve highest and best use of a site . The market and marketability process involved in this research paper will help understanding all the factors that affect demand, supply and profitability for a real estate asset in the considered micro market.

Keywords: *Strategic Management, Highest & best use, Real Estate Market Research*

Introduction

In the pre- colonial era, Mumbai was made of a seven island cluster – Mahim, Worli, Isle Of Bombay, Parel, Mazgaon, Old Woman's Island and Colaba. Mumbai is divided seven Administrative zones. Also, Worli comes under zone 2 and ward G/S. (MCGM, 2019)

The site chosen for Highest and best use study is a slum (15.3 acres) in Worli. This residential slum property in Mumbai accommodates population of the middle class in old chawl style homes, duplexes with very narrow space between and no proper sanitation and hygiene facilities.

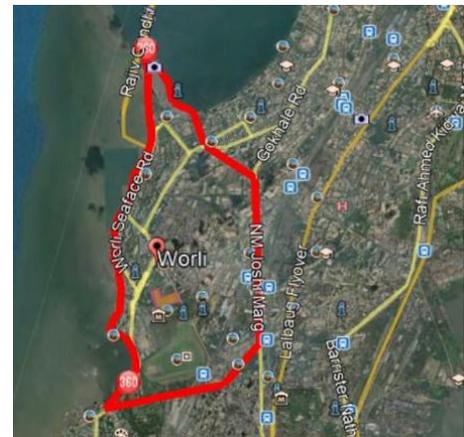


Figure 1 Worli market(Anon., 2019)

Demographics

POPULATION			
1981	1991	2001	2011
5,37,039	4,44,848	4,57,931	3,77,749

Figure II Population of Worli (Registrar general and census commissioner, 2011)

Historic growth & economy

As per the timeline observations from Google Earth Pro, construction of Bandra Worli sea-link started in 2000 and ended in 2010. The Worli micro-market majorly developed vertically from 2015 to 2019. The north-eastern part of Worli reflects a remarkable vertical growth over the years. The rest of the Worli depicts high built-up density over the timeline (Anon., 2019). Also, as per the Draft regional plan of 2016-36, the secondary sector occupations observed in most of Worli micro-market. In the Mumbai city region the manufacturing trends have reduced by 2% whereas electricity gas and water supply has increased by 2% from 1998 to 2005. Also the construction industry had increased by 1%. The employment in the tertiary sector shows negative growth rate by 1.26% from 1998 to 2005 in Mumbai city region.

It is seen that real estate, renting and business activities was providing the highest employment in Mumbai city region in comparison to other micro markets (Draft regional plan, 2016) .

Future growth

Coastal road project

The Coastal Road will reduce the road traffic congestion on the overly-burdened Western Express Highway. Running along the city's coastline, this road will be the first of its kind. This controlled-access highway will provide high-speed connectivity between the Western Suburbs and South Mumbai. Among

other driving factors, the Coastal Road project will change the access to the office markets significantly. It will alter the connectivity of the micro-markets significantly, such that the travel time and distance between the listed markets and other places of importance will see a significant reduction. (Knight Frank, 2017)

Mumbai Metro line III

MML-3 is a 33.5 KMs long underground corridor running along Colaba-Bandra-SEEPZ. Length of the corridor is marked with 27 key stations out of which 26 will be underground and 1 at grade. After the metro line project between Andheri and Ghatkopar was approved, the residential property in Andheri east appreciated by 185%(Knight Frank, 2017) During the construction, the residential property in Andheri East appreciated by another 94%(Knight Frank, 2017) Concluding from the trend, Worli is also seeing a major future potential growth with the boost from Mumbai Metro Line III.

Property productivity analysis

Site access & surroundings

The site has accessibility from the 20m wide arterial road on the east- Dr. Moses road. A 6m wide local road runs through the site -Hutatma Ganpat Papan marg. Nearest railway stations are Lower Parel Monorail which is 2.3km away. Curry Road station, 2.3km away. Lower Parel station 1.9km away and Chinchpokli station 3km away. Nearest bus stops are Jijamata Nagar bus stop which is right in front of the site and BMC office bus stop which is 550m away.

Market delineation (drive-time method)

For the site in Worli, the micro market for the survey was approached with the 'Drive-time' model. The catchment area is considered to be everything coming under the 15 minutes of driving time from the site. (Gray, 2014)

It is a polygon which is generated through the extent to which a vehicle can travel in the outward direction from the site up to 15 minutes. It is prominently dependent on the ease of traveling along the road. (Gray, 2014)



Figure III Delineated market(Arc GIS Business Analyst, 2019)

The speed-limit, traffic and condition of road are few of the various aspects that may affect this method.

Residential

From the population data of figure II from year 1981 till 2011(Registrar general and census commissioner, 2011), the population CAGR (Compound Annual Growth Rate) was calculated for three decades as follows,

$$\text{CAGR} = \{(\text{end value}/\text{beginning value})^{1/\text{no. of years}} - 1\}$$

$$\text{CAGR} = \{(377749/537039)^{1/30} - 1\}$$

$$\text{CAGR} = -0.017\%$$

Since, the value of CAGR is negative, the population is interpreted to be decreasing. The decreasing population also indicates the decrease in household. As per Environmental Systems Research Institute data (Arc GIS Business Analyst, 2019) for the delineated micro market, the 2018 population for the delineated micro-market is 3,69,279 and average household size is 4.6. Thus, Using the CAGR rate to forecast the population for the next five years,

$$-0.017 = \{(\text{end value}/369279)^{1/5} - 1\}$$

$$\text{End value} = 338939 \dots \dots \dots (a)$$

The forecast population for the micro-market is 338939. Thus, the number of households for the forecasted population is 73,683. The number of households for the 2018 population was 80428 (ESRI) and that of 2023 are 73,683. The change in number of households is 6745. The following formula for housing demand forecast is referred from the book 'Market Analysis for Real Estate' by Stephen Fanning(Fanning, 2005):

$$(cH + nR) - (V_a - V_n) - (UC_a - UC_n) = \text{DEMAND FOR NEW HOUSING UNITS}$$

cH = change in the number of households in the market area over any given period = -6745

nR = Net removal of units (demolitions) = 0

V_a = Actual vacancies = 2600 (magickbricks, 2019)

V_n = Normal vacancy in a balanced market = 5% of total units (8046) = 403

UC_a = Actual housing units under construction = 5136(magickbricks, 2019)

UC_n = Normal number of units under construction (average of three years) = 1600(Anarock, 2017)

From the reduction in households and the upcoming residential projects in the pipeline, it is observed that there is an over-supply in the residential sector of the micro-market.

Demand and Supply Analysis

From the fanning’s formula depicting reduction in number of households and also upcoming projects it can be inferred that there is no demand for residential units in Worli micro market. However, same is not

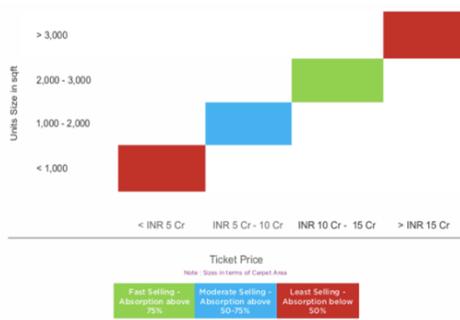


Figure IV

Ticket size breakup with absorption (Anarock, 2017)

the actual case in Worli. As of 2017, the supply for residential units mainly consisted of a breakup of 76% of units with size 1000- 2000 sq. ft, 5 % below 1000 sq. ft and 14% of units above size 3000 sq. ft.(Anarock, 2017)

We can understand from figure IV that even though the properties with ticket size 2000-3000 sq. ft. are fastest selling at 89% absorption rate but the supply as of 2017 was merely 5%. (Anarock, 2017) Hence it is safe to say that

there is a demand for residential houses with ticket size of 2000 – 3000 sq. ft in Worli micro market.

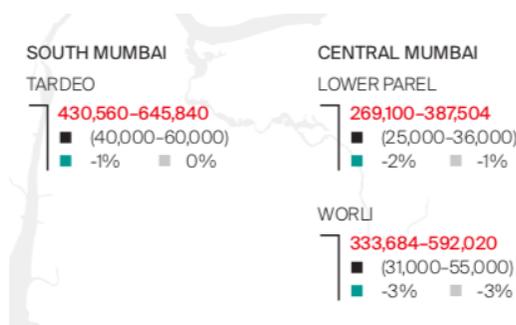


Figure V

Prices for residential l(knight Frank, 2019)

The residential property rates and ready reckoner land rates (220200 per m sq.) for Worli are comparatively higher than the rest of the city. This makes it difficult for the very much in demand low ticket housing sector to flourish here.

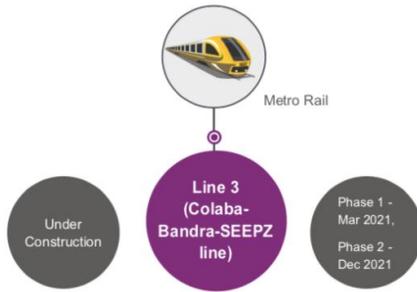


Figure VI Metro rail III timeline (Anarock, 2017)

Unavailability of huge land parcels for big ticket developments throughout Mumbai makes slum rehab a golden opportunity. Seamless connectivity through upcoming Metro III and existing Bandra Worli sea link makes Worli even more attractive for luxury housing.

Also, the proximity to sea face, better social and physical infrastructure, upcoming urban infrastructure, proximity to statutory offices and moderate presence of commercial offices indicate high liveability aspect of Worli micro market and display a scope for high end and luxury housing in Worli.

Commercial

The micro-market has 3 upcoming projects and 12 existing projects which brings the total commercial space up to 54,25,255 Sq. ft (magickbricks, 2019). Majority of the projects are on the northern side of the site.

As per Jennings formula (Rabianski & Gibler, January 2006):

$$D_{t+1} = (S/P) (P_{t+1})$$

D_{t+1} = Demand for total office space in a future time period;

S = Stock of office space in given period;

P = Population in a given period;

S/P = Average of the ratio for several recent years; and

(P_{t+1}) = Forecasted population in time period $t+1$ (from (a))

The forecasted population for the micro-market is decreasing. In Jennings formula, the forecasted population is directly proportional to the demand. Hence, it shows a negative demand for the micro-

market. But it is observed that this is not the case with Worli. This is due to various market related reasons.

In the year 2018, 9% of the gross absorption of the office spaces in Mumbai is noted from Worli and Prabhadevi. When the rentals of the office spaces in the micro-market are analysed, it is observed that there is no YoY change in the rentals in Worli. (CIRIL, 2019). Investors like Singapore's GIC have invested in commercial projects of Worli. Other companies like Blackstone and Brookfield are investing in commercial assets of India as well. The upcoming REITs are game changer for real estate in India and instead of local developers, the growing institutionalization of commercial assets is bringing in transparency and professionalism to the industry. (RICS, Collier's International, n.d.). Overall, considering the rental trends and the upcoming developments, the micro-market projects a steady demand for commercial spaces.

Retail

The per capita mall space in India is 1.3(JLL, 2014) . According to the census, the purchasing power of Indian economy has increased over a period of time. Hence, PCMS for 2019 is considered to be 1.5.

Population of the micro-market (from (a)) = 3,38,939

Retail space for the micro-market = $3,38,939 \times 1.5 = 5,08,408\text{Sq.ft}$

Current available retail space in the micro-market = **12,40,000 Sq.ft** Thus, there is an evident over-supply in the micro-market.

References

Article in periodical

Colliers, 2020. Investment in Indian real estate sector. *The Economic Times*, 1 January.

Books

Fanning, S., 2005. *Market analysis for real estate*. s.l.:s.n.

Reports

Anarock, 2017. *Rise of Worli*, s.l.: s.n.

CIRIL, 2019. *Indian Real Estate Outlook*, s.l.: s.n.

Draft regional plan, 2.-3., 2016. *Draft regional plan for MMR, 2016-36*, Mumbai: MMPC.

JLL, 2014. *Retail Realty in India Evolution & Potential*, s.l.: s.n.

Knight Frank, 2017. *Urban Transport - Unlocking the real potential*, Mumbai: s.n.

Knight Frank, 2019. *Indian Real Estate: Residential and office*, s.l.: s.n.

Payal shende, J. J. S. S., 2019. *To understand the process of Market research and method for highest and best use analysis and its application for Jijamata Nagar slum*, s.l.: s.n.

RICS, Collier's International, n.d. *Opportunities in changing world*.

Research papers

Rabianski, J. S. & Gibler, K. M., January 2006. Office market demand analysis and estimation techniques: a literature review, synthesis and commentary. *Journal of Real Estate Literature: 2006, Vol. 15, No. 1, pp. 37-56*.

Websites

Anon., 2019. *Google Earth Pro*. [Online].

Arc GIS Business Analyst, 2019. *www.esri.com*. [Online]

Available at: <https://www.esri.com/en-us/arcgis/products/arcgis-business-analyst/overview>

Gray, A.C., 2014. [Online]

Available at: <https://spatial.usc.edu/wp-content/uploads/2014/04/GrayAmanda.pdf>
[Accessed 19 October 2019].

Indian brand equity foundation, 2019. *www.ibef.org*. [Online]

Available at: <https://www.ibef.org/industry/real-estate-india.aspx>
[Accessed 2 february 2020].

magicbricks, 2019. *www.magicbricks.com*. [Online].

MCGM, 2019. [Online]

Available at: www.mcgm.gov.in

MCGM, 2019. [Online]

Available at: <http://dm.mcgm.gov.in/sites/default/files/documents/maps/GS.pdf>

Registrar general and census commissioner, 2011. *District Census Handbook*, s.l.: Government of India.

A Study on Awareness of Alternative Investment Products Among the Investors of Mumbai

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1229

Priyanka Salunkhe

Thakur Institute of Management Studies and Research

Smruti Patil

Thakur Institute of Management Studies and Research

Dr. Shebazbano Khan

Assistant Professor, Thakur Institute of Management Studies and Research

Akhil Shetty

Assistant Professor, Thakur Institute of Management Studies and Research

Abstract

This research paper aims to analyse the awareness about the alternative investment products among the investors of Mumbai. The purpose of study is to find out the level of awareness and investors preferences with respect to alternative investments products. Earlier the investment pattern was only bank deposits, bonds, schemes etc. but nowadays it has evolved into alternate investment. Alternative investments consist of Hedge funds, Private equity funds, Real Estate Investment Trust (REIT), gold etc. For this study we have collected primary data from respondents through a specific formed questionnaire. The data has been analysed through ANOVA test. The study concludes the level of awareness and preference level among the investors with respect to alternative investments products according to the Age of the respondents.

Keywords: *Level of Awareness, Investors preference, Age*

Introduction

An investment is a financial asset that accrued with the goal of generating income with the idea that the asset will provide income further or will later be sold at a higher price for a profit. In order to invest the investors shall be well aware about the investment products. Investments can be classified into

traditional investments and alternative investments. Alternative investment means making investments into products other than traditional ones. They are mostly held by institutional investors or accredited, high-net-worth individuals because of the complex natures and regulations of the investments. Alternative investments can be classified into two categories tangible assets such as art, antiques, coins etc., and financial assets such as real estate, hedge funds, private equity and commodities. The aim of the study is to find out the awareness of alternative investment products among the investors of Mumbai. The objective was to check the level of awareness and the investor's preference with respect to alternative investments.

Hedge funds are alternative investments that pool money from HNI client's money and invest in variety of assets. They take both short and long positions, buy and sell equities, initiates arbitrage and trade bonds, currencies, convertible securities, commodities and derivative products to get returns at reduced risk.

Real estate investment trust ("REIT") are mutual funds that enable investments into the real estate sector by pooling small sums of money from multitude of individual investors for directly investing in real estate properties as to return a portion of the income to unit holders of it.

Private equity funds refer to equity which is not traded on a public exchange. It is full of capital invested by private equity firms. These funds are obtained from institutional investors and high net worth investors. They are organized as limited partnership during which there are limited partners and general partners. General partners are fund managers who manage the fund and receive a fee called carried interest.

Gold is one among the foremost preferred investments in India. High liquidity and inflation-beating capacity are its strong points, prestige, and so on. Though there are phases when markets witness a fall in gold prices, it won't last for long and always makes a strong comeback.

Literature review

1. **S.Veena (2015)** has expressed her view in the research paper titled “**Alternative Investment: A Comprehensive view**” about the investment avenues available for the investors aside from conventional avenues like bank deposits, government instruments etc., or investing available markets, which is again a traditional method of investing. The article makes an attempt to provide a comprehensive view of investment avenues, its performances in the past and its trend in the future. It is interesting to note that those which were considered as hobbies can produce returns to the investor and make it a worthwhile investment.
2. **Andrew C.Worthington And Helen Higgs (2008)** have expressed their views in the research paper titled “**Australian Fine Art As An Alternative Investment**” regarding 35,805 paintings by forty-five leading Australian artists sold at auction over the years 1973-2003 and used to construct individual hedonic price indices. The attributes included in each artist’s hedonic regression model include the dimensions and medium of the painting and therefore the firm and year during which the painting was sold. The indexes show that average annual returns across all artists range between four and fifteen percent and with a mean of eight percent, with the very best returns for works by Brett Whiteley, Jeffrey Smart, Cecil Brack and Margaret Olley. The hedonic regression models also capture the willingness to buy perceived attributes within the artwork, and these show that works executed in oils and gouache, and people auctioned by Deutscher-Menzies, Sotheby’s and Christies are generally related to higher prices.
3. **Bibhu Saboo** wrote a research paper titled “**Gold as an alternative Investment Instrument in India**”. Gold, among the varied asset classes, is taken into account to be the foremost attractive investment by an investor. It plays a crucial role within the social and economic lifetime of people. Many global investors invest in gold because it is appreciating over the years and is additionally wont to diversify their risk thanks to global economic unanticipated changes. There is a sudden rise within the demand for gold in India over the previous couple of years. Gold isn't only purchased in physical form but also during a demat form i.e. With the growing importance of gold, the investors have an interest in getting supernormal profits. This report aims to review the return pattern of gold. Also it'll affect on how investors can earn

supernormal profits by timing their investment decision. This can even be reported that if there's any seasonality in gold returns i.e. whether there is significantly higher return in some parts of the year than others.

- 4. Navneet Bhatnagar (2017)** has conducted a study titled “**What are Alternative Investment Funds**” to delve into alternate investment funds and review their working especially in context to opening up of Indian financial landscape. In this article the author deliberates upon the definition of Alternative Investment Funds, options available in the market, growth trends in India, regulatory constraints and government efforts in procedural reforms leading to greater ease in business as well as analyse how market is tapping them.

Research Gap Identified

- The previous researches have helped in understanding what are alternative investment funds and gold or fine art as alternative investment.
- But none of the studies highlight the awareness level of alternative investment.
- This present study is aimed to know the awareness level of alternative Investment products among the investors of Mumbai.

Research methodology

Scope of the study

This study is restricted to Mumbai.

Objectives of the study

1. To study the awareness level among investors regarding alternative investment products such as Hedge Funds, Private Equity Funds, Real Estate Investment Trust and Gold.
2. To study the preference level of investors with respect to Hedge Funds, Private Equity Funds, Real Estate Investment Trust and Gold.

Hypothesis of the study

1. H_{01} : There is no difference in awareness of Alternative Investment products according to the age of the respondents.

H_{11} : There is a difference in awareness of Alternative Investment products according to the age of the respondents.

2. H_{02} : There is no difference in preference level of Alternative Investment products according to the age of the respondents.

H_{12} : There is a difference in preference of Alternative Investment products according to the age of the respondents.

Variables in the study

Dependent variable: Level of awareness, Investor preference.

Independent variable: Age.

Techniques of data collection

The data was collected through primary and secondary sources. The primary data is collected through a specially designed questionnaire. The secondary data is collected from books journals and information available on the internet.

Sampling Universe

Investors in Mumbai.

Sample Size

100 investors in Mumbai.

Techniques of Selection

Random Sampling.

Statistical Tools used

The data collected is duly processed with the help of MS-Excel and SPSS Software.

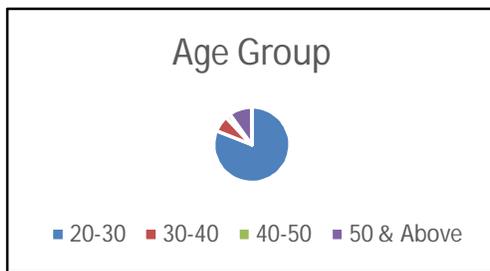
The researchers have selected ANOVA testing for this study.

Data interpretation and analysis

Table No. 1 Age Group

Age Group	Frequency
20-30	81
30-40	7
40-50	2
50 & Above	10

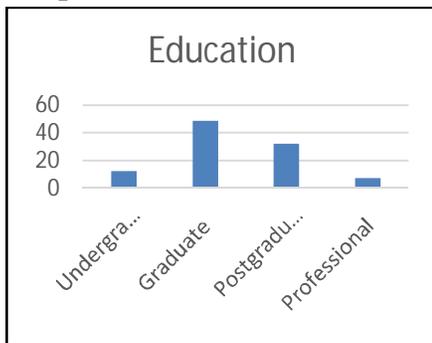
Graph No. 1



From the above it can be seen that out of 100 respondents, 81 respondents are in the age group of 20-30, 7 respondents are in the age group of 30-40, 2 respondents are in the age group of 40-50 and 10 respondents are in the age group of 50 & above.

Table no. 2 Education

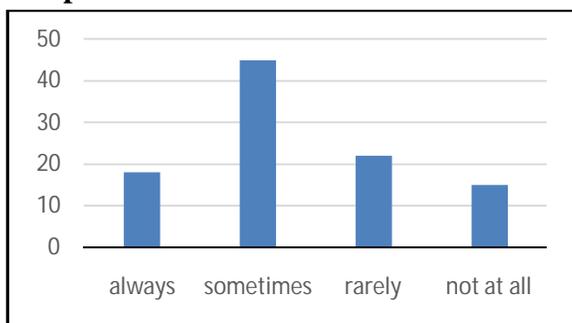
Education	Frequency
Undergraduate	12
Graduate	49
Postgraduate	32
Professional	7

Graph No. 2

From the above it can be seen that out of 100 respondents, 12 respondents are undergraduate, 49 respondents are graduates, 32 respondents are postgraduates and 7 respondents are professionals.

Table No. 3 Does the respondent invest their money?

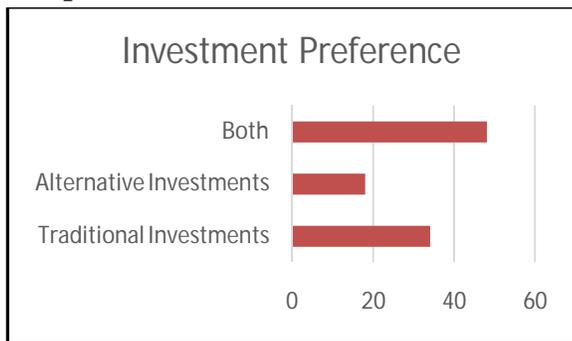
	Frequency
Always	18
Sometimes	45
Rarely	22
Not at all	15

Graph No. 3

From the above it can be seen that out of 100 respondents, 18 respondents always invest their money, 45 respondents sometimes invest their money, 22 respondents rarely invest their money and 15 respondents do not invest their money at all.

Table No. 4 Investment Preference

Investment Style	Frequency
Traditional Investments	34
Alternative Investments	18
Both	48

Graph No. 4

From the above it can be seen that out of 100 respondents, 34 respondents prefer Traditional Investment style, 18 respondents prefer Alternative Investments and 48 respondents prefer both the investment styles.

Table No. 5 Awareness of alternative investment products

Awareness	Frequency
Fully aware	21
Somewhat aware	63
Not at all aware	16

Graph No. 5

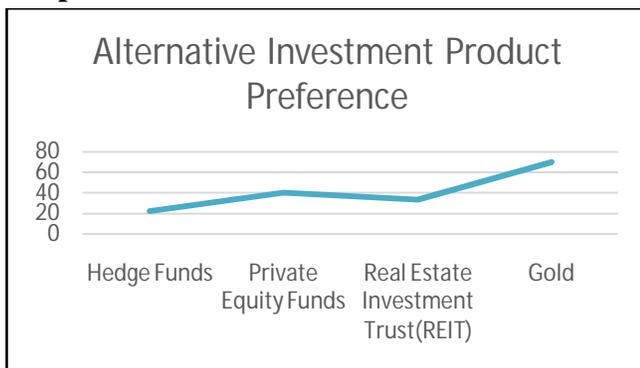


From the above it can be seen that out of 100 respondents, 21 respondents are fully aware about Alternative Investment products, 63 respondents are somewhat aware about Alternative Investment products and 16 respondents are not at all aware about Alternative Investment products.

Table No. 6 Alternative Investment Product Preference

Alternative Investment Product	Frequency
Hedge Funds	22
Private Equity Funds	40
Real Estate Investment Trust (REIT)	33
Gold	70

Graph No. 6

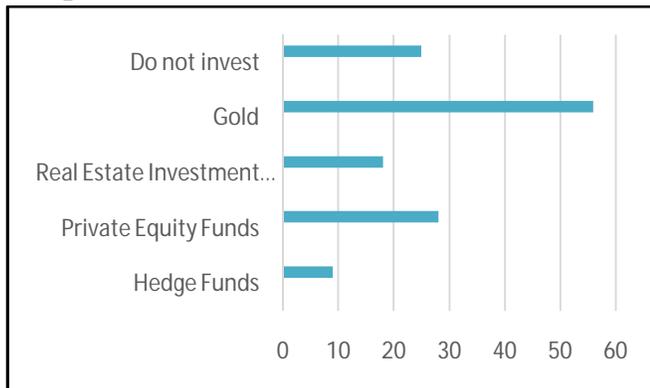


From the above it can be seen that 22 respondents prefer Hedge Funds, 40 respondents prefer Private Equity funds, 33 respondents prefer Real Estate Investment Trust (REIT) and 70 respondents prefer Gold.

Table No. 7 Investment of Respondents

Alternative Investment products	Frequency
Hedge Funds	9
Private Equity Funds	28
Real Estate Investment Trust (REIT)	18
Gold	56
Do not invest	25

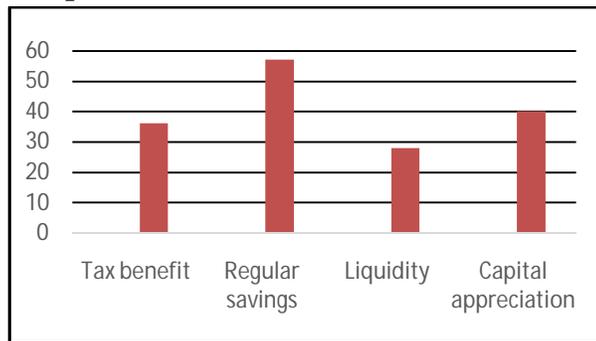
Graph No. 7



From the above it can be seen that 9 respondents invest in Hedge Funds, 28 respondents invest in Private Equity Funds, 18 respondents invest in Real Estate Investment Trust (REIT), 56 Respondents invest in Gold and 25 respondents do not invest in any of the Alternative Investment products.

Table No. 8 Reason for Investing

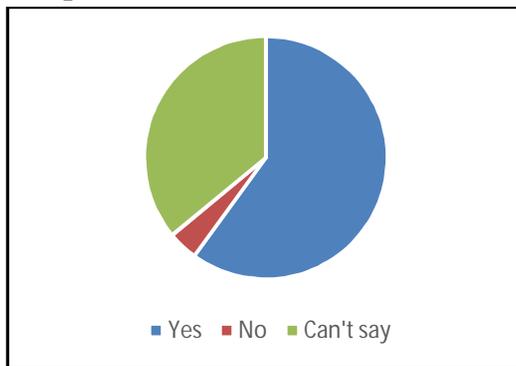
Reason for investing	Frequency
Tax benefit	36
Regular savings	57
Liquidity	28
Capital appreciation	40

Graph No. 8

From the above it can be seen that 36 respondents invest for the purpose of Tax benefit, 57 respondents invest for the purpose of Regular savings, 28 respondents invest for the purpose of Liquidity and 40 respondents invest for the purpose of Capital appreciation.

Table No. 9 Investor's Recommendation

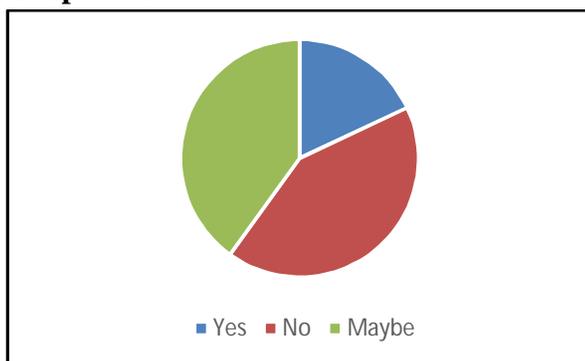
	Frequency
Yes	60
No	4
Can't say	36

Graph No. 9

From the above it can be seen that out of 100 respondents, 60 respondents recommend investing in Alternative Investment products, 4 respondents do not recommend investing in Alternative Investment products and 36 respondents can't say anything in this matter.

Table No. 10 Is enough education and awareness is provided to investors regarding Alternative Investment products?

	Frequency
Yes	18
No	42
Maybe	40

Graph No. 10

From the above it can be seen that out of 100 respondents, 18 respondents believe that enough education and awareness is provided to investors regarding Alternative Investment products, whereas 42 respondents believe that enough education and awareness is not provided to investors regarding

Alternative Investment products and 40 respondents believe that maybe enough education and awareness is provided to investors regarding Alternative Investment products.

ANOVA Table 1

For Awareness Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3024.213	3	1008.071	6.298	.001
Within Groups	15365.583	96	160.058		
Total	18389.796	99			

Interpretation

The above results indicate that the significance value is less than 0.05, F test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.

Conclusion

There is a difference in the awareness level of alternative investment products according to the age of the respondents.

Findings

The overall awareness level is low, so some efforts must be taken to increase the awareness level among the different age group of investors in Mumbai.

ANOVA Table 2
For Investor Preference

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5599.151	3	1866.384	3.828	.012
Within Groups	46800.849	96	487.509		
Total	52400.000	99			

Interpretation

The above results indicate that the significance value is less than 0.05, which means that F test is rejected. Hence, null hypothesis is rejected and alternate hypothesis is accepted.

Conclusion

There is a difference in preference of Alternative Investment products according to the age of the respondents.

Findings

The overall investor preference with respect to alternative investment products is low, so some efforts must be taken to increase the preference level among the different age group of investors in Mumbai.

Findings of the Study

From the above data analysis and interpretation, it is found that

1. It is observed that maximum respondents are in the age group of 20-30 years.
2. It is seen that most of the respondents are graduates followed by the most number of postgraduates.
3. It is found that 18% of the respondents always invest their money, while 45% sometimes invest their money, 22% rarely invest and 15% do not invest their money at all.
4. It is found that maximum respondents i.e. 45% of the respondents prefer both Traditional Investments as well as Alternatives Investments, 34% prefer Traditional Investment and 18% prefer Alternative Investment style.

5. It is observed that 21% of the respondents are fully aware of alternative Investment products, 63% of the respondents are somewhat aware of Alternative Investment products and 16 % are not at all aware.
6. It is seen that maximum respondents prefer Gold as an Alternative Investment followed by Private Equity Funds, REIT and Hedge Funds.
7. It is observed that maximum respondents invest in gold followed by Private Equity Funds, REIT and Hedge Funds.
8. It is seen that regular savings is one of the major reasons by the respondents save their money.
9. It is observed that 60% of the respondents recommend investing in Alternative Investment products whereas 4% do not recommend and 36% can't say anything in this matter.
10. It can be seen that 18% respondents believe that enough education and awareness is provided to investors regarding Alternative Investment products, whereas 42% believe that enough education and awareness is not provided to investors regarding Alternative Investment products and 40% believe that maybe enough education and awareness is provided to investors regarding Alternative Investment products.

Conclusion

Hence, null hypothesis is rejected and alternate hypothesis is accepted. There is a difference in the awareness level of alternative investment products according to the age of the respondents and also there is a difference in the investor's preference level with respect to alternative investment products according to the age of respondents.

Recommendation

More awareness must be spread among the investors of different age groups through educational programs or any interactive sessions with experts of the field. This may also increase the preference level of alternative investment products among the investors.

References

Andrew C. Worthington And Helen Higgs(2008), “Australian Fine Art As An Alternative Investment”, Accounting Research Journal

Bibhu Saboo, “Gold as an alternative Investment Instrument in India”

Navneet Bhatnagar (2017), “What are Alternative Investment Funds”

S. Veena (2015).”Alternative Investment: A Comprehensive view”

www.academia.edu

www.investopedia.com

REITS In India- A Case Study on the Alternate Investment Option

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1230

Raghavi Varadarajan, Student

Dr. Priti Pandey, Associate Professor

RICS School of Built Environment, Amity University
Mumbai

Abstract

Infrastructure and Real Estate are the two most important sectors for the growth of any economy. Currently Real Estate is the second largest employment absorbing sector after agriculture. However given the paucity of Funds in this sector, it has posed a challenge to the Global Managers to focus on additional or innovative channels of Finance.

This research focuses on evaluating REIT's (Real Estate Investment Trust) efficiency and the likelihood of expanding REIT's fund into direct real estate finance in India, using Bengaluru as a benchmark for the success of the REIT office market. Internal factors are market / economic criteria (size, debt, asset value, NAV, FFO) while external factors are business environment linked (Political, Infrastructure, etc.). It aims at introducing various potential asset classes in the formation structure of an REIT as an alternate investment in the real estate sector. The study was conducted taking into consideration four properties out of a potential fourteen grade A office spaces to show difference in location, tenant mix, and average rental yield. The properties belong to a renowned developer in India, XYZ Developer. (Name of whom is hidden to maintain confidentiality).

In order to map the potential of these assets, a detailed study on the occupancy-vacancy levels, demand-supply analysis, rental trends across the city and the tenant mix based on the sectors. Since there would be some investment inferences based on the facts produced, a study on the strengths of the business and the risks and challenges thus associated with it.

Keywords: *Asset value, Funds available for distribution (FAD), Funds from Operations (FFO), Net Asset Value (NAV), REIT.*

Introduction

India, being a fast growing market and the government offering more traction to infrastructure and real estate development, Real Estate Investment trusts undoubtedly play a significant role for developers willing to invest in this sector and make profits from their investments, and investors, the opportunity to hold shares by investing into income generating properties. They have historically proven to be a legitimate source of investment in the international markets and now in India with the successful listing and emergence of the Blackstone Group LP-Embassy Office Parks REIT in 2019 together listing a portfolio of assets of worth Rs. 4750 Cr. and a joint venture between Blackstone and K Raheja Corp expected to take place in 2020-2021. India's commercial real-estate industry has been on a rise in recent years. Well-managed, high-quality assets with a typical three-year lease and a steady occupancy of nearly 90 per cent offer good cash flow visibility. Hence ,they saw more contributions from foreign private equity (PE) funds. Commercial real estate continues to see a positive trend, with 294 million square feet of office spaces that can be pooled to create future REIT's, this sector offers hope for the realty market in India. (Priolker, 2019)

Objective of Research

1. The role of REIT's in India emerging as an alternate investment option
2. To study the REIT regulations laid down by SEBI in 2016 and to assess the tax implications of the same; in particular from an investor perspective
3. To study and suggest ways to list commercial properties of the renowned developer XYZ Group, Bengaluru

Research Methodology

The implemented framework is contextual-analytical, and improvisational. The study is informative to the point that it explains trends in the real estate sector in India with a focus on the role of REIT's in the faster development of this critical industry, and SEBI's role in the promotion of REIT's. The data is entirely based on the primary data accumulated from authentic sources.

REITs –an Investment Option

Rea Estate Investment Trust is a trust formed that owns assets and manages investments from the income producing real estate assets. It is similar to mutual funds by enabling investors to pool large

sums of capital for investment in diversified real estate portfolios. REIT launched in 1960 in the United States and was conceptualized by SEBI in India in 2008 foraying into the Indian finance market successfully in the month of April, 2019. REIT's that are exchanged publicly on the stock exchange are referred to as Listed REITs, whereas non-traded REITs are Non-listed. Since both have the same operating and regulatory framework, the difference comes in the type of lease and/or business conducted to generate revenue from the property purchased by the REIT.

Role of REIT in India

In India, real estate investment trusts (REITs) are very rare, possibly because the idea as such is in its infancy in India; since 2008, the SEBI has been testing different frameworks that could well fulfill investors' aspirations. Learning from its bad experiences twice, in its third attempt SEBI made the draft regulations open until the end of October 2013 with implementation of the same in 2014. It would help bring down the pressure on the banking system in India by churning out new equity. Developers are aided in improving their liquidity thereby reducing risks. They are essentially reviving the realty sector of the country and enabling economic development. In the forgoing, it was noticed that there were many studies on the Indian real estate sector but studies focusing on the REIT's were rather less. India's top 10 commercial real estate owners alone, including several developers and funds, have a portfolio circa 184 million square feet (MSF) which translates into an annual lease income of over Rs 17,000 crore. The portfolio of steady cash flows has the ability to increase through the real estate investment trust (REIT) route as much as Rs 1.5 lakh crore. PE's can withdraw on investment level from individual assets through REIT's. This would better harmonize with their typical 7-10 year exit timelines. Developers are expected to gain because REITs offer higher upfront cash to equity holders, helping to ease the pressure on their balance sheets in turn. They can use the proceeds of the divestment to reduce debt and support construction activity. This will also boost their credit portfolios, as seen in Embassy Office Park REIT, India's first REIT-listed in April 2019. REIT's make up nearly 50 percent of the capitalization of the real estate industry in markets such as Singapore and Japan, where they were launched about two decades ago, whereas they constitute 96 percent of the market capitalization in the US that pioneered REIT's in the 1960's. However, lack of opportunities or regulatory support, such as in Hong Kong, will limit this development. In 2014, REIT's were introduced in India, and a spate of regulatory changes over the five years have made it attractive to developers while also protecting investor expectations (P.K,2016).

Methodology

This methodology will discuss the income generating properties that are considered to form the proposed XYZ REIT. These commercial assets belong to XYZ developers, all of which are A grade office spaces situated in Bengaluru, India. The main objective of this research is to understand the formation of this REIT and its successful listing in the National Stock Exchange. The dividends from the generated income are distributed as dividends to the investors on half yearly basis. This research is composed of an elaborate methodology from the legal framework of the REIT so formed to the asset portfolio with details of rentals, tenants mix by sector and a tenant profile, the tax implications of the REIT thus formed and other financial calculations. Financial calculations for distribution of rentals to the unit holders in the form of dividends is done using data collected for the properties selected to form the REIT. The various financial heads are the cash flow analysis, valuation of the asset, Net operating income (NOI), Funds from operation (FFO), and Adjusted funds from operation (AFFO), Number of shares to be floated and the price per share, considering the listing of Blackstone-Embassy as a benchmark. Recommendations for including other asset classes under an SPV in the existing REIT for a better EBITDA and risks and challenges, strengths of the business, Right to First Offer and diversification strategy have been mentioned in detail to help investors take calculated risks. XYZ is a property development company based out of Bengaluru, India. With over 180 million sq. feet across real estate assets in India across all locations (Varadarajan,2019).

Legal Framework

- The SEBI regulations states that the assets are to be pooled into a trust, formed under the Trust under Indian Trust Act (1882).
- A sponsor who partially or wholly own the assets bring it into the trust and appoint the trustee to oversee the functioning and dividend distribution.
- The property and asset manager will operate the assets and generate income through rentals and pay out maintenances.
- 90% of the rental revenues are distributed back to the investors and shareholders' as dividends (Varadarajan,2019).

Tax Implications

A pass-through status was given to the REIT in according to the Finance Act of 2015. However the efficiency of tax can be critical to its success. Although, the government has worked to amend the existing Income tax Act to deliver a tax efficient and stable status for the REIT’s in India.

A single layer structure is wherein the tax flow through treatment is SPV-REIT-Unit Holders (Varadarajan, 2019).

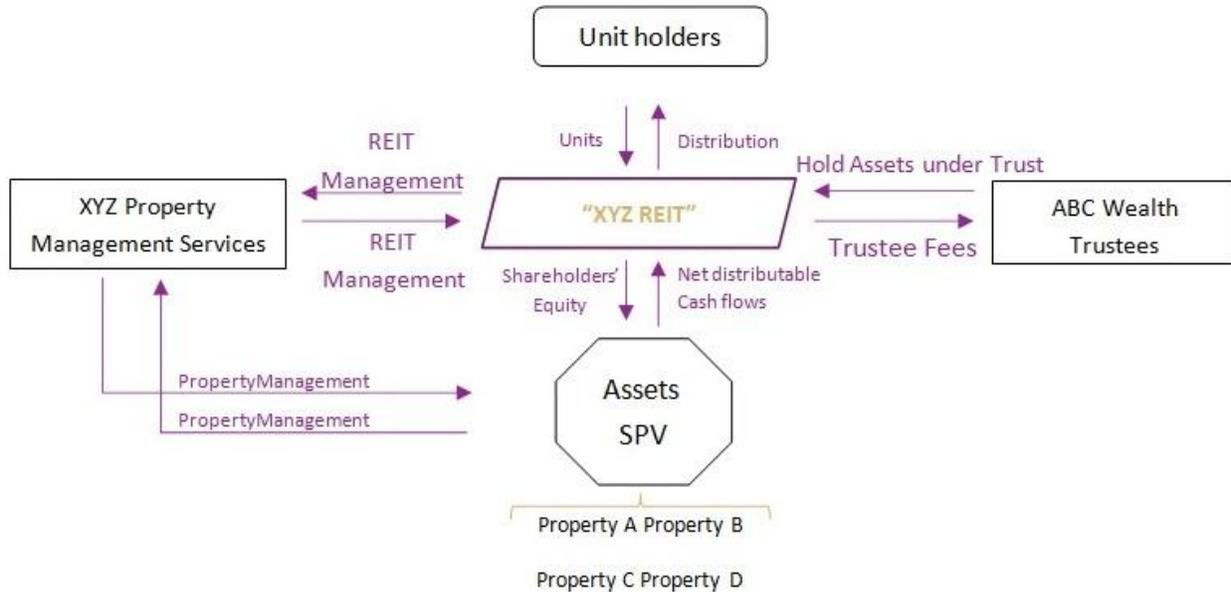


Figure 1 REIT Structure

Trustee	ABC Wealth Trustees
Sponsor	XYZ Group & Sequoia Capital
Manager	XYZ Property Management & Services

The flow chart demonstrated above is the formation of the XYZREIT formed by pooling in Grade A office spaces in the CBD and ORR areas of Bengaluru. Considering the other assets in possession and functioning of the developer primarily in Bengaluru and other major cities in India, going public with an REIT would be ideal for both the developer and the investor. Sequoia Capital is sought to be a premium venture capitalist firm in India and thus a scenario is created wherein this Indian VC unites with the Bengaluru based developer to sponsor the XYZREIT in India. The manager of the XYZ REIT would be

the sister company of the developer that has been into property management and other services for 8 years. ABC wealth trustee would be the entity that would monitor the smooth functioning of the thus formed REIT by complying with the SEBI regulations.

Considering current trends of 2019, the office sector fetches average rentals ranging from Rs.45-160/sq. Ft./month. Considering the properties selected for this activity are in the CBD and ORR areas of Bengaluru, the rent trend will vary between Rs.85- 150/sq.Ft./month. The vacancy rates were seen to be an average of 5-8% for the years 2018 and 2019.

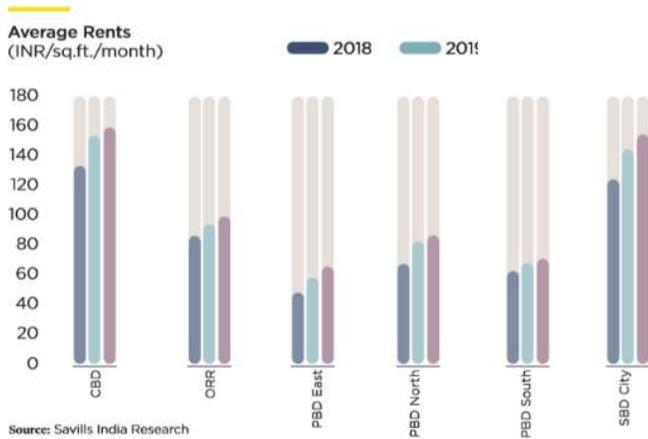


Table 1 Average rental rates in Bangalore (Office space)



Table 2 Vacancy rates across India

In many micro-markets, Bengaluru recorded a significant increase of 15-20 per cent. The supply of ready-to-move office spaces in Grade A remained limited, rentals witnessed a steady increase in most micro markets, with good quality buildings experiencing a slow shift upwards. Bengaluru's demand for commercial office space was driven primarily by technology and financial service firms, as well as versatile workspaces. Together they accounted for around 70 percent of the total leasing operation during 2019. The occupancy rates for Pune, Hyderabad and Bengaluru were the highest in the last year, keeping in mind the supply available.

The following data demonstrated below gives the details of the four properties, A, B, C and D respectively. The property particulars cover information such as area, sale price, occupancy rate, and maintenance costs for each of the following:

	Property Particulars				
	PrestigeTechPacificPark	Prestige Tech Park IV	Prestige Trade Tower	Prestige TechnoStar	
Land Area (Sft)	5,90,000	1,90,000	5,27,328	2,48,951	
Built up Potential	2	2	2	2	
Built up Area (sft)	11,80,000	3,80,000	10,54,655	4,97,902	
Sale Price/sft	₹ 9,092.33	₹ 4,572.94	₹ 8,629.47	₹ 6,056.59	
Costofconstruction(Rs./sft)	₹ 2,500.00	₹ 2,500.00	₹ 3,000.00	₹ 2,500.00	
Rent/sft	₹ 128.00	₹ 85.50	₹ 140.00	₹ 108.50	
Efficiency	70%	70%	70%	70%	
Occupancy rate	95.0%	95.0%	95.0%	95.0%	
Vacancy rate	5.0%	5.0%	5.0%	5.0%	
Leasable Area (Sft)	8,26,000	2,66,000	7,38,259	3,48,531	
Maintenance (Rs./sft)	₹ 15.00	₹ 10.00	₹ 15.00	₹ 10.00	
Total Property Value	₹ 10,72,89,43,597.99	₹ 1,73,77,15,722.22	₹ 9,10,11,16,026.53	₹ 3,01,55,89,291.39	₹ 24,58,33,64,638.12
Total Land Cost	₹ 7,77,89,43,597.99	₹ 78,77,15,722.22	₹ 5,93,71,51,026.53	₹ 1,77,08,34,291.39	₹ 16,27,46,44,638.12
Total Construction Cost	₹ 2,95,00,00,000.00	₹ 95,00,00,000.00	₹ 3,16,39,65,000.00	₹ 1,24,47,55,000.00	₹ 8,30,87,20,000.00

FIGURE 2 PROPERTY PARTICULARS OF THE FOUR PROPERTIES

The valuation of the property based on the precedent transactions sale price was considered to get the best value of the assets. The construction cost including fit-out was considered to be Rs.2500 for three properties A, B, and D and C was Rs.3000 taking into account the inflation costs and recently constructed property.

Tables below suggest the revenue and expense streams of these properties in order to compute the Net Operating Incomes of the combine assets.

Revenue Schedule					
No of Months	12	12	12	12	
Leasable Area	8,26,000	2,66,000	7,38,259	3,48,531	
Occupancy Rate	95%	95%	95%	95%	
Vacany Rate	5%	5%	5%	5%	
Rent/Sft	₹ 128.00	₹ 85.50	₹ 140.00	₹ 108.50	
Total Annual Revenue	₹ 1,20,52,99,200.00	₹ 25,92,70,200.00	₹ 1,17,82,60,566.00	₹ 43,10,98,488.66	₹ 3,07,39,28,454.66

FIGURE 3 REVENUE SCHEDULE

Net Operating Income = Revenue – Expense

Operational Expenses				
Property O&M	□ 1,23,90,000.00	□ 26,60,000.00	□ 1,10,73,877.50	□ 34,85,314.00
Depreciation	□ 29,50,00,000.00	□ 9,50,00,000.00	□ 31,63,96,500.00	□ 12,44,75,500.00
(10%)	□ 10,72,89,435.98	□ 1,73,77,157.22	□ 9,10,11,160.27	□ 3,01,55,892.91
Insurance (1%)	□ 41,46,79,435.98	□ 11,50,37,157.22	□ 41,84,81,537.77	□ 15,81,16,706.91
Total Annual Expense				□ 1,10,63,14,837.88

FIGURE 4 EXPENSE SCHEDULE

Net Operating Income	□ 79,06,19,764.02	□ 14,42,33,042.78	□ 75,97,79,028.23	□ 27,29,81,781.75
Cap Rate	8.25%	8.25%	8.25%	8.25%
REIT Asset Value	□ 9,58,32,69,866.91	□ 1,74,82,79,306.40	□ 9,20,94,42,766.48	□ 3,30,88,70,081.77

FIGURE 5 NET OPERATING INCOME AND ASSET VALUE

The cap rate for Office spaces in Bengaluru was suggested to be between 8-8.25%. This gives us the overall REIT Asset value to help compute the FFO (Funds from Operation), AFFO (Adjusted funds from Operation) and the FAD (Funds available for distribution).

FFO	□ 1,08,56,19,764.02	□ 23,92,33,042.78	□ 1,07,61,75,528.23	□ 39,74,57,281.75	□ 2,79,84,85,616.78
CAPEX (2%)	□ 15,55,78,871.96	□ 1,57,54,314.44	□ 11,87,43,020.53	□ 3,54,16,685.83	
AFFO	□ 93,00,40,892.06	□ 22,34,78,728.33	□ 95,74,32,507.70	□ 36,20,40,595.92	
FAD	□ 83,70,36,802.85	□ 20,11,30,855.50	□ 86,16,89,256.93	□ 32,58,36,536.33	□ 2,22,56,93,451.61

Figure 6 Funds from operation, adjusted funds from operation and funds available for distribution

The weighted average lease expiry of the four properties was an average of 7.4 years.

Weighted Average Lease Expiry		
Grade A Office Spaces	Average Lease Expiry	WALE (Years)
Property A	8	7.6
Property B	7	6.65
Property C	10	9.5
Property D	6	5.7

FIGURE 7 WEIGHTED AVERAGE LEASE EXPIRY

Below is the balance sheet with the liabilities and assets of the REIT with over 200 Crores available to distribute as dividends the Net Asset Value of the assets thus pooled is found by taking a Forward Net Operating Income considering the year to have an escalation in rent by 8%. The current market value will be calculated by multiplying the Forward NOI with the prevailing cap rate of 8.25%. The yield is compared to the yield of the other listed REIT's to check if the investment is worthwhile.

Revenue per year	₹3,07,39,28,454.66
Expense per year	₹1,10,63,14,837.88
Escalation of 8%(2020)	₹3,31,98,42,731.03
Forward NOI	₹5,28,74,56,347.81

FIGURE 9 FORWARD NET OPERATING INCOME

Equity REIT – Balance Sheet

Liabilities & Share holders 'Equity:		Assets	
		Land Cost	□ 16,27,46,44,638.12
		Construction Cost	□ 8,30,87,20,000.00
		Gross Real Estate Operating Assets:	□ 24,58,33,64,638.12
Shareholders' Equity (70%)	□ 17,20,83,55,246.69	Less: Accumulated Depreciation:	□ 83,08,72,000.00
Current Liabilities (30%)	□ 7,37,50,09,391.44	Net Operating Real Estate:	□ 23,75,24,92,638.12
		Cash & Cash Equivalents (10%)	□ 2,45,83,36,463.81
Total Liabilities & SE	₹ 24,58,33,64,638.12	Total Assets :	₹26,21,08,29,101.94

Equity REIT - Net Asset Value

NOI	Cap Rate	12-MonthForwardNOI	Current Market Value
	8.25%	₹5,28,74,56,347.81	
	64,09,03,79,973.47		
Balance Sheet Assets:		Balance Sheet Liabilities:	
Total Asset Value:	26,21,08,29,101.94	Total Liabilities Value:	24,58,33,64,638.12
		Net Asset Value:	₹ 39,50,70,15,335.35

FIGURE 8 REIT BALANCE SHEET

Risks & Challenges

- The returns from an REIT in India have constantly been compared to the returns from an Lease Rental Discount.
- The building up the initial strategy to enter the arrangement is comparatively tedious to adding into their existing portfolio.
- The REIT Trust must get into a ROFO Agreement with the sponsor company in order to leverage its way through increasing its earnings multiples.
- Lack of diversification in terms of asset portfolios
- Unreliable properties listed under the REIT
- Potential tax consequences over time

Conclusion

With coming in of REIT and InvIT in India, the operating incomes of these income generating assets could be leveraged by the company. These lucrative decisions of pooling in assets for the formation of an REIT with a good occupancy of greater than 95% would prove successful in the long-run keeping in mind their existing sticky tenants The company must have a disciplined acquisition strategy with strong balance sheets to promote accretive growth.

Face Value of Share	100.00
No of Shares	17,20,83,552.47
NAV per Share	229.58
P/FFO	22.90
WALE	7.36
Dividends Yield	12.93

FIGURE 10 SHARE DETAILS

References

P.K, M., 2016. *Research Gate*. [Online] Available at:

https://www.researchgate.net/profile/Manoj_P_K/publication/304743704_Real_Estate_Investment_Trusts_REITs_for_Faster_Housing_Development_in_India_An_Analysis_in_the_Context_of_the_New_Regulatory_Policies_of_SEBI/links/577908d008ae1b18a7e61d9a/Real-Estate-I [Accessed January 2020].

Priolker, A., 2019. *Bloomberg*. [Online]

Available at: <https://www.bloombergquint.com/ipos/blackstone-and-k-raheja-corp-said-to-list-indias-second-reit-next-fiscal> [Accessed January 2020].

Varadarajan, R., 2019. *Prestige Office Parks REIT*, Mumbai:

Social Entrepreneurship

Rishikesh Manuprasad Upadhyay

Sr. Manager (Projects)

Reliance Industries Ltd.

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1233

Abstract

Social entrepreneurs believe in overall societal growth. They are conscious about every aspect of surroundings, which can influence on the people living in the society and always work towards betterment of common men. Their contribution might be in the areas of providing clean air to breathe, reducing carbon footprints by putting clean energy products or vehicle like Tesla, clean drinking water, reducing usage of fuel by using alternate source of energy for transportation or in industry, HVAC system or green buildings and other low carbon emission products. At the same time, they are finding ways to earn carbon credits which is very crucial for the development of other work.

Government can play a vital role in terms of encouraging such enterprises or the products by extending concession at manufacturing or at user level. It can also set up body to evaluate the product / enterprise and give rating based on criteria set for social impact, similar to 3 star or 4-star rating in electric products.

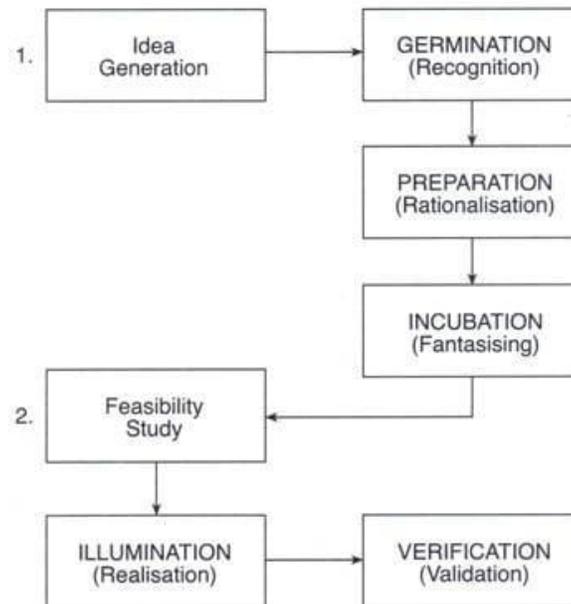
Disposal of waste is another major issue in today's world, specifically used electronic components including the mobile devices. **This is not just the national need but the entire world** is finding various ways to cope up with the pollution and global warming effect. Safe disposal of medical waste is another big challenge.

Scalability can be achieved through proper product mix & useful services, flexibility, right spirit, cost effective deployment of resources and above all collaborative holistic approach towards all the problems for obtaining success.

In short, social entrepreneur is generating profit by considering the impact on society **through inclusive growth**. It is essential to earn profit for sustainable growth and to avail services and to attract more people to work towards clean and peaceful life of people.

Introduction

Social Entrepreneurs are generating profit by considering the impact on society. They implement solutions to social, cultural, or environmental issues. They consider inclusive growth of each section of society, which also includes differently abled people. Their job is to provide education, health, wealth and complete solutions.



Innovation process flow

Backbone of the society

Housewives/ Homemakers

Gone are the days when women were only known as homemakers who would work in the kitchen. Today, women are succeeding in every profession and entrepreneurship.

ALL HAIL WOMEN



MARY KOM
BOXER



PV SINDHU
BADMINTON PLAYER



VINESH PHOGAT
WRESTLER



MANIKA BATRA
TABLE TENNIS PLAYER



HARMANPREET KAUR
CRICKETER



SUMA SHIRUR
SHOOTER



RANI RAMPAL
FIELD HOCKEY PLAYER



TASHI AND NUNGSHI MALIK
MOUNTAINEERS

In a landmark move, all the nine athletes nominated by the Sports Ministry for Padma Awards are women.

Empowered Women

Research suggests that literacy of women is more important for lower infant mortality and child development. It is also seen that the literate women play a major role in decision making process through different view-points. As per records, Chhattisgarh, Madhya Pradesh, Haryana, and Orissa are falling behind other states. That shows the importance of literacy and impact of it on society. It is also observed that higher literate states are ahead in various health parameters.

Transformative potential of women's leadership in India's social enterprise sector is beneficial not only to the suppressed strata but overall development of the society.

An empowered woman is powerful beyond measure & beautiful beyond description. It has observed that empowered women are one of the driving factors to transform the generations.

Housewives are born manager while working as a Home Maker. They acquire qualities like budgeting / financing, time management, communicating skills, safety and security of the belonging, personal care / child care / eldercare, team work and various other important skills. These skills may be used for income generation and creating leaders (other required skills to be taught if necessary).

Single Mother / Divorcee / Widow

Lalfakzuali



Entrepreneur

Life for this Mizoram lady hasn't been easy. She was in the worst face of life when she started her weaving business after her divorce. She kept improving herself which led her to run this successful startup providing employment to 27.83 Lakh households which employs around 77% rural women.

Senior Citizen

According to the UN statistics of 2011, India consists of more than 100 million senior citizens. The generation gap is widening due to fast changing lifestyle, globalization and migration. Support offered by the family members is majorly in the form of monetary. This compels the elderly adults to live alone or shift from their own houses to some institutions or old age homes. Most significant demographic change in the 21st century is the rapid increase in the number of senior citizens in the world population. It gives an opportunity to tap the knowledge and skills acquired by them during their working age. The most common health problem faced by the elderly is disease.

Transgenders

Transgenders may be considered for special reservation. They may be included in existing category or may be given a separate reservation to promote empowerment amongst them. This will provide them with suitable means of income. This can be triggered by giving them suitable employment. Commensurate with individual skill, education and related jobs may be considered. Government may

think of skill development program to strengthen their skill in line with market demand and make them ready for job.

Tribal

Tribal entrepreneurship is reaching new heights in today's era. We see more and more tribal entrepreneurs are surfacing and taking part in nation's overall growth and profitability.

They also need the market support and connecting them with regular economy. It has also seen that they keep distance with other community people.

Physically Challenged / Disabled

Despite the many challenges, disabled people are turning entrepreneurs and succeeding in their businesses.

Major Disabilities observed in India

Blindness	Locomotor Disability	Intellectual disability	Speech & Language disability
Cerebral Palsy	Mental Illness	Hearing Impairment	Muscular Dystrophy
Parkinsonism	Thalassemia	Autism	Chronic Neurological



Blind car rally in Patiala – 2017

Technology company should come up with innovative solutions and work towards upliftment of their status in the society.

Pranav Desai, from Ahmedabad, contracted polio at the age of four where both his legs were crippled, and he needed braces to walk. Pranav founded VoSAP – “Voice of Specially Abled People” to support and motivate people around the globe.

Farmer

Farmers play a major role in the society. Responsibility and commitment of a farmer go way beyond their farms, crops and livestock. They play a vital role in their communities and society.

Agricultural productivity enhances farmers’ income, that gives them surplus money to spend on other products. Similarly, agricultural sector helps to promote economic growth by providing a supplement to the industrial sector. Successful agricultural industry helps greater food security, increased national income, and an improved standard of living.

Following points need to be addressed for providing the farmers with respect, dignity, their importance in the society and work satisfaction-

1. Multiple Cropping / Switch cropping
2. Expansion of Irrigation Facilities
3. Use of High Yielding Variety Seeds
4. Plant Protection
5. Scientific Methods of Cultivation
6. Use of Mechanization
7. More Use of Chemical Fertilizers
8. Development of Agricultural Land
9. Animal Husbandry
10. Land Reforms

Social Impact Assessment

Education for all

There are 22 major languages in India, 13 scripts and over 720 dialects. This diversity boosts an individual's confidence and helps them to be a part of their cultural identity. Learners also get benefitted when they learn under the guidance of confident educators.

This in turn has a positive impact on the way learners see the relevance of school in their lives. When an individual speaks and understands the language used to instruct them, they develop reading and writing skills faster and better.

Education creates the wider vision so it is very essential for any nation's development.

Transforming lives through purified water

More than 120 million people in India are devoid of safe water and hence, face many challenges.

We all know from the news channel that India's groundwater level is decreasing and people are forced to drink contaminated water. Every year, some part of India is facing draught whereas the other part is facing flood like situation. We are also reading in the newspaper about suicide of farmers in different part of the country.

Groundwater often contains high levels of fluoride and other mineral contaminants. Water and sanitation-related illnesses are main cause of death in rural population. Water scarcity, lack of education and extreme poverty develop more complexity. Progress towards addressing these issues requires focus approach and involvement of local population.

Waste Management

Waste emits harmful gases such as Methane and Carbon Monoxide. We have also witnessed the various kind of waste produced in our home. It is good that we have been asked to separate out the house hold waste production. Some states have also gone ahead and provided separate bin to keep the garbage separate. That may be the good step towards greener and cleaner environment for all.

Many people use their kitchen waste to create home-made fertilizers. They are claiming that such organic fertilizers are very useful to the plant's growth. In today's time, it's impossible to completely

eliminate the garbage or avoid generating waste products. It is also good thing to focus on making a legitimate difference in the world around through eco-friendly practices.

Pollution Control

Oceans generate half of the oxygen we breathe. Oceans provide at least 6% of the animal protein we eat in day to day life.

The oceans act as life-line for the people dependent on marine food. Ocean conservation will benefit them to earn their livelihood.

We have seen that ocean act as one of the major transportations means in the world. Millions of goods carriers consume major source of fuel. It is need of the hour to understand environmental responsibility.

There is a huge potential in the marine industry to protect environment and earn carbon credits by conserving marine ecosystem.

Buildings are also creating big impact on the environment.

Health Management

India is an incredibly diverse and culturally rich country but it still has some major health issues that many other countries have minimized far more successfully. These health issues affect absolutely everyone, from the poorest people to the richest ones and even tourists.

Today, Unavailability of basic healthcare needs and facilities to the masses are the major concerns in India.

Conclusion

In today's present technological era, entrepreneurship seems like a foundation stone and is very significant in shaping the society. The study referred to the understanding of the role of the social entrepreneurship for the upliftment of our society. Generating employment and diminishing poverty are the biggest challenges for any developing country. Basically, entrepreneurship is a result of one's innovative invention to achieve predefined goal. The conclusions drawn from this study shows that the social entrepreneur's ingenious ideas have been beneficial to the society and its members. This also

develops a sound relationship between social entrepreneur efforts and economic development of a nation.

References

<http://www.drpiyushsaxena.com>

<http://www.yourstory.com>

<http://www.safewaternetwork.org>

<http://www.ncbi.nlm.nih.gov>

<http://www.britishcouncil.org>

<http://www.fairwasteservices.com>

<http://www.marineinsight.com>

<http://www.ncbi.nlm.nih.gov>

<http://en.wikipedia.org>

<http://www.britishcpuncil.org>

The Study of Minimum Variance Portfolio of Developed Economies

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1234

Roshan Gawade

Abstract

This study is conducted with the objective to calculate the variance of the indexes and to determine the weightage given to each stock in an index. Recognized index from a nation's stock exchange is undertaken in the study in order to determine the minimum variance of constituents in an index and allocate weight to these constituents. This study is carried out on selected developed nation's stock exchange. In this exchange, a popular index is undertaken in the study. Number of constituents incorporated in an index is included by taking their 8 years adjusted closing price reading on a monthly basis. However, the constituents in an index are periodically refreshed, the constituents incorporated in an index in this study may not be available if this over the period of time. The index which were selected for the study were NASDAQ, CAC 40, FTSE 100, Nikkei 225, &DAX. The study indicates that NASDAQ has highest portfolio return followed by DAX, while FTSE 100 has lowest portfolio return. It also indicates that CAC 40 has highest portfolio variance, while FTSE 100 has lowest portfolio variance.

Introduction

Portfolio Management

Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. Portfolio management is about determining strengths, weaknesses, opportunities & threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and much other trade-off encounter in an attempt to maximize return at a certain level of risk.

It is the act of building and maintaining an appropriate investment mix for a given risk tolerance. The factors for any portfolio management involves asset allocation, diversification, & rebalancing rules. Active portfolio management seeks to beat the market through identify undervalued assets, often through short-term trade and market timing. Passive or index portfolio management seeks to duplicate the broader market while it keep cost to minimum.

Portfolio Return is given by

$$R_p = \sum_{i=1}^n w_i r_i$$

Portfolio Variance is given by

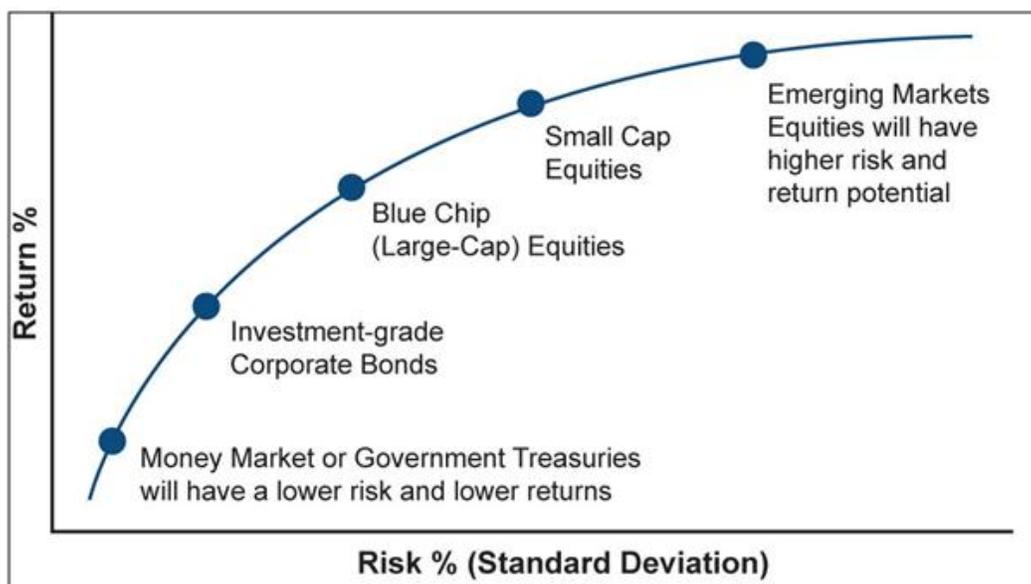
$$\sigma_p^2 = W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2 + 2W_1 W_2 \rho_{1,2} \sigma_1 \sigma_2$$

Minimum Variance Portfolio

It indicates a well-diversified portfolio that consists of individual risk assets, which are hedge when traded together; it results in the low possible risk for rate of expected return. This influences the risk of each individual asset with an off setting investment, thus hedging total portfolio risk for the level of risk except with respect to the expected rate of portfolio return. To build a minimum variance portfolio, an investor would need to a combination of volatile investment with low correlation to each other. Investments that have low correlation could be described as those that perform differently given the same market & economic environment. It is a prime example of diversification.

Risk & Return

The risk–return spectrum is the relationship between the amount of return gained on an investment & amount of risk undertaken in investment. The more return sought, the more risk that must be undertaken.



About Indices

NASDAQ (USA)

The **NASDAQ Composite** is a stock market index of the common stocks listed on the NASDAQ stock market. The composition of the NASDAQ Composite is heavily weighted towards information technology companies. The NASDAQ-100, whose components are a subset of the NASDAQ Composite's, accounts for over 90% of the NASDAQ Composite's movement, and there are many ETF tracking its performance.

FTSE 100 (UK)

The **Financial Times Stock Exchange 100 Index**, also called the **FTSE 100 Index**, **FTSE 100**, **FTSE**, or, informally, the "**Footsie**", is a share index of the 100 companies listed on the London Stock Exchange with highest market capitalization. It is seen as a gauge of prosperity for businesses regulated by UK company law. FTSE 100 companies represent about 81% of the entire market capitalization of the London Stock Exchange.

DAX performance index (Germany)

The **DAX** is a blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange. Prices are taken from the Xetra trading venue. According to Deutsche Börse, the operator of Xetra, DAX measures the performance of the Prime Standard's 30 largest German companies in terms of order book volume and market capitalization. It is the equivalent of the FT 30 and the Dow Jones Industrial Average, and because of its small selection it does not necessarily represent the vitality of the economy as whole.

CAC 40 (France)

The **CAC 40** is a benchmark French stock market index. The index represents a capitalization-weighted measure of 40 most significant stocks from the 100 largest market caps on the Euronext Paris (formerly the Paris Bourse). It is one of main national indices of the pan-European stock exchange group Euronext alongside Brussels' BEL20, Lisbon's PSI-20 and Amsterdam's AEX. The CAC 40 takes its name from the Paris Bourse's early automation system **CotationAssistée en Continu** or Continuous Assisted Quotation.

Nikkei 225 (Japan)

The **Nikkei 225** is a stock market index for the Tokyo Stock Exchange (TSE). The index is calculated daily by the Nihon Keizai Shinbun (The Nikkei) newspaper since 1950. It is a price-weighted index, operating in the Japanese Yen, & its components are reviewed once a year. The Nikkei measures the performance of 225 large, publicly owned companies in Japan from a wide array of industry sectors. The Nikkei 225 began to be calculated on 7 September 1950; 69 years ago, retroactively calculated back to 16 May 1949. Since January 2010, the index is updated every 15 seconds during trading session.

Objectives of Study

- To calculate the minimum variance of the indices selected.
- To determine the weightage given to each stock in an index.

Review of literature

“Portfolio Management for New Products”, Dr. Copper, Robert & Dr. Edgett Scott, (2011).

The researcher studied that portfolio management is fundamental to new product success. The four factors they identify in research where maximizing value, balanced development project, right number of projects & strategically aligned project. No one portfolio model can deliver on all four goals, so best-practice is to use multiple methods to select projects.

“Portfolio Management of Default Risk”, Kealhofer, (2007).

The researcher studied the bank portfolio management. Researcher found that they have two central features i.e. measurement of diversification at portfolio level and the measurement of how individual assets or group of assets affect the diversification. For these it required the estimates of a) Probability of default for each assets, b) expected recovery in events of default, and c) default correlations between each pair of borrowers.

“New Problems, New Solutions: Making Portfolio Management More Effective”, Dr. Copper, Robert, Dr. Edgett Scott, Dr. Klenschmidt, Elko, (2000).

The researcher studied that the new product portfolio management has become an important topic in the last five years, its particular among leading firms. A number of tools have been described in the study

that help to select project and visualize your portfolio. The choice of tool may not be critical: Indeed the best performer uses an average of 2.4 tools each- no one tool can do it all! Two different approaches to portfolio management – where the gates dominate and where the portfolio review dominates- have also been outlined. Both have their merits, and both are recommended. The conclusion was that business which uses systematic portfolio outperform the rest.

“Portfolio Management Approach in Trade Credit Decision Making”, Michalski, (2007).

The researcher studied that account receivable management decisions are very complex. On the one hand, too much money is tied up with account receivables, because of an extreme liberal policy of giving trade credit. This burdens the business with higher costs of accounts receivable service with additional high alternative cost. Additional costs are further generated by bad debt. On the other hand, the liberal trade credit policy could help firm enlarge income from sales. In the study, the problems are linked to operational risk of purchasers interested in receiving trade credit who, as separately considered groups, may distinguish too high risk level. However, if they are considered as one of several groups of enterprise, and if their payment habits are correlated with the payment habits of the remaining groups, what was formerly impossible could become possible, and may even turn profitable. The portfolio of asset, like the portfolio of account receivables may sometime present a lower risk to acceptable advantages than the independently considered groups of purchasers.

“A Robust Statistics Approach to Minimum Variance Portfolio Optimization”, Yang, Couillet, McKay, Mathew, (2015).

The researcher studied that the minimum variance portfolio optimization strategy is established on a robust shrinkage covariance estimator with shrinkage parameter at tune to minimize the realized portfolio risk. Their strategy had been shown to be robust to finite-sampling effect, as well as to the impulsive feature of the data. It had been demonstrated that their approach outperforms the standard techniques in term of the realized portfolio risk, both the synthetic data & real historical stock returns from Hong Kong's HSI. Although they base their analysis on assumption of the absence of outliers, the recent study had shown that robust covariance estimator C_{ST} is resilient to arbitrary outliers by appropriately weighing good versus outlying data. This somewhat confirmed by real data used in study and is worth investigating further.

Research Methodology

Research Design

Descriptive research is used to describe characteristics of a population or phenomenon being studied. In this study we have described a hypothetical situation where investor wants to make portfolio using only selected index.

Source of data

Secondary data refers to data i.e. collected from secondary sources like magazines, websites, and previous research. The equity close price data was collected from the various websites like Yahoo Finance.

Index Used In Study

The Indexes used in research were

Name of Country	Index
U.S.A	NASDAQ
U.K	FTSE 100
Germany	DAX
France	CAC 40
Japan	NIKKEI 225

Tools for analysis

- Solver
Solver is a Microsoft add-in, generally used for what-if analysis. It uses find optimal value, while considering constraints on value. It can only use 200 variables at one time.
- Average
It is used to find out average of individual returns of the listed stocks in the indices.
- MMULT
The Excel MMULT functions multiply the matrix product for two arrays. The array result contains the same number of rows and columns.
- Transpose

It is excel paste special function which turns a copied column pasted into a row and vice-versa.

Analysis

Descriptive Statistics

Index	No of Shares	Minimum Return	Maximum Return	Average	Std. Deviation
NASDAQ	100	(43.46)	81.07	1.84	8.52
FTSE 100	100	(52.17)	87.27	0.99	7.51
Nikkei 225	200	(46.74)	85.34	1.17	8.84
DAX	30	(67.47)	26.98	0.93	7.11
CAC 40	39	(32.86)	63.71	1.01	6.99

Interpretation

The minimum value indicates the minimal return stock in an index. NASDAQ has minimum value of -43.46, FTSE 100 has value of -52.17, Nikkei 225 has value of -46.74, DAX has minimum value of -67.47, and CAC 40 has value of -32.86. The maximum value represents the highest return stock in an index. NASDAQ has maximum value of 81.07, FTSE 100 has value of 87.27, Nikkei 225 has value of 85.34, DAX has value of 26.98, and CAC 40 has value of 63.71. The mean value indicates the index return through undertaking all the constituents of an index. NASDAQ has average value of 1.84, FTSE 100 has value of 0.99, Nikkei 225 has value of 1.17, DAX has value of 0.93, and CAC 40 has value of 1.01. NASDAQ has the highest returns among other indexes or exchange. The standard deviation value indicates the level of risk of all the components selected in an index. NASDAQ has a standard deviation value of 8.52, FTSE 100 has a value of 7.51, Nikkei 225 has a value of 8.84, DAX has value of 7.11, and CAC 40 has a value of 6.99.

Weight Allocation

Index	No. Of Constituents	Weight Allocated to No. of Constituents
NASDAQ	100	28
FTSE 100	100	26
Nikkei 225	200	26
DAX	30	14
CAC 40	39	16

In NASDAQ, out of 100 stocks, the SOLVER allocated weights to 28 stocks which are 28% of the total constituents. In FTSE 100, out of 100 stocks, the SOLVER allocated weights to 26 stocks which are 26% of the total constituents. In CAC 40, out of 39 stocks, the SOLVER allocated weights to 16 stocks which are 41% of the total constituents. In DAX, out of 30 stocks, the SOLVER allocated weights to 14 stocks which are 46% of the total constituents. In Nikkei 225, out of 200 stocks, the SOLVER allocated weights to 26 stocks which are 13% of the total constituents.

Portfolio Risk and Return in case of Minimum Variance Portfolio

Index	Risk	Return
NASDAQ	2.356903559	1.33190473
FTSE 100	2.175928009	0.637627749
Nikkei 225	2.91841761	0.90049167
DAX	2.932554903	1.150630333
CAC 40	2.957556992	0.853840723

Interpretation

The above table indicates the risk and return of the allocated percentage weights in the indexes. NASDAQ has a risk of 2.3569 and a return of 1.33190. FTSE 100 has a risk of 2.1759 and a return of 0.6376. Nikkei 225 has a risk of 2.9184 and a return of 0.9004. DAX has a risk of 2.9325 and a return of 1.15063. CAC 40 has a risk of 2.9575 and a return of 0.8538.

Portfolio Standard Deviation Allocation

Index	Weights
NASDAQ	0.18796838297
Nikkei 225	0.05342523192
CAC 40	0.00000000000
DAX	0.00000000000
FTSE 100	0.75860638511

Interpretation

The above table shows the level of risk in which the solver allocated the percentage weights. NASDAQ has a value of 0.19, Nikkei 225 has a value of 0.05, CAC 40 has a value of 0, DAX has a value of 0, and FTSE 100 has a value of 0.76. The minimal level of risk is carried by FTSE 100 of United Kingdom.

Index Return

Index	Return (January 2011- November 2019)
Nasdaq	128.08
Nikkei 225	113.27
CAC40	70.09
DAX	89.68
FTSE 100	32.02

Interpretation

The above table shows the return of index from January 1, 2011 to November 30, 2019. NASDAQ has a return of 128.08%, Nikkei 225 has a return of 113.27%, CAC 40 has a return of 70.09%, DAX has a return of 89.68%, and FTSE 100 has a return of 32.02%.

NASDAQ has the highest return followed by Nikkei 225 and DAX. The least return is incurred by FTSE 100 index of United Kingdom.

Conclusion

The analysis carried out with the objective to calculate minimum variance of the indexes and to determine the weightage given to each stock in an index. The study shows that while allocating the weights to each stock, every constituent in an index does not get weight. Instead, the SOLVER, allocates weightage to the constituents. The minimum number of constituents selected in an index is of Nikkei 225 with 13% and the maximum number of constituents selected in an index is of DAX with 46%.

The reason for selecting the developed nation indexes is to identify which of among the developed nations is actually worth investing in. This study can give a perspective to an investor, which constituents should be selected in an index to replicate in his/her portfolio. The idea of keeping the minimum variance is to minimize the risk of the portfolio.

Talking about indexes, it can be seen that FTSE 100 had least index return, portfolio return, and being the least variance among other indexes. Though on other hand, NASDAQ had highest index return, portfolio return and slightly higher variance than FTSE 100, but lower than remaining indexes.

The study indicates that United States is an eligible investment avenue for the investors investing in developed economies. Though having high index return & portfolio return with average standard deviation & variance, it will be worth investing in USA. A stock exchange is a reflection of a country's development and investment inflow within the sectors of an economy on a trading exchange of a country.

References

Dr. Cooper, Robert & Dr. Edgett, Scott (2001). Portfolio Management for New Products, Product Development Institute Inc.

Dr. Cooper, Robert, Dr. Edgett, & Dr. Kleinschmidt, Elko (2000). Research Technology Management (Industrial Research Institute, Inc), Volume 43

Michalski, G. (2007). Portfolio Management Approach in Trade Credit Decision Making. *Romanian Journal of Economic Forecasting*

Kealhofer, S. (2007). Portfolio Management of Default Risk. Kealhofer, McQuown&Vasicek Corporation

Yang, L., Couillet, R., Mckay, Mathew R. (2015). A Robust Statistics Approach to Minimum Variance Portfolio Optimization. *IEEE Transactions on Signal Processing*, Volume 63, Issue 24

<https://in.finance.yahoo.com/>

<https://in.investing.com/>

A Study on the Perception of People About the Impact of Demonetization on the Indian Economy

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1235

Dr. Sandeep Bhanot

Associate Professor, SIES College of Management
Studies, Navi Mumbai

Abstract

Demonetisation is the process of removing a particular currency from circulation. First a secondary study was done on demonetization in India through magazines, articles, research papers and the internet. Then a questionnaire was prepared to collect primary data from people of different age groups of different areas in Mumbai and Navi Mumbai to study their attitude regarding perception of the concept and implementation of demonetization. A random sample of 100 respondents residing in Mumbai and Navi Mumbai was taken which included people of different age groups. This sample was taken by non-random sampling method. The primary data was collected using a structured questionnaire which was given to the people. The collected data was then analysed using SPSS. It is found that there is no relation between age group and perception of the people about liquidity in the Indian economy. Also, it is found that there is no relation between age group and perception of the people that demonetization reduced black money and corruption. More than half the people were satisfied with the concept of demonetization and felt that demonetization was helpful in reducing black money and corruption.

Keywords: *India, demonetisation, economy, black money, liquidity*

Introduction

Concept of Demonetisation

Demonetisation is the process of removing a particular currency from circulation. Major reason for adopting demonetisation by nations are to combat inflation, remove corruption, remove fake(counterfeit)

currency from the economy, black marketing, to promote cashless transactions etc. It becomes necessary when there is a change of currency. The earlier currency unit is removed and is replaced by a new one. It can be done by either introducing new notes of the same denomination or by replacing the old denomination by a completely new denomination. The latter is usually done to remove black money from the market.

Evolution/History

There have been many examples of demonetisation in the world. Some of them had little impact while others had more impact on economy.

In 1971, Britain introduced coins of 5 and 10 pounds in replacement of pound and penny currencies being circulated. The step was mainly taken to bring uniformity in currency. In 1982, Ghana demonetised their 50 cedis note to reduce tax evasion and excess liquidity. But this resulted in a weak economy since people supported black market and spent on physical assets.

In 1984, Nigeria went for demonetisation. But it was a failure since the country was already in debt and hit by inflation. Nigeria had introduced new currency and banned old notes. In 1987, Myanmar demonetised three of its denominations without any warning, leading to declaration of around 75% of the country's currency as worthless.

In 1991, Russia (formerly USSR) went for demonetisation after President Mikhail Gorbachev decided to withdraw the circulation of 50- and 100-ruble notes from the economy. People lost faith in the government since only three days were given to them to exchange their old notes. In 2010, North Korea went for demonetisation and people were given less than a week to exchange their old notes for new ones. This led to acute shortage of cash and people did not have money to buy food and shelter.

In India, the first demonetisation took place in 1946 where notes of 1000 and 10000 were banned from circulation. The second demonetisation took place in 1978 when currency notes of 1000, 5000 and 10000 were banned to reduce black money. On 8th November 2016, Prime Minister Narendra Modi announced the third demonetisation in which Rs. 500 and Rs. 1000 notes were removed.

Countries having enough cash did not face much problems while those countries which did not plan in advance had to face lot of problems.

Effect on Indian Economy

The first demonetisation happened in 1946 in which Rs. 1000 and Rs. 10000 were removed from the economy. Since most of the people did not have so much money, it did not have much impact.

In 1978, the then Prime Minister Morarji Desai banned Rs. 1000, Rs. 5000 and Rs. 10000 notes from the economy. This ban affected only the rich people and did not have much impact.

The third demonetisation took place in November 2016 when Rs. 500 and Rs.1000 notes were replaced by new notes of Rs.500 and Rs.2000. This ban had a lot of impact because it affected 86% of the country's cash. No notice was given to the people and people had to stand in long queues to withdraw cash and many ATMs were not working. Daily wage earners and people depending on cash suffered lot of problems. The rupee also depreciated against the dollar. Over 3 trillion rupees was deposited with Indian banks in one week after demonetisation.

Literature review

Demonetization was mainly used to reduce corruption and black money (Modi, 2016). It was also used later to increase tax collection, move towards cashless economy and curb terrorist funding.

Expert opinions

There have been studies by many experts on whether demonetisation has been successful or not. Many experts like James Henry, Kenneth Rogoff and Larry Summers have supported the demonetisation done by Prime Minister Narendra Modi in November 2016 (Chengappa, 2016). On the other hand, many economists like Amartya Sen, Paul Krugman and former Chief Economist of World Bank, Kaushik Basu opposed demonetisation (The Hindu, 2016) (The Economic Times, 2016) (Hindustan Times, 2016).

Studies

According to Ministry of Finance (2016-17), the ill-effects of demonetisation were experienced more by the common man. People stood in long queues at bank branches and this irritated them a lot (The Indian Express, 2016). Some people even died standing in long queues for exchanging cash at bank branches (DNA, 2016).

According to Abhani (2017), demonetization of 2016 was more successful than the earlier two. People started using more of online transactions for purchasing things and banking. Though black money was not reduced much, it brought more consciousness among the people regarding black money.

Muthulakshmi, E. Kamatchi (2017) in her paper entitled “Impacts of Demonetisation on Indian Economy- Issues & Challenges” states that demonetization did not have any short term benefits but in the long run it will help to reduce black money and corruption. But it had an adverse effect on some sectors like commodities and real estate.

According to Veerakumar (2017), demonetization shocked the Indian people and its intention was to reduce tax evasion, fake currency and financing of terror activities. Cashless transactions got a huge boost and people started using e-wallets, debit cards and credit cards more than before.

According to Shah and Yousuf (2017), demonetization has helped to reduce corruption, black money and terror funding. But since it was not informed to the people, it resulted in lot of inconvenience to them. The common man faced more problems as compared to the rich people who were the main target of demonetization. It could have been planned much better and then would have resulted in less wastage of time for the common man.

Surveys

According to Beg & Joshi (2017), 60.83% people favoured demonetization, 45.83% people said that it was not well planned while 35.83 % people said that it was well planned.

Shukla and Gupta (2018) explain that if people are convinced about some decision, they will support it and then demonetization can help to reduce corruption, black money, and any other threats like terrorism and naxalism in the country.

Gap in literature

Though many studies have been done on the after effects of demonetization, only two studies try to explain the perspective of common people on demonetization and the conclusions of these studies are limited to the cities that the surveys were conducted viz., Noida and Allahabad (Shukla and Gupta, 2018) (Beg and Joshi, 2018). Demonetization was also a hot topic of discussion during the 2019

Lok Sabha elections. Hence, there is a need of a study to understand perception of common man about demonetization.

Objectives

- **To study the impact on black money and corruption:** Here, it is decided to study the perception of people about the black money and corruption in India after demonetization took place. This is done using primary data that is collected by conducting a survey of a random sample.
- **To study the impact on presence of liquidity in market:** Here, it is intended to study the impact on the liquidity in the market and how it was perceived by people of different age groups.
- **To study the impact on growth rate of economy:** Here it is intended to study the impact of demonetization on growth rate of the economy to understand whether it really benefitted the economy or not.

Research methodology

- **Research Design:** First a secondary study was done on demonetization in India through various articles and research papers from the net. Then a questionnaire was prepared to collect primary data from people of different age groups in different areas in Mumbai and Navi Mumbai to study their attitude about the concept and implementation of demonetization.
- **Sampling design:** A random sample of 100 respondents residing in Mumbai and Navi Mumbai was taken that covered people of different age groups. This sample was taken by non- random sampling method.
- **Data collection:** The primary data was collected using a structured questionnaire which was administered to the people.
- **Data analysis:** The collected data was then analysed using SPSS software.

Analysis of data

Formulation and testing of hypothesis

- H0:-There is no significant relation between age group and perception of the people regarding liquidity in the Indian economy.
- H1:- There is a significant relation between age group and perception of the people regarding liquidity in the Indian economy.

Age group * Liquidity in the economy

Table 1: Chi-Square Tests of Age group vs Liquidity in the economy

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.392 ^a	4	.172
Likelihood Ratio	7.604	4	.107
Linear-by-Linear Association	.559	1	.455
N of Valid Cases	100		

Since the significance value >0.05 , we accept H0 and conclude that there is no relation between age group and perception of the people regarding liquidity in the Indian economy.

H0: -There is no significant relation between age group and perception of the people that demonetisation reduced black money and corruption.

H1:- There is a significant relation between age group and perception of the people that demonetisation reduced black money and corruption.

Age group * Reduction of Black money and corruption**Table 2: Chi-Square Tests of Age group vs Reduction of Black money and corruption**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.991 ^a	4	.200
Likelihood Ratio	6.155	4	.188
Linear-by-Linear Association	3.758	1	.053
N of Valid Cases	100		

Since the significance value >0.05 , we accept H_0 and conclude that there is no relation between age group and perception of the people that demonetization reduced black money and corruption.

Tables and graphs

- a. Perception about the overall concept of demonetization: -

Table 3: How did you feel about the overall concept of demonetization

	Frequency	Percent	Valid Percent	Cumulative Percent
Excellent	8	8.0	8.0	8.0
Very Good	18	18.0	18.0	26.0
Valid Good	38	38.0	38.0	64.0
Average	27	27.0	27.0	91.0
Poor	9	9.0	9.0	100.0
Total	100	100.0	100.0	

Approximately 64% people were satisfied with the overall concept of demonetization.

b. Perception about how much demonetization has helped the economy: -

Table 4: How much do you think demonetization has helped the economy

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all helpful	14	14.0	14.0	14.0
Little helpful	15	15.0	15.0	29.0
Valid Okay	39	39.0	39.0	68.0
Helpful	25	25.0	25.0	93.0
Very helpful	7	7.0	7.0	100.0
Total	100	100.0	100.0	

Approximately 71% people felt Demonetization was helpful in reducing black money and corruption.

c. Perception about how much demonetization has affected the GDP: -

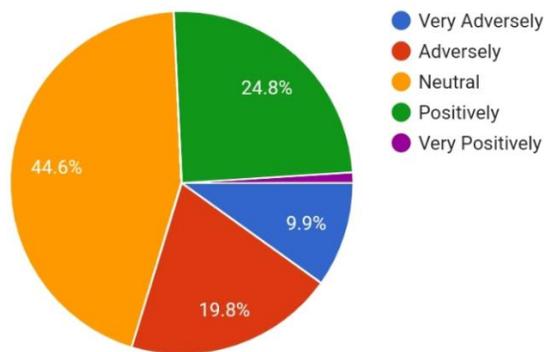
Table 5: How much do you think demonetization has affected the GDP

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Positive	2	2.0	2.0	2.0
Positive	24	24.0	24.0	26.0
Valid Neutral	49	49.0	49.0	75.0
Negative	22	22.0	22.0	97.0
Very Negative	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Approximately 49% people feel demonetization has a neutral effect on GDP.

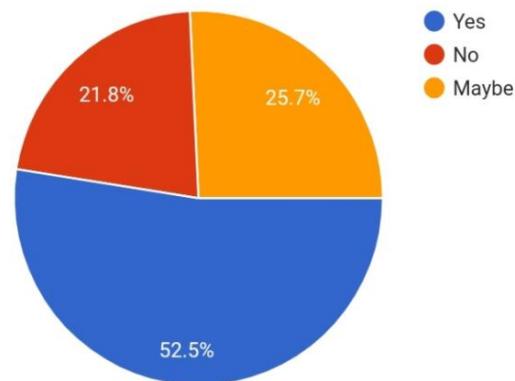
How do you think demonetization has impacted the growth rate of the Indian Economy?

101 responses



Do you think the liquidity of cash took a hit due to demonetization?

101 responses



Results and findings

The study was used to find out the perception about demonetization and its effects on the people of the country. From the data analysis and the testing of hypothesis, the following are the findings:

1. There is no significant relation between age group and perception of the people regarding liquidity in the Indian economy.
2. There is no significant relation between age group and perception of the people that demonetization reduced black money and corruption.
3. Approximately 64% people were satisfied with the overall concept of demonetization.
4. Approximately 71% people felt Demonetization was helpful in reducing black money and corruption.
5. Approximately 49% people feel demonetization has a neutral effect on GDP.

Conclusion

It is concluded that demonetization was mainly used to curb black money and corruption in the economy. The other objectives were increase in tax collection, moving towards cashless economy and curbing the funding of terrorist activities. Demonetization had both positive and negative effects. Most people feel that the idea was right but the implementation could have been better. Then it would not have caused so much inconvenience to the common man.

Benefits of the study

This study helps us understand the impact of demonetisation on the psychology of people. It helps us find out what effects it has had on the people. It will help the government and other financial institutions like NBFCs, banks etc. to predict the behaviour of people while introducing such reforms. The after-effects can be predicted well in advance and we can understand where there is a scope for improvement. It will help the government to plan accordingly for future implementation of such reforms without any hassles and major effects on the common man.

Limitations and scope for further research

Firstly, the sample size taken is small which may not be a very good representation of the population. The sample consisted of people from Mumbai and Navi Mumbai only. The sample size could have been increased to cover a larger section of the population. Also, the data from rural India is not been taken into consideration, so it doesn't provide a clear picture. Secondly, only the overall perceptions about demonetization on the Indian economy have been tested. We can apply similar analysis to study the actual effects on the economy. Thirdly, the influence of demographic characteristics other than age has not been studied in this case. The limited availability of time to carry out the research is also one of the limitations of the research. For a detailed research on the overall perception of people, we can find out the effects of demonetization on various occupations, gender, income group and educational levels. This becomes scope for further research.

References

- Abhani, D. K. (2017). A Study on Impact of Demonetization Over the Banking Sector with Reference to Veraval City. *International Journal of Marketing & Financial Management*.5(3).21-26.
- Beg, S., & Joshi, N. (2017). Public Perception of the Impact of Demonetization. *Journal of Commerce and Trade*, Vol. XII, 68-75.
- Chengappa, R. (2016). *Interview of the Year: PM Narendra Modi exclusive, his first since demonetisation*. Retrieved from India Today: <http://indiatoday.intoday.in/story/narendra-modi-blackmoney-demonetisation-opposition/1/845224.html>
- DNA. (2016, December 08). *Demonetization: Government not mourning over 100 deaths due to cash-crunch, says Opposition*. Retrieved from DNA: <https://www.dnaindia.com/india/report-demonetization-government-not-mourning-over-100-deaths-due-to-cash-crunch-says-opposition-2280902>
- Hindustan Times. (2016, December 02). *Demonetisation gains uncertain, says Nobel laureate Paul Krugman*. Retrieved from Hindustan Times: <https://www.hindustantimes.com/india-news/htls-2016-demonetisation-gains-uncertain-says-noble-laureate-paul-krugman/story-dFszJMERSydirqemQXcZ7L.html>
- Indian Express. (2017, March 17). *Anti-demonetisation experts like Amartya Sen stand exposed, says economist Jagdish Bhagwati*. Retrieved from www.indianexpress.com: <https://indianexpress.com/article/india/anti-demonetisation-experts-like-amartya-sen-stand-exposed-says-economist-jagdish-bhagwati-4573545>

- Kohli, V. and Ramakumar, R. (2016). *Economic Rationale of 'Demonetisation'*. In: Economic and Political Weekly, Volume 51, Issue 51. Retrieved from: <http://www.epw.in/journal/2016/53/webexclusives/economic-rationale-%E2%80%98demonetisation%E2%80%99.html>
- Ministry of Finance, I. (2016-17). *Demonetisation: To Deify or Demonize?* Retrieved from Union Budget: <https://www.indiabudget.gov.in/es2016-17/echap03.pdf>
- Modi, N. D. (2016, November 8). *India takes historic step to fight Corruption, Black Money & Terrorism*. Retrieved from Narendra Modi: <https://www.narendramodi.in/text-of-prime-minister-s-address-to-the-nation-533024>
- Muthulakshmi, E.K. (2017). Impacts of Demonetisation on Indian Economy- Issues & Challenges. *Journal of Humanities and Social Science*.34-38.
- Shah, A. Y. (2017). Impact of Demonetization on Rural India. *International Journal of Scientific and Research Publications*.7(3). 220-223
- Shukla, B.G. and Gupta, H. (2018). An Exploratory Study of Business Students Perspectives On Demonetization In India: With Special Reference To Allahabad City. *The International Journal Research Publication 's*. 07(09).186-194.
- The Economic Times. (2016, November 11). *GST good economics; demonetisation is not: KaushikBasu*. Retrieved from The Economics Times: <https://economictimes.indiatimes.com/news/economy/policy/gst-good-economics-demonetisation-is-not-kaushik-basu/articleshow/55375545.cms>
- The Hindu. (2016, November 30). *Amartya Sen terms demonetisation a despotic action*. Retrieved from www.thehindu.com: <https://www.thehindu.com/news/national/Amartya-Sen-terms-demonetisation-a-despotic-action/article16730675.ece>

The Indian Express. (2016, November 17). Demonetisation: Chaos grows, queues get longer at banks, ATMs on weekend. Retrieved from The Indian Express: <https://indianexpress.com/article/india/india-news-india/demonetisation-chaos-grows-queues-get-longer-at-banks-atms-on-weekend-4371373>

Veerakumar, K. (2017). A Study on People Impact on Demonetization. *International Journal of Interdisciplinary Research in Arts and Humanities*.2(1). 9-12.

A Study of Impact of Budget 2020 with Respect to Income Tax on the Tax Payer's of India. Mumbai

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1236

Ms. Yachana Singh, Student,

Thakur institute of Management Studies and Research

Ms. Shradha Agarwal, Student,

Thakur institute of Management Studies and Research

Dr. Shebazbano Khan, Assistant Professor,

Thakur institute of Management Studies and Research

Mr. Akhil Shetty, Assistant Professor,

Thakur Institute of Management Studies and Research

Abstract

Indian budget indicates that the financial statement in Article 112 of the Constitution of India is the annual budget of the republic of India. As per 2017-18, it was found that there were around 30.72 lakh individual taxpayers. Indian budget has an impact on various sectors such as education, agriculture, etc. and this research highlights the impact of Budget 2020 with respect to taxpayer, depending upon their occupation such as business, salaried, etc., and also whether the taxpayers are ready to accept the newly introduced slab rate.

Key words: *Budget 2020, Taxpayers, occupation of Tax payer, new tax slab rate*

Introduction

Impact of Budget 2020 in India

Budget is also known as 'bahikhata' as per Indian culture. Budget in normal layman's language refers to how the money is going to be utilised. Similarly, union budget of India indicates the financial plan of India for a period of one year. It indicates how the money is going to be allocated for a particular sector

such as education, farming, manufacturing and many more, as well as how the money is going to be used. Budget is presented every year on 1st of February by the Finance Minister of India.

Budget 2020 focused on three important aspects – first, Aspirational India which focused on agriculture, sanitation, education, etc. Second focus was on economic development of country consisting of infrastructure, etc. and the last third focused on caring society including women development and other such activities.

Budget 2020 had an impact for the economic growth of the country. The focus was on changes announced in the dividend distribution tax, personal income, textiles, infrastructure, to boost the income and purchasing power.

Impact of Budget 2020 in India with respect to taxpayer

Budget 2020 is also considered as a matter of discussion due to the introduction of new tax slab rate that was introduced by Finance minister on 1st of February. New slab rate was introduced with a motivation to save the money of the taxpayer and also to boost the economy as currently economy is facing slowdown and also inflation. Introduction of new tax slab rate is optional for the tax payer.

This research is done by the researchers to understand the view of the taxpayer from various occupations to know whether taxpayers are ready to accept the new tax rate which is introduced by Finance Minister with the point to boost the economy and savings of the tax payer.

The new tax slab introduced in Budget 2020:

Taxable income slab	New slab rate (%)
0- 500,000	Nil
500,000- 7,50,000	5
7,50,000- 10,00,000	10
10,00,000- 12,50,000	15
12,50,000- 15,00,000	20
15,00,000-above	30

Literature review

Mr. Puneet Bhushan (2013), in this research “Tax literacy among salaried individual” states that tax management is an important concept in everyone’s life either it be an individual (common man) or a business person. Every person should have an idea or good knowledge about tax policies, various aspects of tax policies so that it helps an individual to save taxes through various exemptions and deductions legally. This research was done in order to know tax literacy level of salaried individuals. And conclusion of the study states that there is not much literacy among the individuals related to tax.

Bagchi, A. and Chand, K. (2016), in their paper on ‘Taxpayer Information Service’, focus on the concept of improving information service and taxpayer segmentation. The authors mentioned that it is the duty of the various body that are involved in tax segmentation should focus on provide easy and understandable procedure to the taxpayer. And if they come up with easy approach this will result in increase in the taxpayer’s segmentation.

Rangarajan C. (1967), states that there involves a very strong process in the tax system, which will ensure growth in economy. He focused that the process involved in tax paying by the taxpayer’s should be reduced, as taxpayer won’t be free always to visit tax department as and whenever required. The taxpaying should be automated to reduce the tedious process and also to reduce the corruption.

Kantawala (1988), his research examined the eight areas of individual taxation in India for a period of 30 years from 1964-65 to 1995-96. It focused on areas such as the burden of tax on different level of income groups, tax collection from an individual tax payer, rise in the tax obligations as per the income groups of individuals and many more. He also stated that low income group faces rise in tax liability and higher group faces decrease in tax liability.

Research gap identified

Although, various studies have taken place regarding the opinion of the tax payers and their perception through ward's tax, this research focuses on the following points:

The new tax slab rate that was introduced on 1st February 2020 in the budget session.

This research focuses on the opinion of tax payers - whether they are ready to accept the new tax slab rate that is introduced as it is optional for the tax payer to opt for the new tax slab.

Research methodology

Scope of the study

The scope of the study is restricted to tax payers of India within Mumbai.

Objective

To study the impact of Budget 2020 with respect to occupation of the tax payer in India, Mumbai.

Hypothesis

H₀: There is no significant difference between Budget 2020 and its impact on occupation of tax payer in India.

H₁: There is a significant difference between Budget 2020 and its impact on occupation of tax payer in India.

Variables of the study

Independent: Occupation.

Dependent: Perception of Tax-payer

Techniques of Data collection

The data was collected through primary and secondary sources. Information regarding the research is supported by proper literature review related to taxpayer in India. Primary data was collected through proper questionnaire.

Secondary data was collected through reports, newspapers, magazines, internet for the research

Sampling universe

Tax payers in India of Mumbai.

Size of sampling

For the research purpose, responses of 60 people were taken into consideration. Questions were based on occupation, their perception regarding opting for new tax slab rate, etc.

Statistical tools

The researchers have used **ANOVA** test for this research purpose. **Anova** is used so that we can analyse the difference among groups in a sample.

Data interpretation

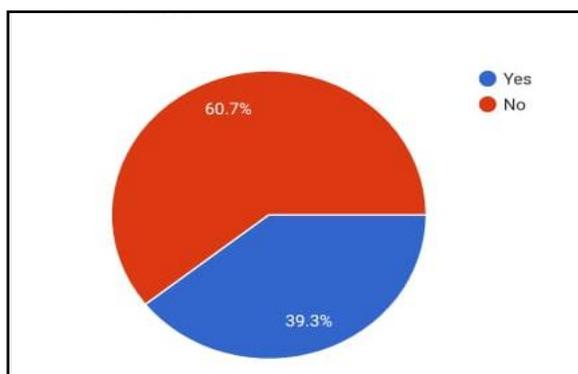


Figure 1

As we can see in figure 1, around 60% of the response are totally against the new tax rate that is introduced in Budget 2020. It indicates that the responses are not in the favour of the new tax slab that is introduced in budget 2020.

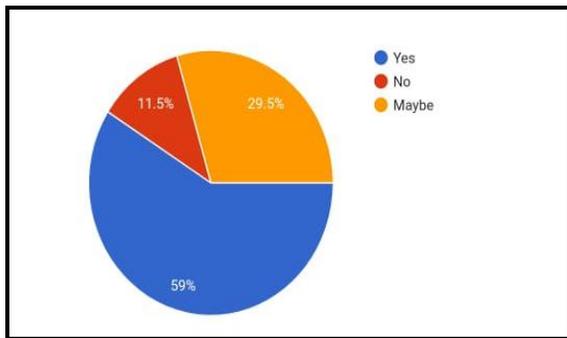


Figure 2

Pie chart in figure 2 depicts the responses of respondents with respect to deductions that are available for the tax payer in India. As we can see, around 60% of the respondents agree that adopting new slab rate will definitely be beneficial for the tax payer in terms of deductions.

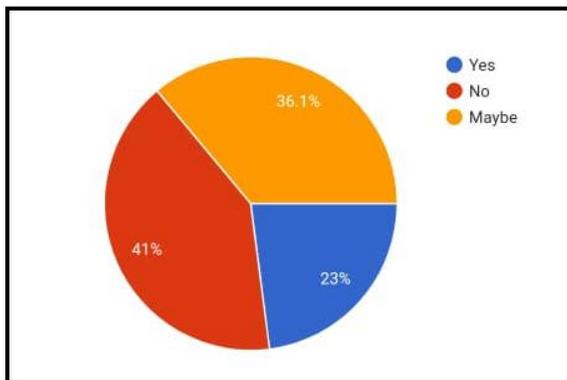


Figure 3

The main reason for the introduction of the new tax slab rate was to provide more savings in the hands of the tax payers. So, as per the responses we see that around 36% of the respondents believes that new tax slab will discourage savings, and 36% responses are confused whether it will add to savings hence, more portion are against opinion that it will increase the savings.

Data analysis

Through the primary data we came to know that around 40% of the responses were against the adoption of the new tax slab rate that is introduced in budget 2020. These responses includes of businessman, salaried.

Descriptive statistics

-Mean	11.29825
Standard Error	0.582732
Median	12
Mode	16
Standard Deviation	4.399533
Sample Variance	19.35589
Kurtosis	-0.53249
Skewness	-0.33779
Range	20
Minimum	0
Maximum	20
Sum	644
Count	57
Confidence Level (95.0%)	1.167353

Here, descriptive analysis indicates the behavior of the data with respect to respondents. We can see that standard deviation over here is around 4 which means that it is homogenous (similar responses given by the respondents) and mean is 11 which means that respondents strongly agree that the new slab rate that is introduced in budget 2020 will have its impact on the taxpayers.

Hypothesis testing

H₀: There is no significant difference between Budget 2020 and its impact on occupation of the tax payer in India, Mumbai.

H₁: There is a significant difference between Budget 2020 and its impact on occupation of the tax payer in India, Mumbai.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>Degree of freedom</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F value</i>
Rows	45.97368	56	0.820959	1.376434	0.062498	1.408505
Columns	25.29825	3	8.432749	14.13849	2.92E-08	2.658399
Error	100.2018	168	0.596439			
Total	171.4737	227				

To test the above mentioned hypotheses we have selected anova test and F- value is obtained. Since, we obtained P- value which is more than 0.05 which means that F- value is accepted. So, here null hypothesis is accepted and alternate hypothesis is rejected.

Conclusion

Hence, through data analysis we can conclude that null hypothesis is accepted that is there is no significant impact of budget 2020 with respect to tax payer (occupation)in India-Mumbai.

Findings:

- Indicates that is there no impact of budget 2020 with respect to tax payer in India- Mumbai, which is approved through hypothesis testing as most of the responses are against the concept of accepting new tax slab that is introduced in budget 2020.
- Respondents mostly have shown that they won't be opting for the new tax slab that is introduced and some of them have confusion whether to opt for the new tax slab that is introduced in Budget 2020.
- Further, it was also observed that exemptions that are available in case of payment of taxation is not been know. As response over here are also mostly in 'no' and 'maybe'. Exemptions over here mainly include starts ups, Non- profit organisations, etc.
- Tax deductions that are available for the tax payer are in the form of certain incentives; for that also results are mostly against which means people are confused whether it will really be providing any benefits.

Conclusion

Budget 2020 focused on reducing the tax slab rate mainly due to the economy slowdown, with the aim to ensure that it will help in bring the economy back to the track.

The main reason to introduced new tax slab is also due to inflation, wherein new tax slab would lead to savings around INR 78,000 for those having income of Rs. 15 lakh and hence would increase the purchasing power of the individuals.

Also, another reason to introduce new slab is to reduce the burden of taxpayer and also of the administrative authority.

References

Bagchi, A. and Chand, K. (2016). 'Taxpayer Information Service',
New Delhi, Haranand Publications Pvt Ltd.

Kantawala (1988). *The Economics Journal* 63 (4), 606- 622, 2016

Puneet Bhushan (2013), "Tax literacy among salaried individual" , *IOSR journal business and management* 10 (6).

Rangarajan C. (2012). "Strong stimulus for tax system", *A list of scholarly publications*, Vol. 2, issue no. 44, 11 November, 1967.

Annexure

Questionnaire

Name of the Respondent: _____

Nature of the Tax- payer:

- 0-5 Lacs
- 5-7.5 lacs
- 7.5-10 lacs
- 10-12.5 lacs
- 12.5 & above.

What is your income?

- 0-5 Lacs
- 5-7.5 lacs
- 7.5-10 lacs
- 10-12.5 lacs
- 12.5 & above

Which profession do you belong?

- Business-man
- Salaried/ Employed

If business-man, then what type of business is it?

- Sole trader
- Partnership
- Non-profit organisation
- Start-ups
- Others.....

Are you comfortable with the new tax slab?

- Yes
- No

Would you be opting for new tax-slab that is been introduced?

- Yes
- No

Do you think,
new tax regime will save tax. Do you agree?

- Yes
- No
- Maybe

Do you think, simpler & lower income tax, will discourage savings?

- Yes
- No
- Maybe

Do you think, exemptions will be helpful?

- Yes
- No
- Maybe

Do you think, deductions will be beneficial?

- Yes
- No
- Maybe

A Research Study on Sustainability of Budding Start-up's in Mira-Bhayandar

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1237

Shalu Chanana

Asst. Professor, Rohidas Patil Institute of Management Studies, Mumbai

Yougendra M. More

Student (MMS – IT), Rohidas Patil Institute of Management Studies, Mumbai

Abstract

Startup is often referred as entrepreneurial venture, which is initiated by entrepreneurs to develop, manage and run a business with initial stages of operations. The growing successful ventures have brought a revolution in the management of business and integrated various departments in an organization. There are start-ups in various fields like food, technology, apparels, digital media and many other businesses which are running successfully. But along with successful start-ups there are various challenges and failure faced by other budding start-ups.

The research aims to study the sustainability of start-ups in the area of Mira-Bhayandar by focusing on the newly opened business and the target audience, which will help to identify the reasons for increasing mortality of start-ups. The unique business ideas and challenges faced by the emerging business ventures is analyzed in this research and effective strategies for maintaining the sustainability in a highly competitive market is highlighted.

Keywords: *Entrepreneurial venture, startup, sustainability, mortality.*

Introduction

Start-up is defined as a company or a project which is initiated by the entrepreneurs to develop, manage and run a business with initial stages of operation. The venture gives an opportunity of self-employment with an intention to come up with innovative business idea and creating employment for others. The 'Make-in-India' initiated by the Government of India has encouraged budding start-up to start with their own venture and to boost the initiative incubation centres, loans and many other facilities are provided.

There are two ways to start a new business or venture, one is where a company organically starts with an innovative idea not existing in the market and the second is to start with a business which already exists, only a few addition or modification of elements is done. The business identifies the requirement for a product or service before starting up a venture and a deep study is involved in considering the target market along with the target customers.

Literature review

- **Marco Cantamessa, Valentina Gatteschi, Guido Perboli, Mariangela Rosano (July 2018)** It highlights the major reason for failure of start-ups, which is lack of a framework for running the business. It studies the various businesses that failed, and provides a framework in the form of SHELL model for start-up. There are descriptive statistics which show the lack of structured business development strategy, that is the key determinant for failure of start-up in majority of cases. The analysis is done with a huge database of post-mortem reports of start-up.
- **Dr. C Shekhar Upadhyay, Dr. Priyanka Rawal (October 2017)** It provides an inside view of the Indian start-up scenario with giving a brief of the characteristics of start-up and the start-up ecosystem which represents the driving forces. There is a comparison among the number of start-ups in India compared to the other countries. It gives the barriers faced by the Indian start-up and suggestions to kick start the business.
- **Mr. Ramesh Chandrasaha (June 2016)** It focuses on the need for entrepreneurship in rural areas where, there are problems and equal opportunities for running a business in the rural sector. There are new business opportunities which can create jobs and income in the rural areas. The challenge faced by rural entrepreneurs is lack of education, financial problems, and insufficient technical and conceptual ability for establishing industries in rural areas.
- **Dr. Gopaldas Pawan Kumar (2015)** Research here presents the 'Make-in-India' initiatives and other government schemes, which has given a boost to the start-ups with many individuals entering into the business. The need for clear defined factors like venture, market size, revenue and profit targets are very important. Entrepreneurial success is defined on the basis of important factors time, team work and tenacity. The challenges faced by business are defined as infrastructure, government regulations and availability of finance.

- **Dr. Badra Shailja, Vivek Sharma (2016)** They discuss the success of start-up India campaign which involved faster and easier registration of companies, self-certification for many legal requirements, zero inspection for three years, funding for patent and many more. The research also shows the government proposals for attracting investments by 2022 and incentives to start-up in the form of tax holiday for three years which could benefit the business.

Objective of the research

The below objectives are designed to measure the research goals

- To study the various roles of start-ups in Mira-Bhayandar
- To analyze various competitors for a business
- To highlight the environment for start-ups in India
- To focus on the sustainability efforts and strategies
- To identify the barriers for new venture in India
- To study the cause of mortality of budding start-ups in Mira-Bhayandar

Hypothesis

The below hypothesis are constructed for applicability of research to test the objectives and draw conclusions out of the assumptions.

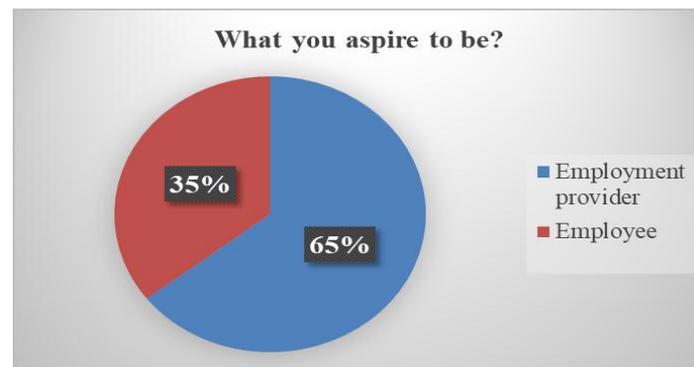
- H₁ Start-ups play an important role in changing the economy
H₀ Start-ups do not play an important role in changing the economy
- H₁ India provides a healthy environment for start-ups
H₀ India does not provide a healthy environment for start-ups
- H₁ There are various reasons that lead to mortality of start-ups in Mira-Bhayandar
H₀ There is no such reason that leads to mortality of start-ups in Mira-Bhayandar
- H₁ Sustainability efforts are highly required in start-ups in Mira-Bhayandar
H₀ Sustainability efforts are not required in start-ups in Mira-Bhayandar
- H₁ There are various barriers for a new venture in India
H₀ There is no barrier for a new venture in India

Research Methodology

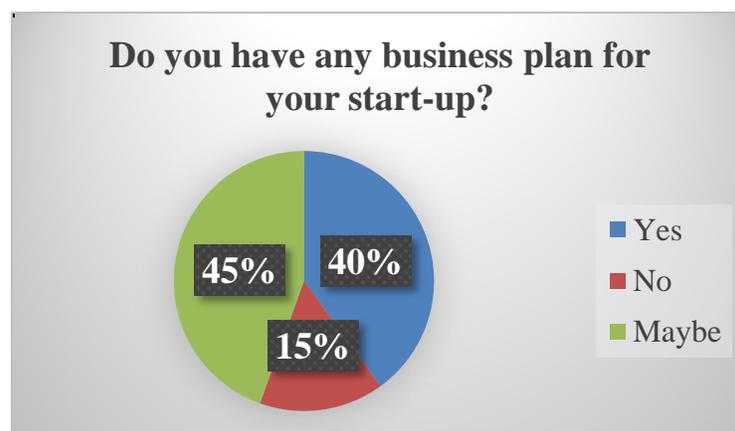
The source of primary data collection for the research study was done through questionnaire method to study mortality of start-up. The study focuses on data collection from online sources which was collected through management students, working professionals and other individuals. The data for the research was also collected by interviews with start-up owners and the people working with the start-up using an open ended questionnaire to gather knowledge of the budding start-up in Mira-Bhayandar. The secondary data was collected using various articles, journals and various online interviews shared by aspiring entrepreneurs.

Data analysis

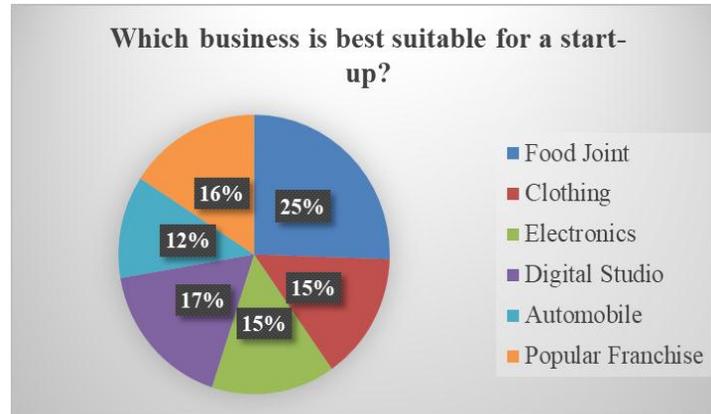
The primary data was collected through questionnaire from online and offline respondents have been merged and presented. The total sample size for the survey is 155 and interviews with around 15-20 start-up owners are represented below:



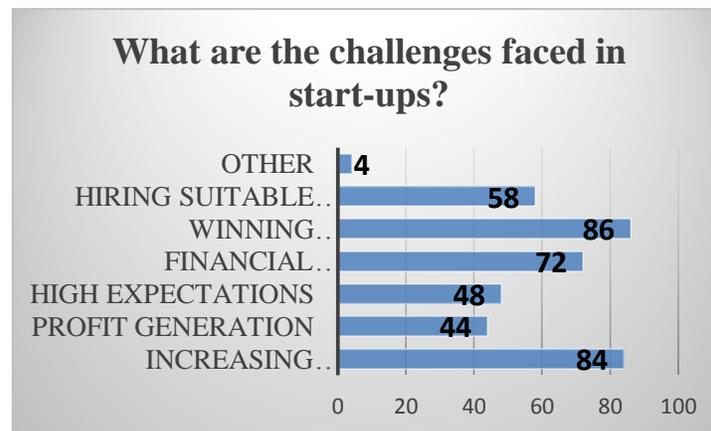
The research represents that 65% of the respondents aspire to be employment providers and start their new venture in future.



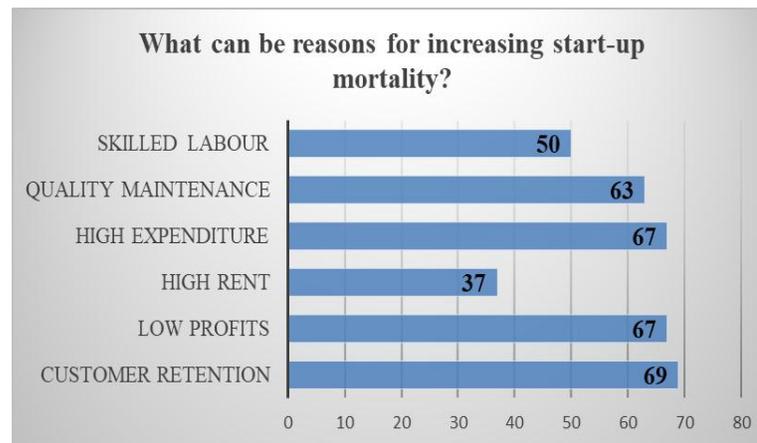
If the respondents are ready to be employment providers, it requires a business plan for successful implementation of business. 40% of the respondents are having a plan for their start-up and 45% are still not sure for having a business plan.



The best suitable business for a start-up is still divided into various categories as each one is beneficial for starting a business. The majority of the respondents feels that food is best suitable with 25% and followed by opening of a digital studio at 17%.



The major challenges for a start-up represent winning customer trust and increasing competition with 86 respondents and 84 respondents.



The reason for rising mortality among start-up is 69 respondents for customer retention and 67 respondents for high expenditure and low profits.

Based on the survey with respondents and also various Entrepreneurs or start-up owners the types of entrepreneurs are categorized based on the sectors of business they are operating. They are:

1. Innovator: The entrepreneurs who are creative and have the passion and desire to build or innovative something new are innovators. They come up with new ideas which make them different from the competitors and the strategies applied for entering the market are innovative which attracts most of the customers and helps in earning profit.

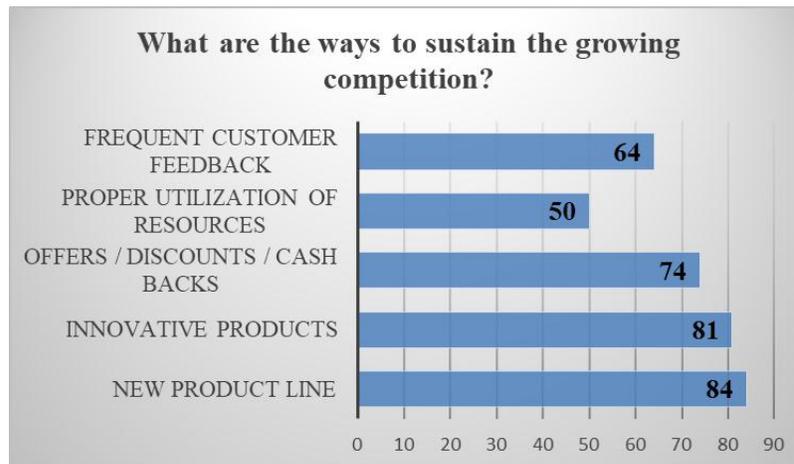
2. Imitators: They are the people who copy others business ideas and improve upon the same. They are a part of innovators and hustlers as they bring changes and do not stick to the rules.

3. Hustlers: Hustlers are the ones who are ready to work hard and they usually start with a small business and gradually turn their business profitable.

4. Researcher: Entrepreneurs who have the idea will still invest time to research and study the market before entering into the business. They gather all the data and enter the market with high rate of success as they have put a lot of time in research to study all aspects.

5. Buyers: The buyer entrepreneurs are people who have a lot of money and often acquire business which are promising and show growth prospects in the future. They have wealth and so they buy the business and appoint a person who is capable to run and grow the existing business.

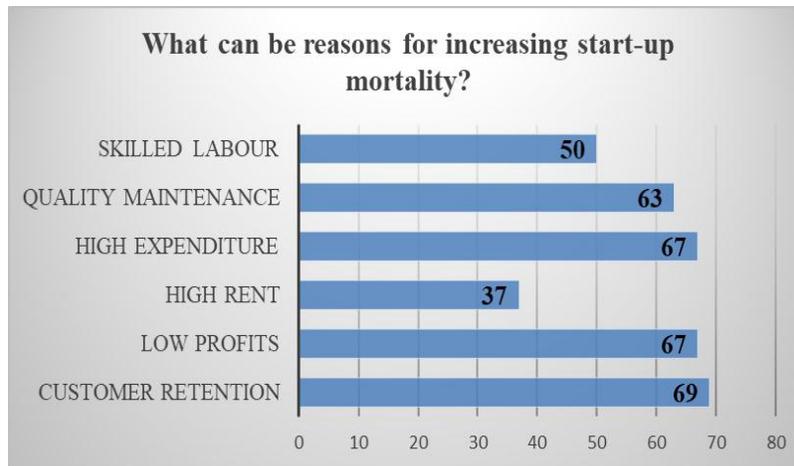
Strategies to sustain competition



The majority of respondents feel that to deal with sustainability in business a new product line and innovative products would be beneficial representing 84 respondents and 81 respectively.

There are various strategies adopted by various new businesses to beat the competition and sustain the growing competition. To prevent the growing mortality and become a profitable business venture, the strategies are:

1. **Discounts and Offers** – The new entrepreneurs provides various kinds of discounts, cash back and offers to attract the customers to their business venture.
2. **Online Promotions** – The medium of communication selected by major of the business is online promotions on various social media handle, which encourages word of mouth and shout-outs.
3. **Online Payments** – There are various payment options available with digitization and payment through UPI provides cash back offers and encourages more online payments.



The reason for rising mortality among start-up as per 69 respondents is customer retention and 67 respondents are for high expenditure and low profits.

Suggestions & recommendations

The survey with various individuals and start-ups has helped to gain a background for functioning of the start-up. The suggestions for growth of start-up are:

- The major battle where most of the start-ups in Mira-Bhayandar are bootstrapped is lack of mentorship and businesses connect. To build the knowledge gap it is important to study the business models, speeches of various business tycoons and guidance from incubation center.
- The start-ups in Mira-Bhayandar ecosystem need to focus on development of a business with highlight to areas like innovation, technology implementation in various stages of operations, identify the investors for capital requirements, building a network of people from related organizations, and service providers.
- For robust growth of the ecosystem it is not only the industry, but the government support also which is necessary to encourage the small and medium enterprises by boosting the capital flow of the start-ups in Mira-Bhayandar.

Scope of study

There was limited audience and time for the research on which the study is concluded. The further scope of research includes studying the various fields in detail and how selection of area is done by the business. It can further be helpful in defining career objectives and defining innovative goals for start-up.

Conclusion

Start-up would encourage growth of economy and increase in standard of living of the people. Being entrepreneurs is not only about running a business, but one needs to stay motivated for achievement of goals and objectives. The necessary skills and abilities need to be developed by the owners to avoid mortality and sustain the growing competition. Economic development would encourage the growth of startup and would increase more entrepreneurs in future.

References

Dr. Badra Shailja, Vivek Sharma, Successful Startup Ventures in India, 2016.

Dr. C Shekhar Upadhyay, Dr. Priyanka Rawal, Startup Ecosystem in India, October 2017.

Dr. Gopaldas Pawan Kumar, Make in India Initiatives for business, 2015.

Marco Cantamessa, Valentina Gatteschi, Guido Perboli, Mariangela Rosano, Framework for Startups in India, July 2018.

Mr. Ramesh Chandrasaha, Rural Entrepreneurship in India, June 2016.

Alternate Investments in the Real Estate Sector – Case Study on the REITs in India

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1238

^[1]Mr. Tejas Mohata ^[2]Dr. Priti Pandey

^[1] RICS, SBE Amity University Mumbai, ^[2] RICS, SBE Amity University Mumbai

Abstract

The report consists of two Income generating commercial assets situated at Chakala, Andheri (western suburb of Mumbai). The assets belong to two different developers. Both are A grade commercial lease owned assets. The main objective of this study is to understand the formation of REIT and Financial calculations involved in distribution of rents through dividends.

The paper analyses the Formation & Ownership structure of REIT, Asset Profile, Rent analysis, Tenant sector mix, Risks, Challenges, legal compliance & financial calculations for distribution of rents to the unit holders through dividends. The report focuses on hypothetical situation where two different real estate companies merge and form SPV and transfer their assets to that SPV which will later be transferred to the REIT.

To understand the potential of the commercial assets we studied different parameters. These parameters were office market growth, demand-supply analysis, occupancy-vacancy levels, tenant sector mix & rent analysis. The objective of studying these parameters is to analyse the ability of the assets to provide value to the unit holders by generating sustainable rents over the period with minimum vacancy levels.

To understand the business model of commercial leasing, we identified the strengths of the business, risks & challenges associated with the asset location & tenant retention levels.

The report mainly emphasizes on Financial calculations for distribution of returns to the unit holders through dividends. Financial heads considered for study were Cash flow analysis, Asset Valuation, Net Operating Income (NOI), Funds from Operations (FFO), Adjusted Funds for Operation (AFFO), Assets & Liabilities, Net Asset Value (NAV), No of units floated, AFFO per unit, Unit price and finally Dividend per unit. To derive these, live rents were considered with a conservative projection of rental growth.

Keywords: REIT, Net Operating Income (NOI), Funds from Operations (FFO), Adjusted Funds for Operation (AFFO), Assets & Liabilities, Net Asset Value (NAV).

Introduction

Indian Real Estate industry is undergoing downfall from past 4 to 5 years. Particularly residential asset class has been affected the most in the fall. During this downside, the industry is greeting a new trend in commercial asset class, and that is Real Estate Investment Trust (REIT). REIT is already a prevalent method in European countries and the United States to raise funds for the company's business expansion or acquisition of new income generating assets. Last year in March 2019, Embassy & Blackstone group introduced their REIT in India. The successful subscription of their REIT units has established an effective method to now raise funds India. To understand the REIT formation & process of rent distribution with financial calculation we have considered two commercial assets in our REIT report.

Purpose of the study

The main objective of this paper is to analyse the structure of REIT and Financial calculations involved in distribution of rents through dividends. The other objectives are to study REIT Asset Location, Asset Profile, Rent and Tenant sector mix, Risks, Challenges & SEBI regulations for REIT. The current study is also a testament to the absence of vital research conducted in Real Estate sector in India.

Asset Profile

The commercial office Assets are in Secondary business district (SBD) of Mumbai i.e. Chakala-Andheri micro market. Andheri is 2nd biggest business hub after BKC. The demand for office spaces in SBD's of Mumbai are rising y-o-y as per recent report of Colliers International (Colliers International Office Report2019).

Following are the information regarding the Assets under REITS:

REIT Asset	Asset 1	Asset 2
Asset Name	Windfall	Wall Street
Micro-market	Chakala-Andheri	Chakala-Andheri
Asset type	Commercial Office Space	Commercial Office Space
Grade	A	A
Year built	2012	2016
Carpet Area(sqft)	3.5Lac	7.5Lac
Storeys	12	13
Floor description	2B + G +11	3B+G+12
Floor Area(sqft)	31,900	51,000

Rent psf per month	Rs.120	Rs.150
Occupancy	90%	95%
Cap rate	8%	8%
Average Lease Expiry	3yrs	6yrs
WALE	2.4 years (80% X3)	3.5 years (70% X5)

Table 1 : Asset Details

Rent Analysis

The average market rent in Chakala, Andheri is in range of Rs. 100 to 150 psf per month. (Colliers International Office Report 2019). This rental is comparatively lower than CBD's i.e. Rs.240 psf and higher than PBD's of Mumbai i.e. below Rs.100 psf. The rentals in Andheri market are stable from past 2 to 3 years. So, there are chances of moderate rent escalations in the coming years. As there is high demand for commercial office spaces and lesser supply, the market is experiencing high leasing activity with strong occupancy rates in SBD's of Mumbai.

The Rent of Asset1– Sahar Plaza Windfall is Rs.120 psf per month, where as for Asset2 -Wall Street is Rs. 150 psf per month (Primary Research n.d.). The rent is higher for Asset 2 because it has comparatively better area & amenities, though the location of both the properties are at Chakala, Andheri. The area is said to be prominent compared to other locations, as it has metro station present just in front of the properties, also it has presence of International Airport and Railway station in just 1km & 2.3 kms respectively.

The Cap rates in SBD's are at 7% to 9% depending on Grade of Properties. The Assets we own provides a cap rate of 8% per annum, as it comes under Grade A office space category. (Primary Research n.d.) (Embassy REIT Report n.d.)

In the below Table we can see the rental rate per sqft in Andheri. So, the REIT assets generate market aligned rent. Though the rentals in the market are stagnant, the assets we own has 3% yearly rent escalations.

Mumbai

Grade A Rental Values ¹					Micromarkets	Rental Values (INR*)	QoQ Change	YoY change
Micromarkets	INR	\$US ²	Percentage Change					
	Per sq ft/Month		QOQ	YOY				
CBD ³	200 - 250	3.1 - 3.9	0.0%	0.0%	CBD ¹²	180 - 320	0.0%	0.0%
Worli/Prabhadevi	170 - 210	2.7 - 3.3	0.0%	-2.6%	Andheri East³	100 - 120	0.0%	12.8%
Lower Parel	140 - 195	2.2 - 3.1	0.0%	0.0%	Bandra Kurla Complex ²	210 - 425	0.0%	5.0%
BKC	225 - 330	3.5 - 5.2	0.0%	1.8%	Lower Parel ³	110 - 130	-2.8%	-4.0%
Kalina	150 - 180	2.4 - 2.8	3.1%	-10.8%	Malad ³	75 - 95	0.0%	0.0%
Goregaon/JVLR ³	100 - 130	1.6 - 2.0	0.0%	-4.2%	Navi Mumbai ³	48 - 55	0.0%	7.3%
Andheri East	90 - 130	1.4 - 2.0	0.0%	0.0%	Powai ³	110 - 130	0.0%	9.1%
Malad	80 - 100	1.3 - 1.6	0.0%	0.0%	Worli/Prabhadevi ³	160 - 200	0.0%	0.0%
Powai	110 - 130	1.7 - 2.0	0.0%	-2.0%	Goregaon/JVLR ³	110 - 160	0.0%	0.0%
Navi Mumbai	70 - 100	1.1 - 1.6	0.0%	0.0%	Kalina ²	145 - 180	0.0%	0.0%
Thane	70 - 80	1.1 - 1.3	0.0%	-6.3%	Thane ³	48 - 65	0.0%	0.0%
LBS ³	95 - 125	1.5 - 2.0	4.8%	-8.3%	LBS/Eastern Suburbs ³	80 - 110	5.6%	8.6%

Q3 2017 & Q32018

Q32019

(Colliers International Office Report 2019)

Table 2 : Grade A Rental value in Mumbai

Strength of Business



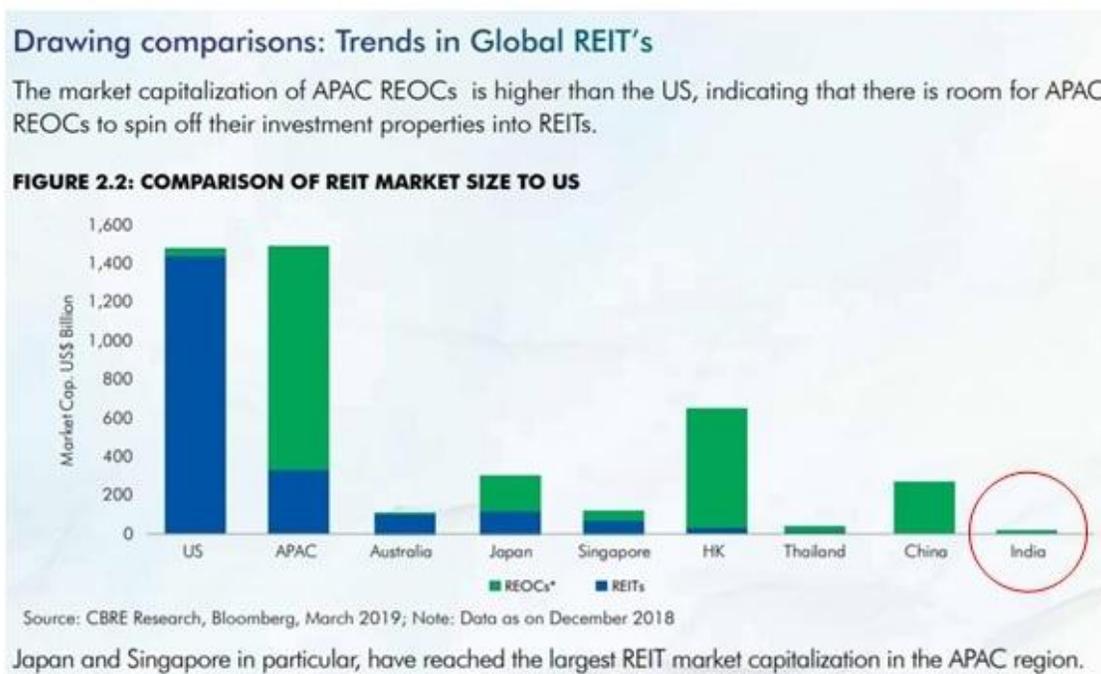


Table 3 : Comparison of APAC REIT market size to USA

(CBRE Research 2018)

Risks & Challenges

Risks

- Uncertainty due to Occupancy levels.
- Rise in Rentals could result in shifting of tenant to an affordable one (could be PBD).
- Companies feel irrational to have their back-hand offices at high rental areas.

Challenges

- Competition in the market as a business risk.
- Rise of Co working spaces and Work from home concept.
- Downturn in Country's Business economy could affect fresh leasing, as companies are uncertain about their expansion in current situation.
- The prime challenge is Oversupply in the market. Globally this situation is familiar, but fortunately in Mumbai market has seen less supply of commercial office spaces from past 1 year. The gross absorption is -64% than from last quarter Q22019.

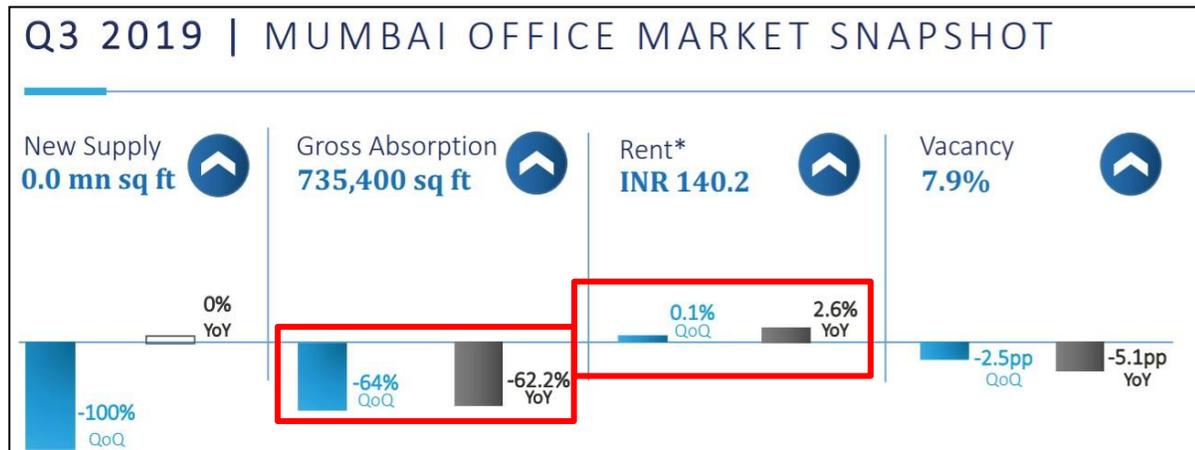


Table 4 : Mumbai Office Market Snapshot(Report-2019)

(Colliers International Office Report2019)

Solution to overcome Risks and Challenges

- The above risks and challenges can be overtaken by proper study of micro market.
- Growth of Business economy in the country.
- Growth in Infrastructure & Employment levels in the city.

Assumptions

- Asset's Book Value = Construction Cost psf X Built-up Area
- Insurance = 2% of the Book value of the Asset
- Property Tax = 2% of Book Value of the Asset
- Depreciation = 10% of Book Value of the Asset

Note : Here, Book value of Asset = Market Value of Asset

Cash flows

Asset 1 - Sahar PlazaWindfall		Asset 2 - WallStreet		Asset1-SaharPlazaWindfall		Asset 2 - WallStreet	
	Yearly		Yearly		Yearly		Yearly
Rents	₹47,69,28,000	Rents	₹1,35,00,00,000	Rents	₹50,07,74,400	Rents	₹1,41,75,00,000
O &M	₹6,62,40,000	O &M	₹22,50,00,000	O &M	₹6,95,52,000	O &M	₹23,62,50,000
AdminExpense	₹23,84,640	AdminExpense	₹67,50,000	AdminExpense	₹26,29,066	Admin Expense	₹74,41,875
Prop tax	₹1,47,20,000	Proptax	₹3,75,00,000	Proptax	₹1,54,56,000	Proptax	₹3,93,75,000
Insurance	₹1,47,20,000	Insurance	₹3,75,00,000	Insurance	₹1,54,56,000	Insurance	₹3,93,75,000
Depreciation	₹7,36,00,000	Depreciation	₹18,75,00,000	Depreciation	₹6,62,40,000	Depreciation	₹3,93,75,000
Expense	₹17,16,64,640	Expense	₹49,42,50,000	Expense	₹16,93,33,066	Expense	₹3,93,75,000
NOI1	₹30,52,63,360	NOI2	₹85,57,50,000	Forward NOI 1	₹33,14,41,334	ForwardNOI2	₹92,63,08,125

NOI	₹1,16,10,13,360
------------	-----------------

Forward NOI	₹1,25,77,49,459
--------------------	-----------------

Fig1 (a): Current year Cash flow

Fig1 (b): Forward year Cash flow

Expense Breakdown

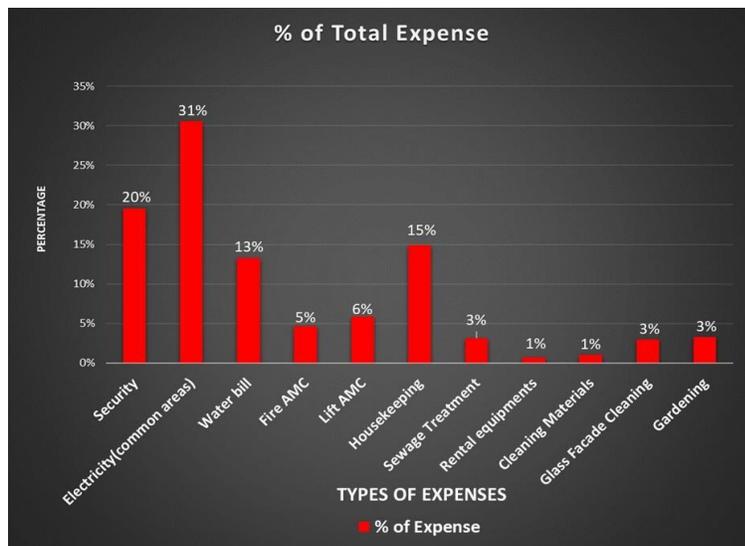


Fig 2(a) : Total Expense division in a Commercial Building

O&M breakdown	
O&M	% of Expense
Security	20%
Electricity (common areas)	31%
Water bill	13%
Fire AMC	5%
Lift AMC	6%
Housekeeping	15%
Sewage Treatment	3%
Rental equipments	1%
Cleaning Materials	1%
Glass Façade Cleaning	3%
Gardening	3%
Total O&M	100%

Fig 2(b) : O&M breakup

Asset 1 & 2 Details		
Asset Name	Windfall	Wall Street
Complex Name	Sahar Plaza	Wall Street
Grade	A	A
Location	Andheri -Chakala	Andheri -Chakala
Property	Leased Estate	Leased Estate
Type	Multi-Tenant	Multi-Tenant
Developer	Sahar Associates	Wall S Realty
Operational Year	2012	2016
Construction Cos tpsf	□ 2,000	□ 2,500
Construction Cost	□ 73,60,00,000	□ 1,87,50,00,000
Book Value of the Asset	□ 73,60,00,000	□ 1,87,50,00,000
Floors	G+11 +2B	G+12 +3B
Floor Plate(sqft)	31,900	51,000
Built up Area(sqft)	3,68,000	7,50,000
Carpet Area(sqft)	2,48,808	5,07,000
Cap Rate	8%	8%
Occupancy	90%	95%
Escalation y-o-y	5%	5%
Rent (current yr.)	□ 120	□ 150
Forward Rent	□ 126	□ 158
O & M (current yr.)	□ 15	□ 25
Forward O&M	□ 16	□ 26
Property Tax(2%)	□ 1,47,20,000	□ 3,75,00,000
Insurance(2%)	□ 1,47,20,000	□ 3,75,00,000
Depreciation (10%) (current yr.)	□ 7,36,00,000	□ 18,75,00,000
Depreciation (10%) (Forwardyr.)	□ 6,62,40,000	□ 16,87,50,000
CAPEX reserved psf yearly	□ 10	□ 15
Maintenance CAPEX value	□ 36,80,000	□ 1,12,50,000

Fig3 : Details of Asset 1 &2

Asset Valuation

Market Value of Assets		
Asset 1 &2	Valuation	
Valuation (current yr.)	□ 14,51,26,67,000	(1451.26crores)
Valuation (Forward yr.)	□ 15,72,18,68,243	(1572.18crores)

Net Operating Income (NOI)

Current NOI = □ 1,16,10,13,360 (116.1crore)

Forward NOI = □ 1,25,77,49,459 (125.77crore)

Funds from Operations (FFO)

FFO for Asset 1 = □ 39,76,81,334 FFO for Asset 2 = □ 109,50,58,125

FFO = □ 149,27,39,459 (149.27crores)

Adjusted Funds from Operations (AFFO)

AFFO for Asset 1 = □ 39,40,01,334 AFFO for Asset 2 = □ 108,38,08,125

AFFO = □ 147,78,09,459 (147.78crores)

Net Asset Value (NAV)

NAV current yr. = □ 14,51,26,67,000

Assuming Face value per share = ₹100

NAV per unit

NAV forward yr. = □ 15,72,18,68,243 (1572.19crores)

Balance Sheet					
Liabilities			Assets		
			Book Value Asset		□ 14,51,26,67,000
Current Liability	5%	□ 13,05,50,000	Current Asset	10%	□ 1,45,12,66,700
Long term Liability	30%	□ 78,33,00,000	(Cash)		
Total Liability		□ 91,38,50,000	Total Asset		□ 15,96,39,33,700

NAV per unit

NAV forward yr. = ₹ 15,72,18,68,243 (1572.19crores)

$$\begin{array}{rcll} \text{NAV per unit} & \text{NAV} & \text{₹15,7} & = \text{₹115.6} \\ = & \text{forward} & \text{2,18,6} & \\ & \text{yr.} & \text{8,243} & \\ & \text{No of} & & \\ & \text{units} & \text{13,59} & \\ & & \text{88,170} & \end{array}$$

AFFO per unit

$$\text{AFFO per unit} = \frac{\text{AFFO}}{\text{No of units}} = \frac{147.78\text{crore}}{13.59\text{crores}} = \text{₹10.9}$$

AFFO per unit = ₹10.9

Unit Price

Considering Embassy PE as benchmark to calculate our REIT Unit Price.

(Embassy PE = 16.34times)

Unit Price = Embassy PE X our EPS = 16.34 X 10 = Rs. 178/-

Dividend per unit

Dividends distributable = 90% of AFFO per unit = 90% X ₹10.9

Dividend per unit = ₹9.8

Results

Fig 4 : Distribution per unit(Result)

Distribution per unit		
NAV (current yr.)	□ 13,59,88,17,000	(Asset-Liability)
Face Value per Unit	□ 100	Assumption
No of Units	□ 13,59,88,170	(Equity / Face value)
Forward Year		
NAV per unit	□ 115.6	(NAV / No of units)
NOI per unit	□ 9.2	(NOI / No of units)
AFFO per unit	□ 10.9	(AFFO / No of Units)
Dividend per unit (DPS)	□ 9.8	(90% of AFFO per unit)
Dividend Yield	6%	(AFFO / Unit Price)
Unit Price	□ 178	(Embassy PE XEPS)
PE	16.39	(Embassy Price /AFFO)

Conclusion

REIT has opened avenues for the Developers to raise funds for acquisition and development of Commercial Asset class. Real Estate Developers are finding the REIT model more sensible than an Initial Public Offering (IPO). It is because of investor's positive sentiments towards REIT rather than an IPO of a realty company in this market. Investors are quite confident on REIT investments because they hold units of real assets with assured dividends plus the add-on is capital appreciation of units. But in case of IPO there is only capital appreciation in stock price which is skeptical in today's poor market scenario with real estate companies.

Large Real Estate companies such as K. Raheja Corp & Lodha developers are coming up with REIT in 2020. Particularly Lodha developers were initially planning to come up with an IPO but recently they have announced to launch their REIT in near future. The success of Embassy REIT has created confidence amongst developers who are planning to raise funds through REIT. REIT in India has a lot of

potential as Asia Pacific Real Estate Operating Companies (REOCs) market capitalization is higher than the USA, indicating that there is room for APAC REOCs to spin off their investment properties into REITS. Presently Japan & Singapore have reached the largest REIT market capitalization in the APAC region with more than 50 US\$ Billion. (CBREResearch2018)

References

CBRE Research. 2018. Research. Colliers International Commercial Report. n.d. Accessed 2019.

Colliers International Office Report. 2019. Quarterly Report.

Economic Times. n.d.

[//economictimes.indiatimes.com/articleshow/71043640.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](https://economictimes.indiatimes.com/articleshow/71043640.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst).

EconomicTimesMarkets.n.d.<https://economictimes.indiatimes.com/markets/stocks/news/blackstone-k-raheja-plan-reit-for-commercial-portfolio/articleshow/71043640.cms?from=mdr>.

Embassy REIT Report .n.d.

JLL India. 2019. Quarterly Report. <https://www.jll.co.in/en/trends-and-insights/research/pulse-real-estate-monthly-monitor>.

Primary Research. n.d. R

Alternate Investments in the Real Estate Sector – Case Study on the REITs in India

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1238

^[1]Mr. Tejas Mohata ^[2]Dr. Priti Pandey

^[1] RICS, SBE Amity University Mumbai, ^[2] RICS, SBE Amity University Mumbai

Abstract

The report consists of two Income generating commercial assets situated at Chakala, Andheri (western suburb of Mumbai). The assets belong to two different developers. Both are A grade commercial lease owned assets. The main objective of this study is to understand the formation of REIT and Financial calculations involved in distribution of rents through dividends.

The paper analyses the Formation & Ownership structure of REIT, Asset Profile, Rent analysis, Tenant sector mix, Risks, Challenges, legal compliance & financial calculations for distribution of rents to the unit holders through dividends. The report focuses on hypothetical situation where two different real estate companies merge and form SPV and transfer their assets to that SPV which will later be transferred to the REIT.

To understand the potential of the commercial assets we studied different parameters. These parameters were office market growth, demand-supply analysis, occupancy-vacancy levels, tenant sector mix & rent analysis. The objective of studying these parameters is to analyse the ability of the assets to provide value to the unit holders by generating sustainable rents over the period with minimum vacancy levels.

To understand the business model of commercial leasing, we identified the strengths of the business, risks & challenges associated with the asset location & tenant retention levels.

The report mainly emphasizes on Financial calculations for distribution of returns to the unit holders through dividends. Financial heads considered for study were Cash flow analysis, Asset Valuation, Net Operating Income (NOI), Funds from Operations (FFO), Adjusted Funds for Operation (AFFO), Assets & Liabilities, Net Asset Value (NAV), No of units floated, AFFO per unit, Unit price and finally Dividend per unit. To derive these, live rents were considered with a conservative projection of rental growth.

Keywords: REIT, Net Operating Income (NOI), Funds from Operations (FFO), Adjusted Funds for Operation (AFFO), Assets & Liabilities, Net Asset Value (NAV).

Introduction

Indian Real Estate industry is undergoing downfall from past 4 to 5 years. Particularly residential asset class has been affected the most in the fall. During this downside, the industry is greeting a new trend in commercial asset class, and that is Real Estate Investment Trust (REIT). REIT is already a prevalent method in European countries and the United States to raise funds for the company's business expansion or acquisition of new income generating assets. Last year in March 2019, Embassy & Blackstone group introduced their REIT in India. The successful subscription of their REIT units has established an effective method to now raise funds India. To understand the REIT formation & process of rent distribution with financial calculation we have considered two commercial assets in our REIT report.

Purpose of the study

The main objective of this paper is to analyse the structure of REIT and Financial calculations involved in distribution of rents through dividends. The other objectives are to study REIT Asset Location, Asset Profile, Rent and Tenant sector mix, Risks, Challenges & SEBI regulations for REIT. The current study is also a testament to the absence of vital research conducted in Real Estate sector in India.

Asset Profile

The commercial office Assets are in Secondary business district (SBD) of Mumbai i.e. Chakala-Andheri micro market. Andheri is 2nd biggest business hub after BKC. The demand for office spaces in SBD's of Mumbai are rising y-o-y as per recent report of Colliers International (Colliers International Office Report2019).

Following are the information regarding the Assets under REITS:

REIT Asset	Asset 1	Asset 2
Asset Name	Windfall	Wall Street
Micro-market	Chakala-Andheri	Chakala-Andheri
Asset type	Commercial Office Space	Commercial Office Space
Grade	A	A
Year built	2012	2016
Carpet Area(sqft)	3.5Lac	7.5Lac
Storeys	12	13
Floor description	2B + G +11	3B+G+12
Floor Area(sqft)	31,900	51,000

Rent psf per month	Rs.120	Rs.150
Occupancy	90%	95%
Cap rate	8%	8%
Average Lease Expiry	3yrs	6yrs
WALE	2.4 years (80% X3)	3.5 years (70% X5)

Table 1 : Asset Details

Rent Analysis

The average market rent in Chakala, Andheri is in range of Rs. 100 to 150 psf per month. (Colliers International Office Report 2019). This rental is comparatively lower than CBD's i.e. Rs.240 psf and higher than PBD's of Mumbai i.e. below Rs.100 psf. The rentals in Andheri market are stable from past 2 to 3 years. So, there are chances of moderate rent escalations in the coming years. As there is high demand for commercial office spaces and lesser supply, the market is experiencing high leasing activity with strong occupancy rates in SBD's of Mumbai.

The Rent of Asset1– Sahar Plaza Windfall is Rs.120 psf per month, where as for Asset2 -Wall Street is Rs. 150 psf per month (Primary Research n.d.). The rent is higher for Asset 2 because it has comparatively better area & amenities, though the location of both the properties are at Chakala, Andheri. The area is said to be prominent compared to other locations, as it has metro station present just in front of the properties, also it has presence of International Airport and Railway station in just 1km & 2.3 kms respectively.

The Cap rates in SBD's are at 7% to 9% depending on Grade of Properties. The Assets we own provides a cap rate of 8% per annum, as it comes under Grade A office space category. (Primary Research n.d.) (Embassy REIT Report n.d.)

In the below Table we can see the rental rate per sqft in Andheri. So, the REIT assets generate market aligned rent. Though the rentals in the market are stagnant, the assets we own has 3% yearly rent escalations.

Mumbai

Grade A Rental Values ¹					Micromarkets	Rental Values (INR*)	QoQ Change	YoY change
Micromarkets	INR	\$US ²	Percentage Change					
	Per sq ft/Month		QOQ	YOY				
CBD ³	200 - 250	3.1 - 3.9	0.0%	0.0%	CBD ¹²	180 - 320	0.0%	0.0%
Worli/Prabhadevi	170 - 210	2.7 - 3.3	0.0%	-2.6%	Andheri East ³	100 - 120	0.0%	12.8%
Lower Parel	140 - 195	2.2 - 3.1	0.0%	0.0%	Bandra Kurla Complex ²	210 - 425	0.0%	5.0%
BKC	225 - 330	3.5 - 5.2	0.0%	1.8%	Lower Parel ³	110 - 130	-2.8%	-4.0%
Kalina	150 - 180	2.4 - 2.8	3.1%	-10.8%	Malad ³	75 - 95	0.0%	0.0%
Goregaon/JVLR ³	100 - 130	1.6 - 2.0	0.0%	-4.2%	Navi Mumbai ³	48 - 55	0.0%	7.3%
Andheri East	90 - 130	1.4 - 2.0	0.0%	0.0%	Powai ³	110 - 130	0.0%	9.1%
Malad	80 - 100	1.3 - 1.6	0.0%	0.0%	Worli/Prabhadevi ³	160 - 200	0.0%	0.0%
Powai	110 - 130	1.7 - 2.0	0.0%	-2.0%	Goregaon/JVLR ³	110 - 160	0.0%	0.0%
Navi Mumbai	70 - 100	1.1 - 1.6	0.0%	0.0%	Kalina ²	145 - 180	0.0%	0.0%
Thane	70 - 80	1.1 - 1.3	0.0%	-6.3%	Thane ³	48 - 65	0.0%	0.0%
LBS ³	95 - 125	1.5 - 2.0	4.8%	-8.3%	LBS/Eastern Suburbs ³	80 - 110	5.6%	8.6%

Q3 2017 & Q32018

Q32019

(Colliers International Office Report 2019)

Table 2 : Grade A Rental value in Mumbai

Strength of Business



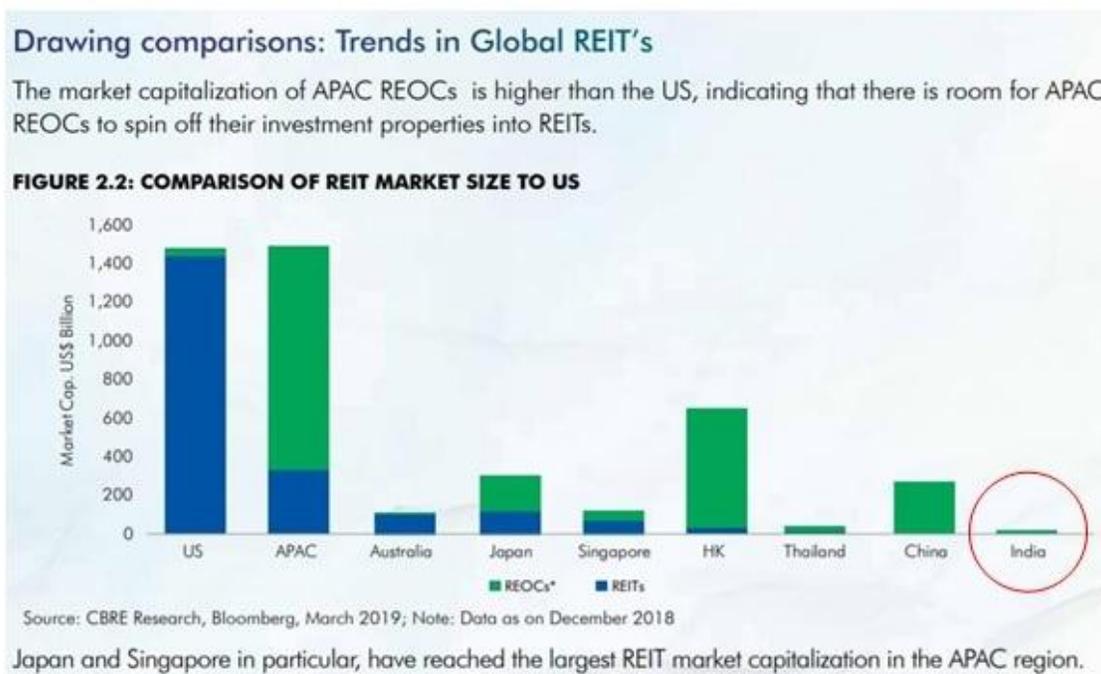


Table 3 : Comparison of APAC REIT market size to USA

(CBRE Research 2018)

Risks & Challenges

Risks

- Uncertainty due to Occupancy levels.
- Rise in Rentals could result in shifting of tenant to an affordable one (could be PBD).
- Companies feel irrational to have their back-hand offices at high rental areas.

Challenges

- Competition in the market as a business risk.
- Rise of Co working spaces and Work from home concept.
- Downturn in Country's Business economy could affect fresh leasing, as companies are uncertain about their expansion in current situation.
- The prime challenge is Oversupply in the market. Globally this situation is familiar, but fortunately in Mumbai market has seen less supply of commercial office spaces from past 1 year. The gross absorption is -64% than from last quarter Q22019.



Table 4 : Mumbai Office Market Snapshot(Report-2019)

(Colliers International Office Report2019)

Solution to overcome Risks and Challenges

- The above risks and challenges can be overtaken by proper study of micro market.
- Growth of Business economy in the country.
- Growth in Infrastructure & Employment levels in the city.

Assumptions

- Asset's Book Value = Construction Cost psf X Built-up Area
- Insurance = 2% of the Book value of the Asset
- Property Tax = 2% of Book Value of the Asset
- Depreciation = 10% of Book Value of the Asset

Note : Here, Book value of Asset = Market Value of Asset

Cash flows

Asset 1 - Sahar PlazaWindfall		Asset 2 - WallStreet		Asset1-SaharPlazaWindfall		Asset 2 - WallStreet	
	Yearly		Yearly		Yearly		Yearly
Rents	₹47,69,28,000	Rents	₹1,35,00,00,000	Rents	₹50,07,74,400	Rents	₹1,41,75,00,000
O & M	₹6,62,40,000	O & M	₹22,50,00,000	O & M	₹6,95,52,000	O & M	₹23,62,50,000
AdminExpense	₹23,84,640	AdminExpense	₹67,50,000	AdminExpense	₹26,29,066	Admin Expense	₹74,41,875
Prop tax	₹1,47,20,000	Proptax	₹3,75,00,000	Proptax	₹1,54,56,000	Proptax	₹3,93,75,000
Insurance	₹1,47,20,000	Insurance	₹3,75,00,000	Insurance	₹1,54,56,000	Insurance	₹3,93,75,000
Depreciation	₹7,36,00,000	Depreciation	₹18,75,00,000	Depreciation	₹6,62,40,000	Depreciation	₹3,93,75,000
Expense	₹17,16,64,640	Expense	₹49,42,50,000	Expense	₹16,93,33,066	Expense	₹3,93,75,000
NOI1	₹30,52,63,360	NOI2	₹85,57,50,000	Forward NOI 1	₹33,14,41,334	ForwardNOI2	₹92,63,08,125

NOI	₹1,16,10,13,360
------------	-----------------

Forward NOI	₹1,25,77,49,459
--------------------	-----------------

Fig1 (a): Current year Cash flow

Fig1 (b): Forward year Cash flow

Expense Breakdown

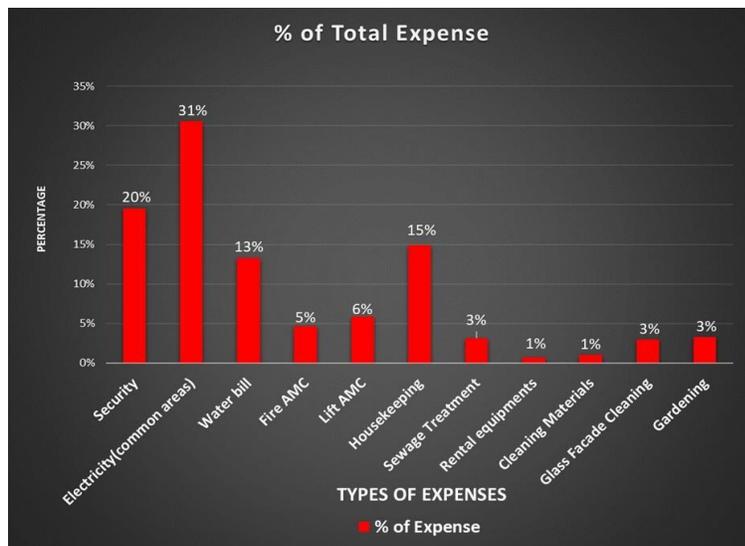


Fig 2(a) : Total Expense division in a Commercial Building

O&M breakdown	
O&M	% of Expense
Security	20%
Electricity (common areas)	31%
Water bill	13%
Fire AMC	5%
Lift AMC	6%
Housekeeping	15%
Sewage Treatment	3%
Rental equipments	1%
Cleaning Materials	1%
Glass Façade Cleaning	3%
Gardening	3%
Total O&M	100%

Fig 2(b) : O&M breakup

Asset 1 & 2 Details		
Asset Name	Windfall	Wall Street
Complex Name	Sahar Plaza	Wall Street
Grade	A	A
Location	Andheri -Chakala	Andheri -Chakala
Property	Leased Estate	Leased Estate
Type	Multi-Tenant	Multi-Tenant
Developer	Sahar Associates	Wall S Realty
Operational Year	2012	2016
Construction Cos tpsf	□ 2,000	□ 2,500
Construction Cost	□ 73,60,00,000	□ 1,87,50,00,000
Book Value of the Asset	□ 73,60,00,000	□ 1,87,50,00,000
Floors	G+11 +2B	G+12 +3B
Floor Plate(sqft)	31,900	51,000
Built up Area(sqft)	3,68,000	7,50,000
Carpet Area(sqft)	2,48,808	5,07,000
Cap Rate	8%	8%
Occupancy	90%	95%
Escalation y-o-y	5%	5%
Rent (current yr.)	□ 120	□ 150
Forward Rent	□ 126	□ 158
O & M (current yr.)	□ 15	□ 25
Forward O&M	□ 16	□ 26
Property Tax(2%)	□ 1,47,20,000	□ 3,75,00,000
Insurance(2%)	□ 1,47,20,000	□ 3,75,00,000
Depreciation (10%) (current yr.)	□ 7,36,00,000	□ 18,75,00,000
Depreciation (10%) (Forwardyr.)	□ 6,62,40,000	□ 16,87,50,000
CAPEX reserved psf yearly	□ 10	□ 15
Maintenance CAPEX value	□ 36,80,000	□ 1,12,50,000

Fig3 : Details of Asset 1 &2

Asset Valuation

Market Value of Assets		
Asset 1 &2	Valuation	
Valuation (current yr.)	□ 14,51,26,67,000	(1451.26crores)
Valuation (Forward yr.)	□ 15,72,18,68,243	(1572.18crores)

Net Operating Income (NOI)

Current NOI = □ 1,16,10,13,360 (116.1crore)

Forward NOI = □ 1,25,77,49,459 (125.77crore)

Funds from Operations (FFO)

FFO for Asset 1 = □ 39,76,81,334 FFO for Asset 2 = □ 109,50,58,125

FFO = □ 149,27,39,459 (149.27crores)

Adjusted Funds from Operations (AFFO)

AFFO for Asset 1 = □ 39,40,01,334 AFFO for Asset 2 = □ 108,38,08,125

AFFO = □ 147,78,09,459 (147.78crores)

Net Asset Value (NAV)

NAV current yr. = □ 14,51,26,67,000

Assuming Face value per share = ₹100

NAV per unit

NAV forward yr. = □ 15,72,18,68,243 (1572.19crores)

Balance Sheet					
Liabilities			Assets		
			Book Value Asset		□ 14,51,26,67,000
Current Liability	5%	□ 13,05,50,000	Current Asset	10%	□ 1,45,12,66,700
Long term Liability	30%	□ 78,33,00,000	(Cash)		
Total Liability		□ 91,38,50,000	Total Asset		□ 15,96,39,33,700

NAV per unit

$$\text{NAV forward yr.} = \text{₹ } 15,72,18,68,243 \text{ (1572.19crores)}$$

$$\begin{array}{rcl} \text{NAV per unit} & \text{NAV} & \text{₹ } 15,7 \\ = & \text{forward} & \text{2,18,6} \\ & \text{yr.} & \text{8,243} \\ & \text{No of} & \\ & \text{units} & \text{13,59} \\ & & \text{88,170} \end{array} = \text{₹ } 115.6$$

AFFO per unit

$$\text{AFFO per unit} = \frac{\text{AFFO}}{\text{No of units}} = \frac{147.78\text{crore}}{13.59\text{crores}} = \text{₹ } 10.9$$

$$\text{AFFO per unit} = \text{₹ } 10.9$$

Unit Price

Considering Embassy PE as benchmark to calculate our REIT Unit Price.

(Embassy PE = 16.34times)

$$\text{Unit Price} = \text{Embassy PE} \times \text{our EPS} = 16.34 \times 10 = \text{Rs. } 178/-$$

Dividend per unit

Dividends distributable = 90% of AFFO per unit = 90% X ₹ 10.9

$$\text{Dividend per unit} = \text{₹ } 9.8$$

Results

Fig 4 : Distribution per unit(Result)

Distribution per unit		
NAV (current yr.)	□ 13,59,88,17,000	(Asset-Liability)
Face Value per Unit	□ 100	Assumption
No of Units	□ 13,59,88,170	(Equity / Face value)
Forward Year		
NAV per unit	□ 115.6	(NAV / No of units)
NOI per unit	□ 9.2	(NOI / No of units)
AFFO per unit	□ 10.9	(AFFO / No of Units)
Dividend per unit (DPS)	□ 9.8	(90% of AFFO per unit)
Dividend Yield	6%	(AFFO / Unit Price)
Unit Price	□ 178	(Embassy PE XEPS)
PE	16.39	(Embassy Price /AFFO)

Conclusion

REIT has opened avenues for the Developers to raise funds for acquisition and development of Commercial Asset class. Real Estate Developers are finding the REIT model more sensible than an Initial Public Offering (IPO). It is because of investor's positive sentiments towards REIT rather than an IPO of a realty company in this market. Investors are quite confident on REIT investments because they hold units of real assets with assured dividends plus the add-on is capital appreciation of units. But in case of IPO there is only capital appreciation in stock price which is skeptical in today's poor market scenario with real estate companies.

Large Real Estate companies such as K. Raheja Corp & Lodha developers are coming up with REIT in 2020. Particularly Lodha developers were initially planning to come up with an IPO but recently they have announced to launch their REIT in near future. The success of Embassy REIT has created confidence amongst developers who are planning to raise funds through REIT. REIT in India has a lot of

potential as Asia Pacific Real Estate Operating Companies (REOCs) market capitalization is higher than the USA, indicating that there is room for APAC REOCs to spin off their investment properties into REITS. Presently Japan & Singapore have reached the largest REIT market capitalization in the APAC region with more than 50 US\$ Billion. (CBREResearch2018)

References

CBRE Research. 2018. Research. Colliers International Commercial Report. n.d. Accessed 2019.

Colliers International Office Report. 2019. Quarterly Report.

Economic Times. n.d.

[//economictimes.indiatimes.com/articleshow/71043640.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst](https://economictimes.indiatimes.com/articleshow/71043640.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst).

EconomicTimesMarkets.n.d.<https://economictimes.indiatimes.com/markets/stocks/news/blackstone-k-raheja-plan-reit-for-commercial-portfolio/articleshow/71043640.cms?from=mdr>.

Embassy REIT Report .n.d.

JLL India. 2019. Quarterly Report. <https://www.jll.co.in/en/trends-and-insights/research/pulse-real-estate-monthly-monitor>.

Primary Research. n.d. R

Trade Area & Marketability Analysis for Real Estate Development at Kharadi, Pune

IIBM's Journal of Management Research

Vol. 5 ; Issue : 1-2 (Jan – Dec 2020)

DOI : 10.33771/iibm.v5i1-2.1239

Yash Raheja¹, Rohit Mutha² and Shekhar Nagargoje³

^{1,2}MBA Student, Real Estate and Urban Infrastructure, RICS School of Built Environment, Amity University, Mumbai, India

³Associate Professor, School of Real Estate, RICS School of Built Environment, Amity University, Mumbai, India

Abstract

The real estate sector, a major contributor to the economy, is expected to contribute 13 percent to country's GDP by 2025. Rapid urbanization, rise in household income and emergence of conjugal families are the key factors for growth in real estate (Indian Real Estate Industry Analysis, 2019). A micro – market from Pune was selected and various factors like economy of the micro-market, geography, regional linkage, demographics, infrastructure development, socio – economic classification, traffic and transportation and micro – market fabric were studied for market research. Kharadi, a micro-market located on eastern side of Pune city houses the World Trade Center and EON Free Zone - Special Economic Zone for IT & ITeS firms with built-up area of 4mn.sq.ft.(ANAROCK, 2018). The growing IT sector, vacant land, easy accessibility from social hubs of Pune and well connection to transport systems are the primary reasons for the thriving real estate sector in the micro-market. The intention of this study is to determine the lucrative use of the site to provide optimum returns on investments in future. Marketability analysis of chosen micro-market was executed to identify the demand – supply gap. The research methodology used for this study comprises of primary and secondary research and findings of this study establish decision making for real estate development.

Keywords: *Micro-Market, Real Estate, Marketability, Best Use.*

Introduction

As per the Report (ANAROCK, 2018), Kharadi, in eastern Pune, is located along the banks of Mula Mutha river. Kharadi is one of the rapidly developing suburban areas of Pune and is one of the industrial zones and the IT hubs of Pune. Kharadi has easy accessibility from social hubs of Pune like Koregaon Park, Viman Nagar, Kalyani Nagar & Magarpatta City. It is also well connected to the upcoming transportation like the Pune International Airport& the upcoming airport, the metro, BRTS& Ring Road. Further, it is going to be connected by the 22-kilometer Kharadi riverside road connecting it to the Bangalore-Mumbai Expressway & Pune- Ahmednagar Highway.

Noted IT companies in this area include Zensar, Mphasis, Wipro, etc. Availability of large land parcels & good connectivity to other areas has bolstered the growth of many IT companies. Kharadi has a well-developed social & physical infrastructure & is likely to witness further growth as it falls under the Pune Municipal Corporation (PMC) limits which has planned several upgrades. The PMC is planning for several infrastructure projects including the Vanaz-Ramwadi metro corridor, BRTS connectivity between Warje-Kharadi, among others. Kharadi has a mix of residential options comprising affordable, mid and luxury properties. Its proximity to other economic hubs such as Hadapsar, Koregaon Park, and Magarpatta city, etc. have also made it a popular residential destination(ANAROCK, 2018).

Various shopping malls like Reliance Smart, Amanora Mall, Seasons Mall & Phoenix Mall reside in and around Kharadi. The micro – market also includes premium hotels like Radisson Blu & serviced apartments like Icon Bliss, Coronet & Aerinth Studios.

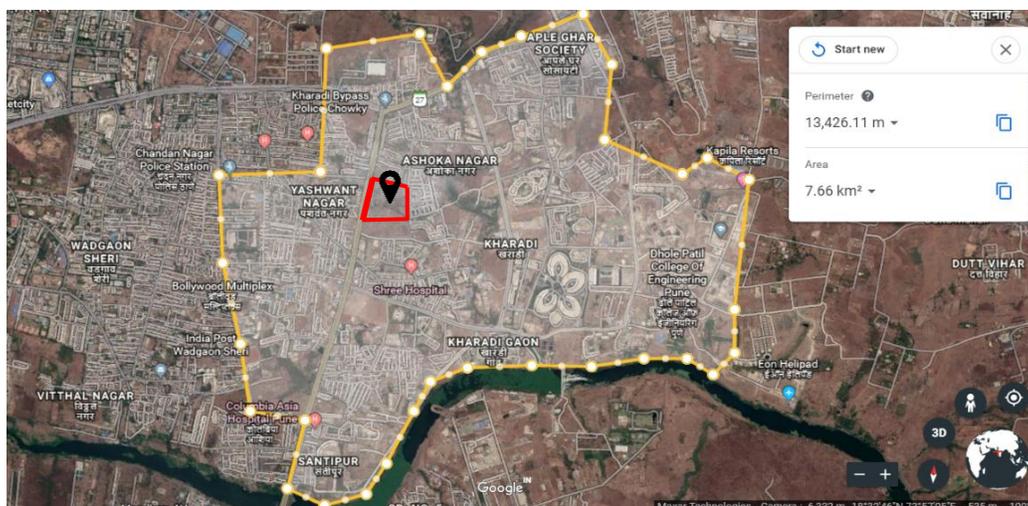


Figure I. Boundary of Kharadi Market

Source: (Google earth pro, 2019)

The yellow boundary demarcates the study area of Kharadi which has been considered for analysing the various factors of development. The red box inside it shows the site location which has been considered for development. The study area is approximately 7.66 km^2 (Refer Figure 1).

Objective

The primary objective of this study is to do marketability analysis of Kharadi micro – market and evaluate the development potential of various sectors(residential, commercial and retail).

Analysis Process

Primary and secondary catchment was identified for the marketability analysis using the Business Analyst tool of Arc GI Sand Time and Distance based model. Six Step market analysis process was conducted for identifying the demand – supply gap in different sectors.

Residential Sector

Demand Estimation

The demand in residential sector is calculated using demographic model of demand forecast.

The Compounded Annual Growth Rate for last two decades was calculated. The household size is constant at 4(Census, 2011). The approximate population in 2019 and estimated population is calculated

as per Compounded Annual Growth Rate. The requirement for the households is forecasted as specified below in Table 1

Year	Population	Total households	Household size
1991	11679	2919	4
2001	39348	9827	4
2011	62279	15551	4
2019	105727	26432	4
CAGR per annum (%)		8.72	

Table I. Population

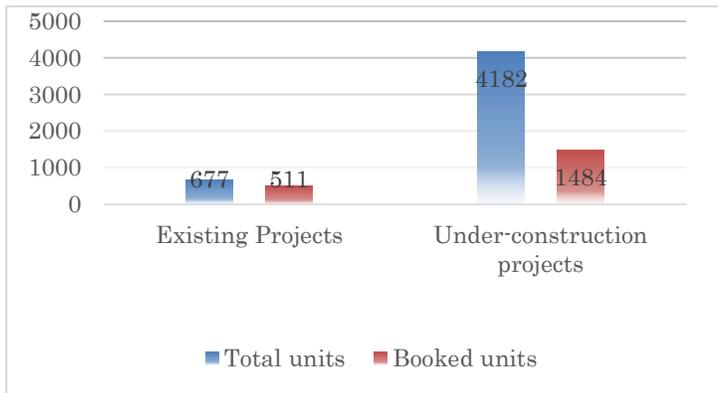
Source: (Census, 2011)

Projections			
Year	Population	Household size	Required Households
2020	111158	4	27790
2021	116589	4	29147
2022	122020	4	30505

Table II. Projected Population

The estimations clearly indicate that there will be a requirement of around 1350 households every year (Refer Table 2).

Supply Analysis



The sale percentage of the existing and upcoming projects was extracted and the absorption rate was calculated which is 41.05% (Refer Figure 2). The prices of different projects in the micro – market is ₹6200/ sq. ft.(MahaRera, 2019).

Figure II. Absorption of Units

Data Source: (MahaRera, 2019)

Demand Supply Analysis

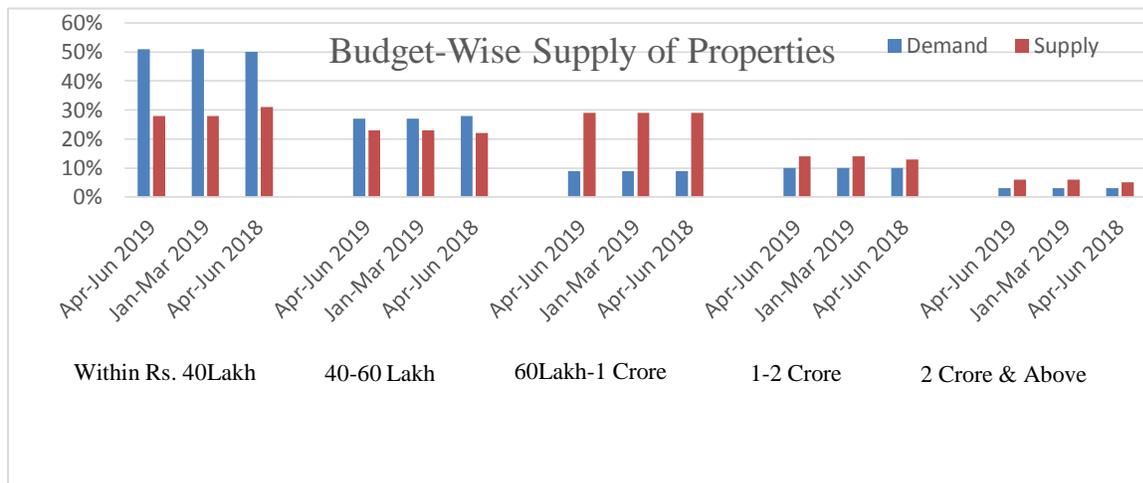


Figure III. Demand - Supply

Source: (99acres.com, 2019)

It is clear from the analysis & research that there is shortage of units in affordable housing which serves to the Low-Income Group (LIG) consumers. There is surplus of units in the mid-income housing and luxury housing which caters to the Middle-Income Group (MIG) and High-Income Group (HIG) consumers respectively (Refer Figure 3).

Thus, the option of residential property can be considered as an option which serves only to the affordable housing.

Commercial Sector

Demand Estimation

Based on the population demographics calculated from CAGR, the demand estimation was done by using the Jennings Model.(Rabianski, 2006)

$$D_{T+1} = (S/P) P_{T+1}$$

Where D_{T+1} = Demand Forecast for total office space in the micro-market in a time period.

S = Stock of office space in a time period.

P = Population in a time period.

S / P = Average of the ratio for several recent years.

P_{T+1} = Forecast population till 2024.

In the micro-market,

S {Total Inventories (Wakefield, 2019)} = 11,239,280 sq. ft.

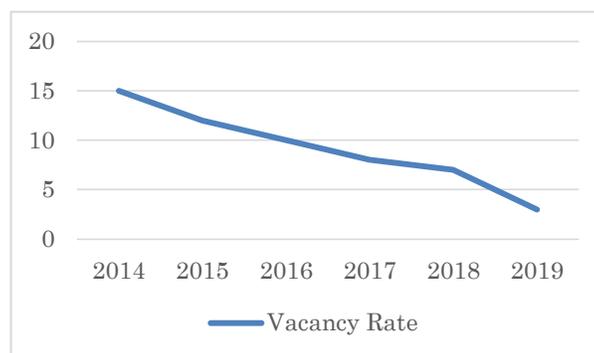
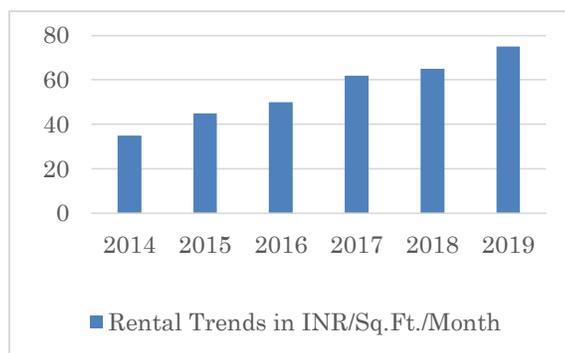
P (Population of 2019 as per CAGR) = 105,727.

S / P = 106.30

P_{T+1} = 132882.

Demand (D_{2024}) = 14,125,357 sq. ft.

Supply Analysis:



Source: (CIRIL, 2019)

As per the report (CIRIL, 2019), around 45% of the office spaces are occupied by the IT sector and 55% constitutes of the non-IT developments like Banking and Financial Services Institutions (BFSI), engineering and manufacturing companies. Kharadi has witnessed the largest growth in the rental values, around 65-70% rise from 2014 because of the surrounding emerging development like World Trade Centre and Eon IT Park. New supply of 13 million sq.ft has been planned between 2019-21, of which majority is in Kharadi i.e.34%. (CIRIL, 2019).

Demand - Supply Analysis

Looking at the demand and supply analysis, it is clearly observed that Grade A office spaces are being occupied at a faster rate and the vacancy rate is declining as compared to the previous years. In spite of the rise in supply, the net absorption has been continually rising compared to the previous quarters.

The rental values are likely to rise in the future due to sustained demand for quality spaces with average growth of 3% - 4% Y-O-Y. The vacancy levels will remain at 6% - 8% due to steady demand. The prices are likely to see an upward growth with rising investor interests. 5–7% increase in prices is expected by 2020. This shows that commercial sector can be considered as one of the best options for the development. (CIRIL, 2019)

Retail Sector

Demand Estimation

The retail property has a focussed trade area from where all the customers get attracted to the site. The time based and distance-based model are used to analyse the spending power of the customers.(Deborah L. Brett)

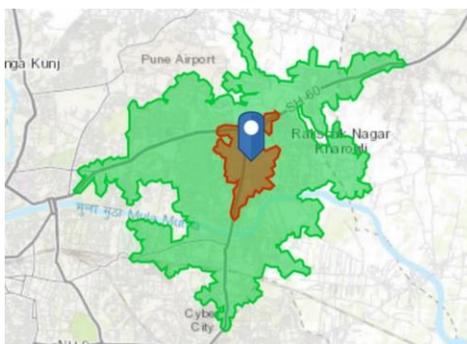


Figure IV. Time based Survey

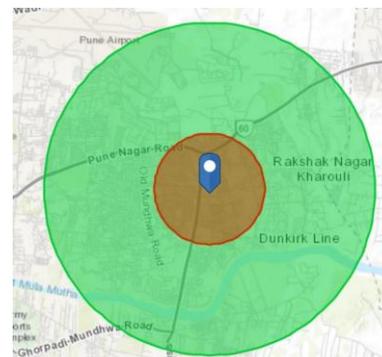


Figure V. Distanced based Survey

Source: (Arc GIS Business Analyst, 2019)

Time Based: In this methodology, the area within 5-minute drive is considered as the primary trade area and the area within 15-minute drive is considered as the secondary area.

Distance Based: In this methodology, the area within 1 km is considered as the primary trade area and the area within 3 kms is considered as the secondary area.

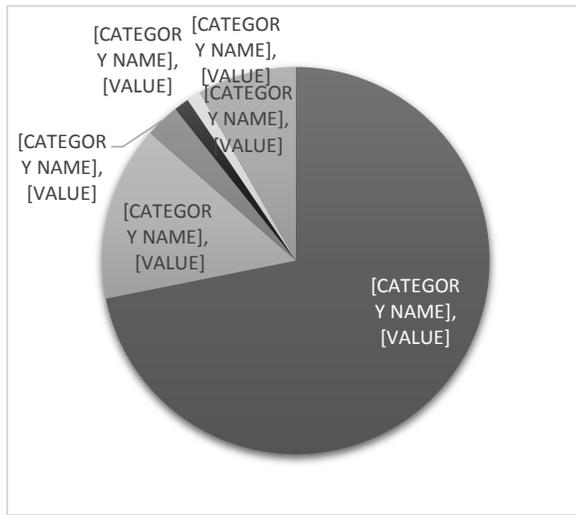


Figure VI. Spending Behaviour Per Capita (in Rs.)

The demand analysis for retail market was carried out on the basis of spending behaviour of the people staying in the micro market on various product categories. The distribution of different categories is shown in form of a chart (Refer Figure 6). It is clear that the top most expenditure is depended on the Food & Beverages at Rs. 37145 per capita.

Source:(Arc GIS Business Analyst, 2019)

Based on the report generated from Business Analyst, we get an approximate potential catchment of 2,81,608. Considering the correlation between the per capita retail space & per capita income, the Per Capita Mall Space (PCMS) based on India's spending power has been taken. The PCMS is taken as 1.5 sq. ft. according to (Nagargoje). So, the demand for mall space will be around 4,22,412 sq. ft.

Supply Analysis

The survey consists of existing malls in the range of 5 km Catchment radius which gives the Gross Leasable Area (GLA), which can be considered as a supply of the Micro-market.

Name of the Mall	Gross Leasable Area(GLA)
Phoenix Mall	800000.00
Seasons Mall	1500000.00
Amanora Mall	1150000.00
Total Supply	3450000.00

Source:(Malls Market, 2019)

Demand-Supply Analysis

Total Demand = Population x Per Capita Retail Space = 281608 x 1.5 = 4,22,412 Sq. ft

As per the demand-supply analysis, we can state that there is a gap of (-3027588) sq.ft.

for retail space in micro market. As the gap is negative which means there is oversupply for retail space in Kharadi micro market.(Raheja.Y et.al, 2019)

Conclusion

The analysis clearly concludes that commercial sector has the highest demand in the micro – market, with the absorption rate and the rental rates continually rising and the vacancy rate decreasing. Opting for commercial development for the selected site would provide maximum Return on Investment to the global manager. Affordable housing can also be considered as one of the options as the supply has not been able to meet the demand.

References

Journals

Rabianski, J. S., K. M., 2006. Office Market Demand Analysis and Estimation Techniques: A Literature Review, Synthesis and Commentary. Journal of Real Estate Literature. Vol. 15, pp 37-56

Nagargoje., n.d.. Market Analysis & Feasibility of Shopping Mall in the Micro-market of White Field, Bangalore. IOSR Journal of Business & Management, pp 73-77.

Websites

Arc GIS Business Analyst, 2019, <https://www.esri.com/en-us/arcgis/products/arcgis-business-analyst/overview>

Census, 2011. Census: censusindia.com

Google Earth Pro, 2019, googearthpro.com

Indian Real Estate Industry Analysis., 2019, February 25

MahaRera, 2019, <https://maharera.it.mahaonline.gov.in/>

.

Reports

ANAROCK, 2018. Pune: Anarock.

CIRIL, 2019. Indian Real Estate Outlook. CIRIL.

Raheja.Y et.al., 2019. Highest & Best Use of Kharadi Micro - Market in Pune. Mumbai: RICS.

Wakefield, C. &., 2019. Pune Office Market Beat. Pune: Cushman & Wakefield.