Print : ISSN : 0019-512X | Online : ISSN : 2454-6801

THE INDIAN JOURNAL OF COMMERCE

Quarterly Publication of the Indian Commerce Association

Vol. 72 **No. 1** **Jan-March-2019**

Book Review

The Indian Journal of Commerce
A Quarterly Refereed Journal

Aims and Objectives : The Indian Journal of Commerce, started in 1947, is the quarterly publication of the All India Commerce Association to disseminate knowledge and information in the area of trade, commerce, business and management practices. The Journal focusses on theoretical, applied and interdisciplinary research in commerce, business studies and management. It provides a forum for debate and deliberations of academics, industrialists and practitioners.

The Indian Journal of Commerce is published four times in a year i.e., March, June, September and December. The Indian Journal of Commerce is freely distributed to all members.

Correspondence: All correspondence regarding publications, and membership subscriptions should be addressed to : The Managing Editor, The Indian Journal of Commerce, School of Management Studies, Indira Gandhi National Open University (IGNOU), Maidan Garhi, New Delhi 110 068, E_mail- nkishor@ignou.ac.in

THE INDIAN JOURNAL OF COMMERCE

Quarterly Publication of the Indian Commerce Association

Vol. 72 **No. 1** **Jan-March, 2019**

Contents

Book Review

Notes for Contributors

Papers based on application oriented research or field studies in the areas of industry, commerce, business studies and management are invited. The length of a paper including tables, diagrams, illustrations, etc., should not exceed 20 double space pages. Short communications (not more than 5 double spaced pages) relating to review articles, report of conferences, summary/views on various governments reports, debatable issues, etc., are also published. Book reviews and summary of Ph.D. dissertations not exceeding two double spaced pages, are welcome. Manuscripts sent for publication in this journal should not have been published or sent for publications elsewhere. All correspondence will be held with the senior (first) author only.

Two copies of the manuscript typed in double space on A4 size bond paper should be submitted Electronically.

All contributions submitted will be subjected to peer review. The decision of the Editorial Committee will be the final.

First page should consist of title of the paper, name(s), of author (s) with all details and abstract not exceeding 150 words. Second page should start with the title of the paper again, followed by the text.

In captions for tables, figures, and column heading in tables, the first letter of the first word should be capitalised and all other words should be in lower case (except proper nouns). For example Table 5. Price ratios between edible groundnut kernel and other edible nut kernels. **Footnotes** in the text should be numbered consecutively in plain Arabic superscripts. All the footnotes, if any, should be typed under the heading 'Footnotes; at the end of the paper immediately after 'Conclusion'.

Follow the Author-date in-text reference: e.g. Hooda (1997) observed that ... A study (Grover et. Al. 1998) found that .... When it is necessary to refer to a specific page (s), cite it in the text as : Hooda (1997 P.105) observed that ... A study Hooda 1997a, Hooda 1997b, Hooda 1997c, so on.

Only cited works should be included in the **'References'** which should appear alphabetically at the end of the paper. Follow the reference citation strictly in accordance to the APA Referencing style. For example:

Book : Narasimham, N.V. (1994). *A model for the commodity price system analysis.* New Delhi : Himalaya Publications.

Journal Article : Alagh, Y.K. (1997). Agriculture trade and policies. *The Indian Journal of Commerce* L (192) : 1-11.

Government Publication : Government of India, Ministry of Communications, Department of Telecommunications (1995). Annual report 1994-95. New Delhi : Government of India, Ministry of Communications, Department of Telecommunications.

Chapter in a Book : Gilberto Mendoza, (1995). *A premier on marketing channels and margins.* Pages 257-276 in Prices, products and People (Gregory J. Scott, ed.) London. Lynne Rienner Publishers.

All manuscripts should be sent to the Managing Editor, The Indian Journal of Commerce, School of Management Studies, IGNOU, Maidan Garhi, New Delhi 110 068. Tel: 011-29535266, E-mail nkishor@ignou.ac.in

Lasertypeset by: Tessa Media & Computers, C-206, A.F.E-II, Jamia Nagar, New Delhi-25

Printed by: KIIT Deemed to be University, Bhubaneswar, Odissa

Published by Prof. Nawal Kishor on behalf of the Indian Commerce Association.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

Exploring Relationship among Entrepreneurs' Success, Psychological Capital and Financial Performance – A Study of Startup Entrepreneurs in India

VK Shrotryia and Reema Aggarwal

Abstract: *Successful and satisfied entrepreneurs play a very crucial role in the development of an economy. However, there has been limited studies related to the relationship between the components of Psychological capital (hope, optimism, efficacy and resilience) and the life satisfaction among start-up entrepreneurs. The present study used a sample of 302 start-up entrepreneurs from India to test the literature driven hypothetical models which explains the above said relationship. It was hypothesized that entrepreneurs' success (non- financial performance) will mediate the relationship between the components of psychological capital and life satisfaction and that start-ups' performance (financial performance) will be predicted as an outcome variable (Model 1). On the other hand in the second model it was hypothesized that both start-ups' performance and success are related components and that both will mediate the relationship between components of psychological capital and life satisfaction. After achieving the model fit, the mediating role of constructs in both the models was explored and tested statistically in IBM SPSS - AMOS using Process analysis (Bootstrapping) as suggested by Hayes. The results then derived supported the first model's mediation effect.*

Keywords- Entrepreneurship; Entrepreneurial Success; Life satisfaction, Psychological Capital; Startups' Performance

Introduction

The growth of start-ups play a very crucial role in the overall development of an economy. It is because of this reason that consistent efforts among policy makers to promote entrepreneurial activities and the Government's focus on entrepreneurial development remains quite evident in both developed and developing nations. In spite of various measures taken at governmental level, merely 40% of start-ups are able to succeed while rest tend to fail within the initial five years (Cooper, Woo, & Dunkelberg, 1988). Even in India similar trends are quite visible (IBV, 2016). The focus of past studies while exploring the reasons behind the success and failure of a start-up mainly rested on the financial tangible reasons, family and government's support, availability of resources, competition,

Dr. V.K. Shrotryia is professor and Reema Aggarwal is Research Scholar, Department of Commerce, Delhi School of Economics, University of Delhi, Delhi

etc. The present paper explores this relationship from an altogether different perspective - internal psychological factors rather than external uncontrollable ones. In the present study, the role of components of Psychological capital has been examined and it has been argued that psychological capital not only makes the work environment conducive to work but also explains the core reason behind the human behaviour and entrepreneur's success or failure.

The start-ups represent the newly initiated businesses of all types. In this paper, relationship between Psychological capital and Life satisfaction is empirically studied. It aims to explore the mediating construct between the components of Psychological capital and life satisfaction that explains the variance. Using a sample of start-ups, the proposed theoretical frameworks were tested and mediation effect was explored. Here Entrepreneurial success represents non-financial performance i.e. entrepreneur's perception and satisfaction with his venture (Fisher, Maritz & Lobo, 2014) and performance of the start-ups represents financial performance i.e. entrepreneurs' evaluation of their start-up in terms of return of investment (Dess & Robinson 1984; Venkatraman & Ramanujam 1987; Lumpkin & Dess, 2001).

Review of Literature

Life satisfaction and Psychological Capital

Life satisfaction refers to the degree of physical and psychological satisfaction one experiences after the fulfilment of one's needs and wants due to their life experiences (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000). The satisfaction with life and overall happiness in one's life play a significant role and remains an ultimate aim of any individual. There are several cognitive constructs such as self-esteem, hope, efficacy, optimism, resilience etc. which predict the life satisfaction (Neto, 2001; Chow, 2005). Such concepts are even getting popularity among policy makers and is considered as one of the indicator while evaluating the success and failure of any policy.

Psychological Capital comprises human oriented strengths (Luthans & Youssef, 2007a). It is empirically proved that Psychological Capital tends to foster higher attitudinal, behavioural and performance outcomes (Luthans et al., 2007b). There are four major constructs of Psychological capital. First construct is Hope. This concept includes two components namely- "Agency" and "Pathways". Hope reflects the human will power to reach their goals while following the self-generated alternative pathways (Snyder, 1995). Second is Efficacy. Efficacy refers to an individual's belief in his/her own ability to accomplish the given task within the boundaries of given resources (Bandura, 1997). Third is Optimism. The optimism represents the positive future expectancy and positive evaluation of any event (Seligman, 1991). An optimistic person tends to look at the positive side of any situation rather than focussing on its negative end. The last construct of Psycap is Resilience. It refers to the human oriented strength that help an individual to "bounce back" from an unfortunate event (Block & Kremen, 1996; Bonanno, 2004). It is the human ability to cope up with their failures or setbacks in their life (Bonanno, 2004; Leipold & Greve, 2009). As a part of psychological capital, resilience refers to both adaptation process undertaken at the time of adversity and the process to return back to normal or go beyond after the adversity (Luthans, 2002).

Entrepreneurs' Success & Start-up Performance

Evidence suggests that people across globe perceive success differently (Ray & Trupin, 1989). In literature, success is a vaguely defined concept which is empirically tested while taking different proxies such as wealth maximization, Entrepreneur psychological makeup, growth, return on investment, management factors, creation of jobs etc. Broadly all the proxies can be bifurcated into two major domains, namely, economic oriented financial satisfaction with the business (which includes expected wealth generation, return on investment, performance of the venture etc.) and non- monetarily driven psychological satisfaction (which includes proxy like autonomy, freedom, psychological satisfaction etc.) with the start-up (Austin, Stevenson, & Wei-Skillern, 2012, Alstete, 2008, Rauch & Frese, 2000; McMullen & Shepherd, 2006). Past literature mainly talks about monetary oriented success proxies like growth but with time psychological parameters were included due to the limited scope, inconclusiveness and lack of development in the concept of growth (Fisher et al., 2014; Black et al., 2010; Achtenagen et al., 2010; Leitch et al., 2010). Here Entrepreneurs' success represents non- financial parameters (Fisher et al., 2014; Baron & Henry 2011) whereas Startup performance represents financial performance of the business. The success indicators like revenue growth, growth indices, total revenue, owner hours etc. (Fried & Tauer, 2009; Ensley, Pearson & Amason, 2002; Steffens, Davidsson & Fitzsimmons, 2009; Achtenagen, Naldi & Malin, 2010) are few popular proxies of an entrepreneur's success. As businesses in their initial five years barely speak through quantitative figures, the current study is based on Judgemental approach for measuring the startup performances, i.e. entrepreneurs were asked to rate their start-ups' performance in relation to their previous year and to their competitors, which is in line with the existing literature (Jaworski & kohli, 1993). The relationship between Psychological well-being and owners of new venture is a well discussed area in the literature (Andersson, 2008; Feldman & Bolino 2000; Jamal, 1997).

Objectives of the Study

- To analyse the relationship between components of psychological capital and life satisfaction among start-up entrepreneurs
- To explore the mediating role of Entrepreneurs' success between components of psychological capital and life satisfaction among the start-up entrepreneurs
- To explore the mediating role of Start-ups' performance and entrepreneur success between components of psychological capital and life satisfaction among the start-up entrepreneurs.

Hypotheses

The evidence through existing literature suggests that components of psychological capital has a significant positive relation with the performance and life satisfaction. Hope has positive influence on individuals' work (Peterson & Byron, 2008; Scioli, Ricci, Nyugen, & Scioli, 2011). Leaders with high level of hope have higher financial profitability (Luthans & Peterson, 2003; Jensen & Luthans, 2002). Similarly, empirical investigations show that optimism is positively related to high organizational performance (Medlin & Green, 2009; Green, Medlin, & Whitten, 2004; Luthans et al., 2008) and life satisfaction (Kapikiran, 2012). Self – efficacy fits the criteria of POB and it is developable and results

in performance (Stajkovic & Luthans 1998; Luthans, 2002a). Lastly, there are several studies that show that in a workplace resilience and performance do have positive relationship (Luthans et al., 2007a; Avey, Reichard, Luthans, & Mhatre, 2011) and resilience enhances positive outcomes such as life satisfaction (Cohn, Fredrickson, & Brown, 2009; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Bonanno, 2004). Hence, it is hypothesized-

H_1: Components of Psychological capital (i.e. Hope, optimism, efficacy and resilience) will significantly predict the Life satisfaction among the start-up entrepreneurs.

H_2: Components of Psychological capital (i.e. Hope, optimism, efficacy and resilience) will significantly predict the Entrepreneurs' success among the start-up entrepreneurs.

The evidence suggests that presence of life satisfaction leads to financial gains & achievements and have positive impact on life (Suldo & Huebner, 2006; Gilman & Huebner, 2006; Procter et al, 2009). Both financial and non- financial performance will influence the life satisfaction among the entrepreneurs. Also, it is said that entrepreneurs often tend to shut down their profitable businesses if they perceive themselves as unsuccessful (Gorgievski et al., 2011). Hence, two different perspectives were considered and it was hypothesized that.

H_3 : Life satisfaction will significantly predict Start-up's performance.

H_4 : Entrepreneurs' success will significantly predict Life satisfaction.

Mediation effect

Based on previous studies, two conceptual frameworks were developed indicating mediation of Entrepreneur success in Model 1 and mediation of both Startups' performance and entrepreneurs' success in model 2.

Conceptual Model 1

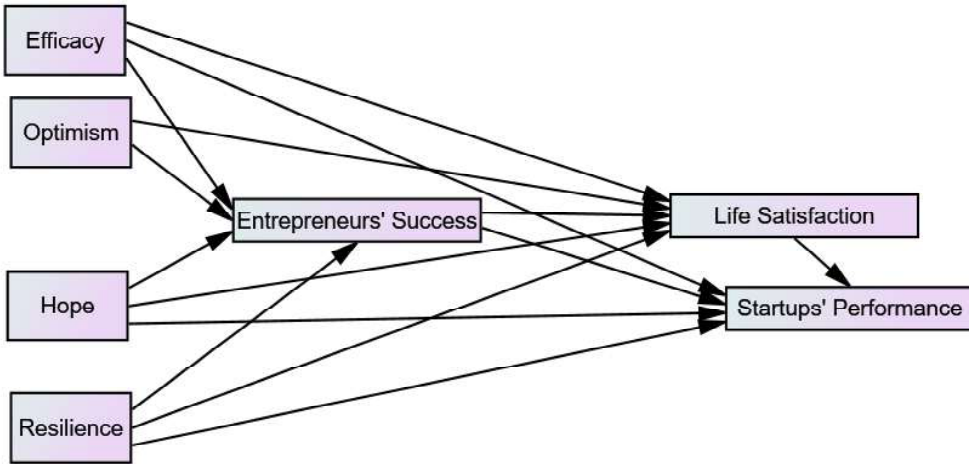


Figure 1: Relations between components of psychological capital and life satisfaction mediated by Entrepreneurs' success

Conceptual Model 2

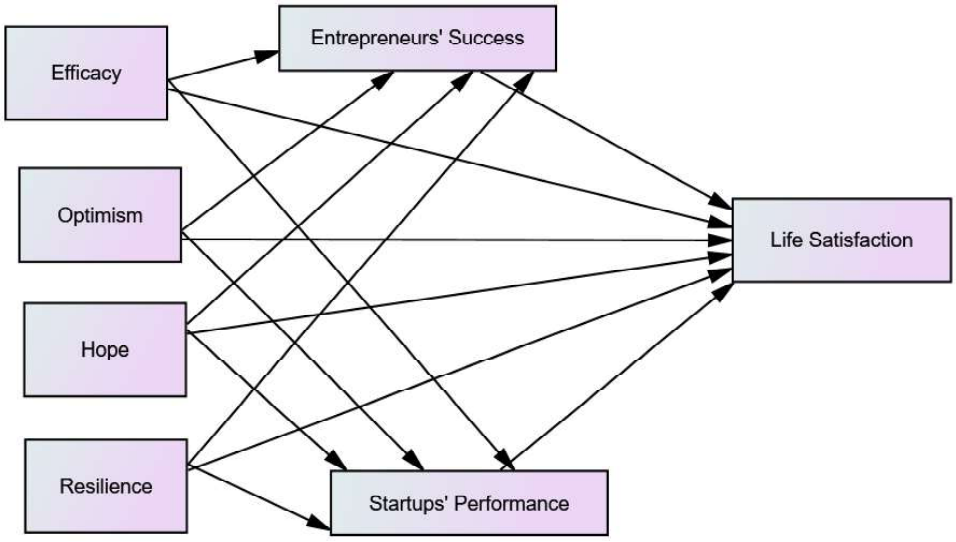


Figure 2: Relations between components of psychological capital and life satisfaction mediated by Entrepreneurs' success and startups' performance

H_5 : Entrepreneurs' success mediates the effect of components of psychological capital on the life satisfaction.

H_6 : Entrepreneurs' success and start-ups' performance mediates the effect of components of psychological capital on the life satisfaction.

Research Methodology

Sample

The sample consist of 302 startup entrepreneurs from all over India. For the purpose of this study we used DIPP (Department Of Industrial Policy and Promotion), the Government of India database (DIPP, 2017). DIPP recognized entities as startups. All the recognized entities, fulfils the definition of startups as given in the action plan and these organizations are eligible for different benefits like relaxation in taxation as given in the action plan by the Government of India.

Data Collection

For the data collection we made a Google link using Google form, so the present study is based on an online survey. Through emails and social media entities were connected and were asked to participate in the study. Also, through short telephonic communication/emails the potential respondents who were interested were explained in detail about the purpose and aim of the study. In the initial email respondents were ensured that the information will be kept confidential and will be used only for the

academic purposes. Keeping time and cost constrains in mind, we tried to connect with them through other potential sources also like Egrowth biz- a platform that allows businesses to connect, integrates efforts and grow. The final sample includes 302 DIPP recognized entrepreneurs.

Sample Inclusion Criteria

One necessary condition for the respondent's inclusion in the final sample was that the respondent should be someone who has major interest in the business and entity should be recognized by the DIPP, Government of India. In order to fulfil the first condition, in the final sample we excluded the responses that were filled by the employees. We only connected the entrepreneurs that were registered in the DIPP list so second condition was fulfilled by default. Only extreme outliers were examined using BoxPlot in SPSS. All the questions were made compulsory so there was no missing data.

Sample Description- The final sample consist of 302 respondents those who were meeting the required criteria. 93.4% of the respondents were male within the age group of 25-35. 49.66% respondents were most graduates while for 70.93% respondents their registered entity was the only source of income The sample profile presented in Table1 shows detail description of the sample.

Table 1: Sample profile

		N=302	Percentage
Gender			
	Male	282	93.4%
	Female	20	6.6%
Age			
	Below 25	55	18.2%
	25-35	132	43.7%
	36-45	79	26.2%
	46-55	31	10.3%
	Above 55	5	1.7%
Qualification			
	Class XII/less	12	3.97%
	Graduates	128	42.38%
	Post graduates	150	49.66%
	PhD	9	2.98%
	Others-Diploma	3	0.99%

Measurement Tools

Life satisfaction was measured using, *satisfaction with life scale* (SWLS: Diener et al, 1985). Sample items of this scale consist of statement like, "*If I could live my life over, I would change almost nothing*". It consists of 5 items rated on a seven point likert scale which range from "*Strongly disagree*" to "*Strongly Agree*". The internal consistency of the scale was alpha= 0.748.

Entrepreneurial perception of business success was measured using 4 items (Fisher et al, 2014), the statements were measured on a seven point likert scale which range from "*Strongly disagree*" to "*Strongly Agree*". Sample items of this scale consist of statements like, "*I am able to consistently grow my business" or "I am satisfied with my business"*. The internal consistency of the scale was alpha= 0.706.

Psychological Capital was measured using the CPC-12 (Compound Psycap scale) (Lorenz et al, 2016). Though 24 item Psychological capital questionnaire (Luthans et al, 2007b) is more popular and widely used in the literature. But as it was an online survey that is why in order to avoid lengthy questionnaire which would have reduced the response rate, we used 12 item compound Psycap scale. The scale consist of four variables namely, hope (internal consistency was alpha 0.701), efficacy (internal consistency was alpha 0.749), resilience (internal consistency was alpha 0.696) and optimism (internal consistency was alpha 0.791) with 3 item each. Sample items of this scale consist of statements like, "*The future holds a lot of good in store for me"* or "*I can solve most problems if I invest the necessary efforts*". The internal consistency of the 12- item scale was alpha=0.806. For this study, English translated version was taken. The factorial Structure of the instrument was confirmed, First order CFA was confirmed with χ /df= 1.887, Goodness of Fit (GFI) = 0.952, NFI=0.929, Comparative Fit Index = 0.965, Root Mean Square Error of Approximation (RMSEA) = 0.054 and Second Order CFA was confirmed with χ /df= 1.882, GFI = 0.954, AGFI= 0.928, Comparative Fit Index= 0.966, RMSEA= 0.052.

Start-ups' performance was measured using three items measured on a seven point likert scale which range from "*worst*" to "*Excellent*". Sample items of this scale consist of statements like, "*My overall business performance last year was" and "My overall business performance as compared to my major competitors' last year was-"which is adapted from previous studies of similar nature (*Dess and Robinson 1984; Venkatraman and Ramanujam 1987; Lumpkin & Dess, 2001; *Jaworski & kohli, 1993).* The internal consistency of the scale was alpha= 0.930.

Table 2: Mean scores and Cronbach's Alpha

Variable	Scale reliability (Cronbach's Alpha)
Life satisfaction (5 items)	0.748
Psychological capital (12-items)	0.806
Hope (3-items)	0.701
Optimism (3-items)	0.791
Efficacy (3-items)	0.749
Resilience (3-items)	0.696
Startup Performance (3-items)	0.93
Entrepreneurs' success perception (4-items)	0.707

Control variables: The control variables were Gender, Age, Qualification, Nature of the organization, Total no of employees in the organization, Role. These variables were selected as the control variables to have a better understanding about the sample and to analyse whether there is any significant difference in the responses on the basis of age, qualification, gender or number of employees. The internal consistency of various scales used in the present study is represented in the Table 2.

Results

Pearson r correlation using IBM SPSS was conducted for basic preliminary analysis. To test first four hypotheses, path analysis was conducted using SPSS AMOS 24.0. To ensure model fit, measurement model was tested with series of Confirmatory factor analysis as recommended by Anderson and Gerbing (1988). Further, non- parametric bootstrapping mediation effect using SPSS macro PROCESS as suggested by Hayes (2013) was conducted to test H_5 & H_6.

Preliminary Analysis

We used Pearson r correlation in order to test the association between the variables which is recommended step before going for the further analysis (Tabachnick & Fidell, 1996).

Table 3: Mean scores, standard deviation and correlation between study variables

Variables	Mean	1	2	3	4	5	6	7
Life Satisfaction	21.063	1						
Hope	23.517	.528**	1					
Efficacy	17.483	.330**	.448**	1				
Optimism	16.28	.593**	.417**	.294**	1			
Resilience	18.40	.424**	.252**	.254**	.262**	1		
Entrepreneurs' Success perception	68.361	.602**	.597**	.390**	.272**	.289**	1	
Startups' Performance	13.47	.402**	.397**	.254**	.259**	.184**	.488*	1

*p< 0.01 ; ** p< 0.001

Measurement Evaluation

The confirmatory factor analysis was conducted for measurement evaluation. The final model 1 and two had a good fit with χ /df= 1.565, GFI= 0.994, AGFI= 0.959, NFI= 0.990, TLI= 0.980, CFI= 0.996 as shown in Table 4.

Table 4: CFA results for both the models

Model	CFI	RMSEA	GFI	AGFI	TLI	NFI	*x*Øß /df	P value
Model1	.996	0.043	.994	.959	.980	.990	1.565	>0.05

Path Analysis

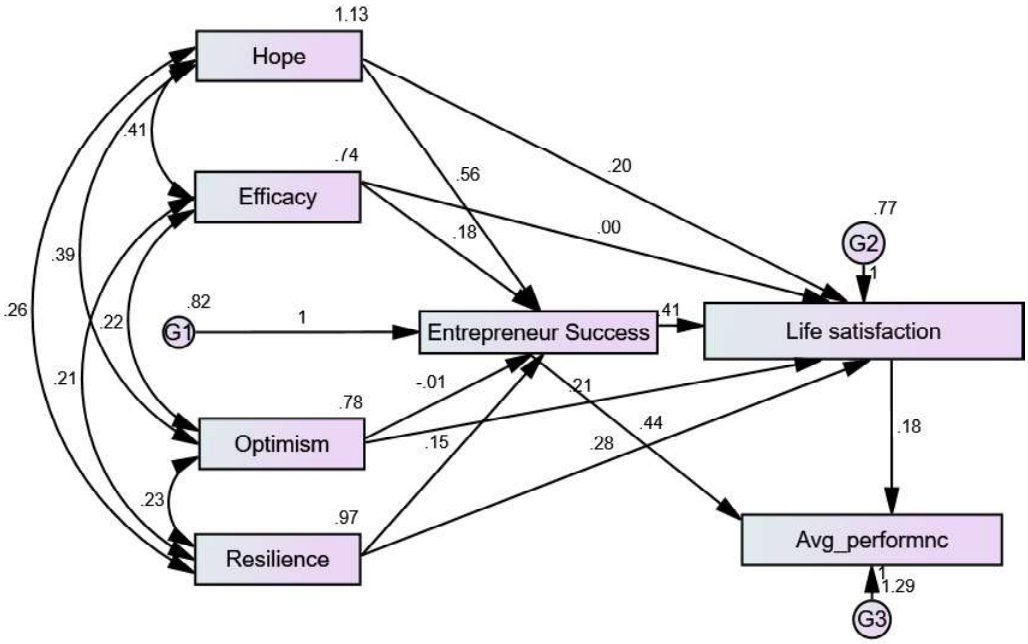


Figure 3: Final Path Model 1 with one mediator (standardize regression coefficients and correlation between variables

G1, G2 & G3 - represents error terms

Multicollinearity was not detected as bivariate correlation did not exceed 0.80. We checked for all the assumptions before proceeding for the final analysis. Based on hypothesized model, path coefficients were calculated by a series of multiple regression analysis. The final results are shown in Fig 3 . Table 4 presents the decomposition of effects from the path analysis. The results of path model revealed that it was a recursive model, which is same as it was hypothesized. The hope (β=0.174), Optimism (β= 0.155), Resilience (β=0.227) had positive direct effect on Life Satisfaction (H_1). Though self-efficacy (β= 0.-0.003) did not had any significant effect on life satisfaction but it had positive and significant effect on Entrepreneurs' success (β=0.132). The hope (β=0.510) and Resilience (β=0.130) had positive direct effect on Entrepreneurs' success (H_2). The explanatory variables accounted for 38.2% of variance in explaining the life satisfaction. In addition, Optimism was slightly negatively related to the entrepreneurs' success but was not significant. The results also showed that life satisfaction (β= 0.169) had positive effect on Startups' Performance (H_3). Also, Entrepreneurs' success (β=0.392) had positive effect on Life satisfaction (H_4).

Table 5: Path coefficients based on final model

Outcome variable	Predictor variable	Unstandardized coefficient estimate (B)	S.E.	P value	Standardized Coefficient estimate (β)
Entrepreneurs' Success	Hope	0.556	0.058	0.00**	0.510
	Self-efficacy	0.177	0.069	0.10**	0.132
	Optimism	-0.015	0.066	0.822	-0.011
	Resilience	0.153	0.056	0.07**	0.130
Life Satisfaction	Hope	0.199	0.065	0.002**	0.174
	Self-efficacy	-0.005	0.067	0.943	-0.003
	Resilience	0.281	0.055	0.00**	0.227
	Optimism	0.214	0.064	0.00**	0.155
	Entrepreneurs' Success	0.412	0.056	0.00**	0.392
Startups' Performance	Life Satisfaction	0.183	0.067	0.07**	0.169

**P value significant

Further for testing H_5 & H_6, mediation effect associated with entrepreneurs' success Hayes (2013) approach was followed. Mediation analysis was conducted in Process v3.1 by using Bootstrapping methods (i.e. Model 4) for testing specific mediation effect.

Mediation Effect: Model 1

Mediation Effect Using Process v3.1

Mediation analysis was conducted in Process v3.1 with the help of 5000 Bootstrapping samples (i.e. Model 4) as suggested by Hayes (2013) which is suitable even when basic conditions are not fulfilled. Table 6 shows the results of all significant and non-significant paths, which were in align with the AMOS results. For instance, Hope significantly predicted entrepreneurs' success [Path a- $\beta = 0.5565$, $t\ (297) = 9.45$, $p<0.05$] and Entrepreneurs' success predicted life satisfaction [Path b $\beta = 0.4117$, $t\ (296) = 7.32$, $p<0.05$]. Similarly, In case of resilience both, Path a [$\beta = 0.1527$, $t\ (297) = 2.69$] and Path b [$\beta = 0.4117$, $t\ (296) = 7.32$, $p<0.05$] were significant. Overall total effect of both Hope and Resilience were significant.

Table 7 shows the mediation effect associated with the mediator. The null hypothesis can not be rejected, i.e. we can say that in case of optimism entrepreneurs' success does not mediate the relationship whereas in case of hope and resilience null hypothesis will be rejected and we can say mediation exists. In case of efficacy there was no mediation as the prior conditions was not fulfilled if we follow Baron and Kenny (1986) approach.

Even if we follow Hayes (2013) approach, ignore insignificant path c and dig further to search the mediators of significant indirect effect, as per the results (Table 7) we conclude significant indirect effect should be further re-examined in future studies for better understanding.

Table 6: Paths with the estimates and t-value using process V3.1

Independent /Dependent variable	Point estimate	df	t value
Hope			
Path a	.5565**	297	9.45
Path b	.4117**	296	7.32
Path c	.1991**	296	3.05
Resilience			
Path a	.1527**	297	2.69
Path b	.4117**	296	7.3226
Path c	.2810**	296	5.06
Efficacy			
Path a	.1772**	297	2.55
Path b	.4117**	296	7.322
Path c	-.0048	296	-.070
Optimism			
Path a	-.0149	297	-.223
Path b	.4117**	296	7.322
Path c	.2139**	296	3.309

** Significant values; Path a represents X→M; Path b represents M→Y; and path c represents Total effect.

Table 7: Specific mediation analysis

Independent variable/Mediator	Point estimate	Boot S.E.	BootstrappingC.I.=95%	
			Lower	Upper
Hope				
Entrepreneurs' success (M)	.2291**	.0489	.1439	.3365
Resilience				
Entrepreneurs' success (M)	.0629**	.0271	.0124	.1193
Efficacy				
Entrepreneurs' success (M)	.0730**	.0356	.0041	.1444
Optimism				
Entrepreneurs' success (M)	-.0061	.0322	-.0733	.0579

** Significant values

Mediation Effect: Model 2

Series of Mediation Effect

To explore if economic factor mediates the relationship or it predicts the life satisfaction, another mediator "start-ups performance" was added in H_6. To quantity specific indirect effect associated with each mediator, Mediation analysis was conducted in process v3.1 with the help of 5000 Bootstrapping samples as suggested by Hayes (2013). Table 9 shows the specific mediation effect associated with each mediator. We can say that in case of Hope and Resilience (antecedents) entrepreneurs' success (mediator) solely explains the indirect effect whereas Startups' performance neither mediates the relationship between hope and life satisfaction or resilience and life satisfaction. No significant mediation of startups' performance was seen when both the mediators are simultaneously introduced (H_6).

In case of efficacy there was no mediation as the prior conditions was not fulfilled if we fallow Baron and Kenny (1986) approach. Even if we follow Hayes (2013) approach and dig further to search the mediators of significant indirect effect, as per the results (Table 8) we conclude that none of the mediators mediates the relationship and it should be further reexamined in further studies.

Table 8: Mediation analysis

Independent variable/Mediator	Point estimate	Boot S.E.	BootstrappingC.I.=95%	
			Lower	Upper
Hope				
Entrepreneurs' success (M2)	0.2109**	0.0458	0.1315	0.3105
Startups' performance (M1)	0.0293	0.0208	-0.0091	0.0737
Resilience				
Entrepreneurs' success (M2)	0.0579**	0.0256	0.0077	0.1125
Startups' performance (M1)	0.0064	0.0103	-0.0089	0.0329
Efficacy				
Entrepreneurs' success (M2)	0.0672**	0.0338	0.0037	0.1387
Startups' performance (M1)	0.0084	0.0098	-0.0102	0.0304

** Significant values

Discussion and Conclusion

The present study examines the role of psychological constructs on Life satisfaction. The results of path analysis suggests that there is a significant prediction of Life Satisfaction by Hope, optimism and resilience which is in line with the existing literature (Przepiorka, 2017; Marques, Lopez & Mitchell, 2013; Cohn et al., 2009; Bonanno, 2004; Fredrickson et al, 2008; Scheier & Carver, 1992). But the relationship between Self-efficacy and life satisfaction was not found to be significant which was a little surprising given

the major chunk of literature which says otherwise (Suldo & Huebner, 2006; Magaletta & Oliver, 1999; Bandura, 1997), we could find only one study in which similar results were supported (O'Sullivan, 2011). The probable reason could have been that self-efficacy enhances ones confidence while undertaking any task without enhancing the future expectancy whereas hope, optimism and resilience being future oriented generates positivity among human cognitive faculties which activates positive emotion and leads to life satisfaction. Also, according to the results it was little surprising to note that Optimism only significantly predictor life satisfaction. From conceptual perspective, this makes sense as the entrepreneurs (on the basis of telephonic communications with the selective sample) seemed quiet hopeful about their business model. Their confidence was quiet evident in their words. But the number of changes which took place in India during this phase (such as Introduction of GST, demonetisation etc.) enhanced the uncertainty to an extent where optimistic thoughts among entrepreneurs shrink and was no more a motivation to start a business. The somewhat similar results are supported in the literature of Entrepreneurs' optimism, where over-optimism leads to the bad decisions (Hmieleski & Baron, 2009).

Further, the paper examines the mediating role of entrepreneurs' success in model 1 and mediating role of both entrepreneurs' success and performance in model 2. The entrepreneurs who score high on components of psychological capital (i.e. hope, optimism, efficacy and resilience) tend to score high on life satisfaction as well. The non-financial psychological satisfaction with one's venture mediates this relationship, i.e. entrepreneurs' success is a significant mediator which explains the indirect effect between components of psychological capital and life satisfaction (Model 1). The satisfaction with both life and start-up significantly predicts start-ups' monetary performance but start-up's performance as a second mediator between the relationship between components of psychological capital and life satisfaction remains an insignificant contributor. Therefore, start-up's performance was not mediating the components of psychological capital and life satisfaction in any form (Model 2). In the nutshell, it means mere return in business will not impact well-being among entrepreneurs which forms the base of the happiness/ wellbeing literature. Entrepreneur success tends to mediate the relationship between resilience and life satisfaction. It was worth noting that non-financial factor predicts life satisfaction but financial factor does not have any significant influence on life satisfaction which is little different than the one part of existing literature (Rahman, Amran, Ahmad & Taghizadeh, 2016).

Implications

The study has both theoretical and practical implications. Theoretically, it adds insights to the existing literature by adding new empirical evidence to the existing literature by confirming that factors that influence entrepreneurs at their nascent stage are not just limited to tangible external and financial factors but also includes their psychological make-up.

It also draws attention of Government, Policymakers, Educational Institutions, Psychologists and Career Counsellors towards initiatives aimed at developing PsyCap in potential and existing entrepreneurs by organizing training sessions and seminars,

meeting entrepreneurs personally and developing their will power and confidence to start and successfully run a company and face adversities experienced while running the company.

Limitations and Scope for Further Research

In the present study few questions remained unanswered such as the insignificant effect of efficacy while predicting life satisfaction which can be included in future studies. We only explored four popular components of psychological capital, future studies can include other components of psychological capital from literature as well. The study is based on an online questionnaire-survey. Also, the present study is based on self-reported data. Common method bias is part of almost all behavioural researches, wherever possible, measures were taken to minimize the bias, based on existing suggestions in the literature (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Also our study is a cross sectional study whereas a Longitudinal study would have given a better picture.

REFERENCES

Alstete, J. W. (2008). Aspects of entrepreneurial success. *Journal of Small Business and Enterprise Development, 15*(3), 584-594.

Anderson, J. C., & Gerbing , D. W. (1988). Structural equation modeling in practice: A review. *Psychological Bulletin, 103*(3), 411-423.

Andersson, P. (2008). Happiness and health: Well-being among the self-employed. *The Journal of Socio-Economics, 37*(1), 213-236.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly, 22*(2), 127-152.

Bandura, A. (1997). *Self-efficacy: The experience of control.* New York: WH.

Baron, R. A., & Henry, R. A. (2011). Entrepreneurship: The genesis of organizations. In S. Zedeck , *APA Handbook of Industrial and Organizational Psychology* (Vol. 1, pp. 241-273). Washington, DC, US: American Psychological Association.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research : Conceptual, strategic and staistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Black, E. L., Burton, F. G., Wood, D. A., & Zimbel. (2010). Entrepreneurial success: Differing perceptions of entrepreneurs and venture capitalists. *The International Journal of Entrepreneurship and Innovation, 11*(3), 189-198.

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70*(2), 349-361.

Bonanno, G. (2004). Loss, Trauma and Human Resilience. *American Psychologist, 59*(1), 20-28.

Chow, H. P. (2005). Life satisfaction among university students in a Canadian prairie city: A multivariate analysis. *Social Indicators Research, 70*(2), 139-150.

Cohn, M. A., Fredrickson, B. L., & Brown, S. L. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion, 9*(3), 361-368.

Cooper, A. C., Woo, C. Y., & Dunkelberg, W. C. (1988). Entrepreneurs' perceived chance of success. *Journal of Business Venturing, 3*(3), 97-108.

Davidsson, P., Steffens, P., & Fitzsimmons, J. (2009). Growing profitable or growing from profits: Putting the horse in front of the cart? *Journal of Business Venturing, 24*(4), 388-406.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2000). A model of burnout and life satisfaction amongst nurses. *Journal of Advanced Nursing, 32*(2), 454-464.

Dess, G. G., & Robinson Jr, R. B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately held firm and conglomerate business unit. *Strategic Management Journal, 5*(3), 265-273.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75.

DIPP (2017). Department of Industrial Policy and Promotion. *Entities recognised by DIPP as Startups (as on 17th August 2017). Startupindia.gov.in.* http://startupindia.gov.in/startup-recognition.php

Ensley, M. D., Pearson, A. W., & Amason, A. C. (2002). Understanding the dynamics of new venture top management teams: Cohesion, conflict, and new venture performance. *Journal of Business Venturing, 17*(4), 365-386.

Feldman, D. C., & Bolino, M. C. (2000). Career patterns of the self-employed: Career motivations and career outcomes. *Journal of Small Business Management, 38*(3), 53-67.

Fisher, R., Maritz, A., & Lobo, A. (2014). Evaluating entrepreneurs' perception of success: Development of a measurement scale. *International Journal of Entrepreneurial Behavior & Research, 20*(5), 478-492.

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology, 95*(5), 1045-1062. doi:10.1037/a0013262

Fried, H. O., & Tauer, L. W. (2009). *Understanding the entrepreneur: An index of entrepreneurial success.* Working paper, Cornell University, Department of Applied Economics and Management , New York

Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35*(3), 293-301.

Gorgievski, M. J., Ascalon, M. E., & Stephan, U. (2011). Small business owners' success criteria, a values approach to personal differences. *Journal of Small Business Management, 49*(2), 207-232.

Green, K., Medlin, B., & Whitten, D. (2004). Developing optimism to improve performance: An approach for the manufacturing sector. *Industrial Management & Data Systems, 104*(2), 106-114.

Hayes, A. F. (2013). *Introduction to Mediation, Moderation and Conditional Process Analysis.* New York: Guilford Press.

Hmieleski, K. M., & Baron, R. A. (2009). Entrepreneurs' optimism and new venture performance: A social cognitive percepective. *The Academy of Management Journal, 52*(3), 473-488.

IBV (2016). IBM Institute for Business Value. *Entrepreneurial India: How Startups redefine India's economic growth?* https://d1iydh3qrygeij.cloudfront.net/Media/Default/New%20release%20images%20and%20reports/Entrepreneurial%20India%20IBV%20mid%202016.pdf

Jamal, M. (1997). Job stress, satisfaction, and mental health: An empirical examination of self-employed and non-self-employed Canadians. *Journal of Small Business Management, 35*(4), 48-57.

Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *The Journal of Marketing, 57*(3), 53-70.

Jensen, S., & Luthans, F. (2002). The Impact of Hope in the entrepreneurial process: Exploratory Research findings. *Conference Proceedings of Decision Science Institute*, (p. Conference Proceedings of). San Diego, California, USA.

Kapikiran, N. A. (2012). Positive and Negative Affectivity as Mediator and Moderator of the Relationship between Optimism and Life Satisfaction in Turkish University Students. *Social Indicators Research, 106*(2), 333-345.

Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist, 14*(1), 40-50.

Leitch, C., Hill, F., & Neergaard, H. (2010). Entrepreneurial and business growth and the quest for a "comprehensive theory": Tilting at windmills? *Entrepreneurship Theory and Practice, 34*(2), 249-260.

Lorenz T, Beer C, Putz J, & K, H. (2016). Measuring Psychological Capital: Construction and Validation of the Compound PsyCap Scale (CPC-12). *Plos One, 11*(4), 1-17.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing, 16*(5), 429-451.

Luthans, F. (2002). Positive organizational behavior: developing and managing psychological strengths. *The Academy of Management Executive, 16*(1), 57-72.

Luthans, F., & Jensen, S. M. (2002). Hope: A new positive strength for human resource development. *Human Resource Development Review, 1*(3), 304-322.

Luthans, F., & Youssef, C. (2007a). Emerging positive organisation behaviour. *Journal of Management, 33*(1), 321-349.

Luthans, F., Avolio, B., Avey, J., & Norman, S. (2007b). Positive psychological capital: measurement and relationship with the performance and satisfaction. *Personnel Psychology, 60*(3), 541-572.

Luthans, K., Lebsack, S., & Lebsack, R. (2008). Positivity in healthcare: relation of optimism to performance. *Journal of Health Organization and Management, 22*(2), 178-188.

Magaletta, P., & Oliver, J. (1999). The hope construct, will, and ways: their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55*(5), 539-551.

Marques, S. C., Lopez, S. J., & Mitchell, J. (2013). The role of hope, spirituality and religious practice in adolescents' life satisfaction: longitudinal findings. *Journal of Happiness Studies, 14*(1), 251-261.

Masten, A. S. (2001). Ordinary magic: Resilience process development. *American Psychologist, 56*(3), 227-239.

McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review, 31*(1), 132-152.

Medlin, B., & Green, K. (2009). Enhancing performance through goal setting, engagement, and optimism. *Industrial Management & Data Systems, 109*(7), 943-956.

Neto, F. (2001). Satisfaction with life among adolescents from immigrant families in Portugal. *Journal of Youth and Adolescence, 30*(1), 53-67.

O'Sullivan, G. (2011). The relationship between hope, eustress, self-efficacy, and life satisfaction among undergraduates. *Social Indicators Research, 10*(1), 155-172.

Oishi, S., Diener, E. F., Lucas, R. E., & Suh, E. M. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. *Personality and Social Psychology Bulletin, 25*(8), 980-990.

Peterson, S. J., & Byron, K. (2008). Exploring the role of hope in job performance: Results from four studies. *Journal of Organizational Behavior, 29*(6), 785-803.

Peterson, S., & Luthans, F. (2003). The Positive impact and development of hopeful leader. *Leadership and Organisational Development Journal, 24*(1), 26-31.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903.

Przepiorka, A. M. (2017). Psychological determinants of entrepreneurial success and life-satisfaction. *Current Psychology, 36*(2), 304-315.

Rahman, S. A., Amran, A., Ahmad, N. H., & Taghizadeh, S. K. (2016). Enhancing the wellbeing of base of the pyramid entrepreneurs through business success: The role of private organisation. *Social Indicators Research, 127*(1), 195-216.

Rauch, A., & Frese, M. (2000). Psychological approaches to entrepreneurial success. A general model and an overview of findings. In C. L. Cooper, & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 101-142). Chichester: Wiley.

Ray, D. M., & Trupin, D. V. (1989). Crossnational comparison of entrepreneurs perceptions of success. *Entrepreneurship & Regional Development, 1*(1), 113-127.

Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*(2), 201-228.

Scioli, A., Ricci, M., Nyugen, T., & Scioli, E. R. (2011). Hope: Its nature and measurement. *Psychology of Religion and Spiritualitt, 3*(2), 78-97.

Snyder, C. R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling & Development, 73*(3), 355-360.

Stajkovic, A., & Luthans, F. (1998). Social cognitive theory and self-efficacy: Going beyond traditional motivational and behavioral approaches. *Organizational Dynamics, 26*(1), 62-74.

Steffens, P., Davidsson, P., & Fitzsimmons, J. (2009). Performance configurations over time: implications for growth–and profit–oriented strategies. *Entrepreneurship Theory and Practice, 33*(1), 125-148.

Suldo, S. M., & Huebner, E. S. (2006). Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research, 78*(2), 179-203.

Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics.* New York: HarperCollins.

Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: a meta-analytical review. *Journal of Business Venturing, 26*(3), 341-358.

Venkatraman, N., & Ramanujam, V. (1987). Measurement of business economic performance: An examination of method convergence. *Journal of Management, 13*(1), 109-122.

Weinzimmer, L. G., Nystrom, P. C., & Freeman, S. J. (1998). Measuring organizational growth: Issues, consequences and guidelines. *Journal of Management, 24*(2), 235-262.

(Footnotes)

[1] Note that this is the full model and not a reduced model in which non-significant relationships are removed.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

Exploration of Mobile Wallets Adoption among Smart Phone users in the Vadodara City of Gujarat State

PARIMAL H. VYAS, PARAG SHUKLA AND MADHUSUDAN N. PANDYA

Abstract: *This paper aims to investigate the determinants of m-wallet usage and examine security concerns inuse of m-Wallets and to study the relationships of technological-driven factors vis-a-vis personal factors with behavioural intentions of Smartphone users of m-wallets in the city of Vadodara of the Gujarat State. The data were collected from 200 m-Wallet users who were conveniently drawn by applying non-probability sampling method. The findings of the research suggest that the price and financial incentives influence the payment choice made by m-Wallet users; and the number of the transaction, and the type of products purchased. Further, location from where the m-Wallet user is spending and the digital payment service provider affect payment choice made by m-Wallet users.*

Key Words: Mobile Wallets, Adoption, Behavioural Intention, Mobile Payment, Smartphone Users

Introduction

In present world, smart phones play an important role in the daily life of people. The technological advancement has made Smartphone as devices where the smart phone users can make money transaction or mobile payment by using an application installed in the phone. A Mobile Wallet or m-Wallet is a virtual cash wallet for making instantaneous payments and other transactions with the help of an installed application using smartphone. Not only does the mobile wallet or m-Wallet offer benefits to its users by allowing them to access financial accounts on the move, but it also gives a boost to businesses through the development of digital commerce and banking. The m-Wallet, especially the prepaid feature, is proving to be very effective in emerging economies such as India, where access to the Internet and banking opportunities is a privilege, and mobile accessibility is high (Report of Tata Consultancy Service, 2015). The value of India's m-Wallet transactions is expected to grow exponentially to reach US$12 billion by the year 2020 due to rising transactions in e-Commerce, utility bill payments, and other online transactions (http://ipsoshk.com). The Analysts have forecasted the m-

Prof. Parimal H. Vyas is Vice Chancellor of The Maharaja Sayajirao University of Baroda and also Dual Professor of Management Studies, Faculty of Management Studies and Professor of Commerce & Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Baroda, Parag Shukla and Madhusudan N. Pandya are Assistant Professor, Department of Commerce & Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda.

Wallet market in India to grow at a CAGR (Cumulative Aggregate Growth Rate) of 140.87 per cent during the period of years 2013-2018 (Report of Research And Markets-Mobile Wallet Market in India: 2014-2018).

Review of Literature

The brief review of literature conducted by the authors is presented in tabular form as follows.

Sl. No.	Author and year	Key Findings
01	Rathore, (2016)	Tech-savvy shoppers who use smart phones are adopting m-Wallet at an incredibly rapid pace, largely due to convenience and ease of use and are increasingly demanding seamless, omni-channel retail experiences and look for solutions that provide speedy service
02	Painuly, Poonam, Shalu, (2016)	The ease of transactions, secured profile, and convenience in handling applications are few key benefits of using m-Wallet. The usage of m-Wallet is continually evolving in business activities depending on the alterations in a firm's goals and needs, environmental forces, or industry demands.
03	Dennehy, Denis., Sammon, David, (2015)	Researchers had concluded that the study of m-payment systems can no longer be considered a fad or fashion but it is an established research domain that will continue to receive increased attention from researchers from diverse disciplines.
04	Batra, Roopali., Kalra, Neha, (2016)	The results of their research study indicated that there exists a huge untapped market for digital m-wallet both in terms of increasing awareness as well as in its usage. Savings of time and ease of usage were found to be the main reasons for using m-wallets. However, the safety of money transacted remains the major concern.
05	Sarkar, Ramesh, (2016)	They had identified that only one-third of the selected respondents from Jalgaon City who preferred to use m-wallet payment to transfer money due to their concerns of the security of funds through mobile payments.
07	Dahlberg & Oorni, (2006)	The researchers had suggested that the development of products and services too has played a significant role in changing customers' payment habits, and the commercial institutions, merchants and other service providers are promoting more efficient ways of making digital payments. The researchers had focused on unique characteristics of m-wallets viz., ease of access at any place and at any time, the capability of processing small amounts of payments, avoidance of cash and faster processing of payments as important advantages of m-wallet payment methods
08	Report on Mobile Payments Adoption Rate, (2016)	The report estimated that the volume of mobile money transactions was expected to reach figure of US$ 780 Billion by the year 2017.

09	ABI report (2016)	Another estimate showed that globally and more than 85 per cent of Point-of-Sale (POS) Systems accepted contactless payments in the year 2016.
10	Report on The Future of the Mobile Wallet (2015)	The report has highlighted that familiarity and comfort with online payments have translated high awareness and satisfaction for a number of service providers, and the inclusion of m-wallet functionality on a smart watch is likely to have a major impact on its adoption. Customers download an app on their Smartphone and link their card details or bank accounts to the m-wallet. Depending on functionality, the value is either charged directly to the linked card or bank account or debited from the value stored in the m-wallet itself. Customers also value the privacy provided by such wallets as their personal or bank information is not shared with merchants

Key Issues Faced by M-wallet Service Providers

The service provider of the m-wallet is facing crucial issues viz., What do customers expect and want from mobile payment apps?; Which companies service they prefer?; What features will spur adoption and use of m-Wallets?; What is current status of awareness, perceptions, and adoption of mobile payment apps amongst smart phone users? What do consumers think about wearable such as smart watches? How will wearables impact m-wallet adoption and so on? The m-wallet market is still evolving with no clear competitors claiming a definitive win.

Growth of Mobile Wallet Transactions

According to Reserve Bank of India (RBI), the value of transactions through m-Wallet reached an all the time high figure of Rs. 14,170 Crores in the month of May 2018, upwards increase of 21 per cent from figure of Rs. 11,695 crores in the month of April 2018. The value of m-Wallet transactions fell from peak of Rs. 13,104 crores in the month of February 2018 to Rs. 10,097 crores in the month of March 2018. Due to mandatory Know-Your-Customer (KYC) requirements effect took place the m-Wallet transactions fell sharply on the month of March 2018, has shown bounce back and the volume of the m-Wallet had increased. Around 32.78 million transactions were recorded in the month of January 2018. This shows how million companies' were struggling to come up with the necessary compliance infrastructure, and convince million users to provide the required documentation in the month of March 2018, have managed to claim back their customers.

Debit card and Credit card transactions have also reached a new peak both in terms of value and volume. The volume of card transactions went marginally up by 1 percent to 1238.58 million in the month of May 2018 from 1225.75 million in the month of April 2018. The value of these transactions reached to figure of Rs. 3.59 trillion in the month of May 2018 from figure of Rs. 3.55 trillion in the month of April 2018. The volume of transactions through mobile or M-banking also reached a peak in the month of May 2018. These transactions went up by around 17 per cent to reach figure of 266.94 Million in the month of May 2018 from the figure of Rs. 250 million in the month of April 2018. The value of transactions increased to figure of Rs. 1.76 trillion in the month of May 2018

from figure of Rs. 1.34 trillion in the month of April 2018. The payments using real-Time-Gross Settlement (RTGS) too increased by around 8 per cent to reach figure of 11.5 million in the month of May 2018 from figure of 10.6 million in the month of April 2018. A significant proportion of Pre-Paid Payment Instrument (PPI) transactions volumes comprise of remittances, which too have been impacted adversely.

However, the growth of purchase transactions of products and services can be attributed to a situation where full KYC is not required for up to Rs. 10,000 per m-wallet customer per month for a 12 month period. One of the key reasons for growth is contributions from select m-wallet provider's offering of cash-backs for promoting digital and or online transactions using Debit Cards and or Credit Cards using unified payment interface gateway. The providers could continue to credit promotional cash-backs in these minimum details KYC m-wallet, and customers re-used this cash-back amount for subsequent purchase transactions.

The Central Bank's directive that all m-wallet issuers must follow strict KYC guidelines starting from the month of March 2018 has caused considerable disruption, as customers struggled to get their KYC compliances amid inadequate infrastructure. The RBI was expected to issue operational guidelines on interoperability in the month of July 2018 to increase the use cases for m-wallet customers, and bring it at par with banks. Finally, the RBI had issued a directive to Banks and PPIs is on interoperability, which was to be enabled in a phased manner (Komal, 2018).

Barriers for Mobile Wallet Adoption

An important question is what is stopping the non-users from adopting m-Wallet. The widespread ownership of Smartphones and increasing trend of online shopping have eased concerns over security among m-Wallet users, but where are smartphone users who have yet not used, and do not intend to use, an m-Wallet still raises concerns over identity theft and fees as top barriers.

Security is the major hurdle in the usage of m-Wallet. The willingness of the smartphone users for adopting m-Wallet is low due to a number of security issues viz., Privacy of m-Wallet information and heavy fees charged by service providers. There is no single payment system that exists across merchants, and large numbers of apps create confusion. An attempt of a smartphone user towards the use of m-Wallet is affected due to the small screen size of the mobile phone, and the technology does not always work properly. Smartphone users give importance to identify which is threatened due to the probability of theft creates security fear among non-users. Interception of personal information, Hacking of mobile phone and loss of data, hacking of service provider database, hidden charged for specific transactions are some of the reasons for unwillingness to use an m-Wallet (Report on The Future of the Mobile Wallet, 2015).

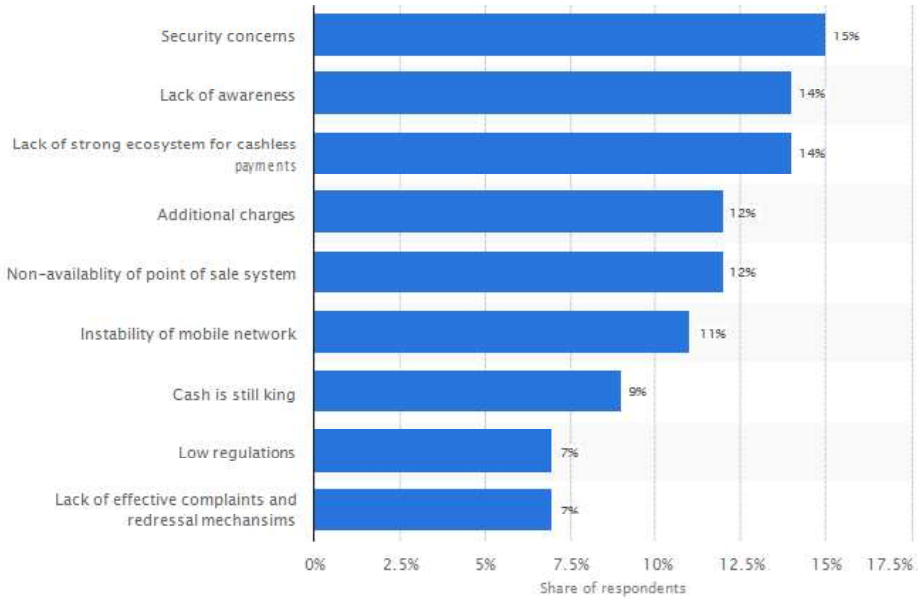


Figure 1: Reasons for adopting digital payments across India in the Year 2017
Source: https://www.statista.com/statistics." "

Opportunities for Mobile Wallet Adoption

For current and prospective smartphone users, there are still opportunities for many types of mobile service providers to increase adoption and use of m-Wallet. A marketer can grab opportunities by incorporating features aimed at providing extra rewards and points in addition to those smartphone users get with their Credit and or Debit Card. "While still in the early stages of adoption, wearable has the potential to drive use of the m-Wallet particularly at the Point of Sale. Wearable is being offered by few select ones viz., Apple, Motorola, Garmin, LG, Nike, Sony, Fit bit, Microsoft, Google, and Samsung (Report on The Future of the Mobile Wallet, 2015)."

Proposed Theoretical Model of Mobile Payment Adoption

The researcher has used the conceptual model as given in the Figure 2 that demonstrates the relationship between Technological driven factors (Observability, Triability, Compatibility), Personal Factors (Awareness, Subjective norms, Safety and Security, Trust) and Perceived Usefulness, Perceived Ease of Use and Behavioural Intention to Use m-Wallets. Given the growing importance of mobile payment systems, the determining factors of their adoption remain unclear. First, although the literature abounds with various models, no single framework has yet emerged on those critical constructs from the consumer's perspective. Second, there are few empirical studies of mobile payment systems in India.

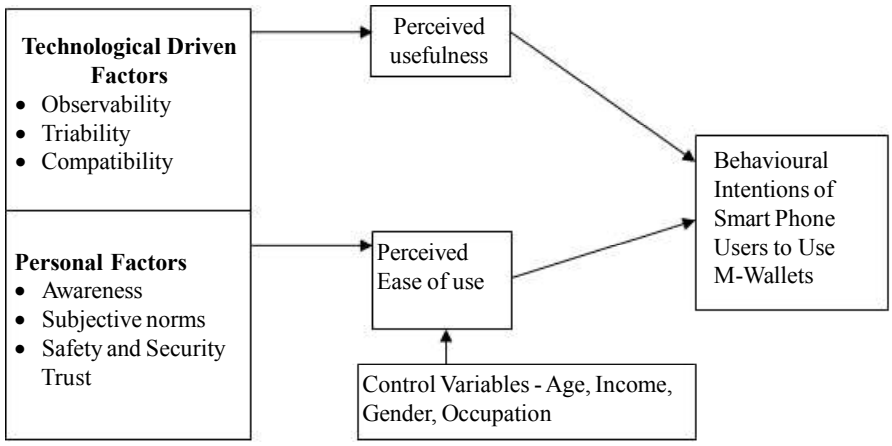


Figure 2: Proposed conceptual model of mobile payment adoption

The theoretical model based upon a review of established theoretical underpinnings, used in this research study takes in to consideration the features of m-wallets considering the effect of technology-driven factors as well as personal factors, and its combined effect on perceived usefulness and perceived ease of use resulting into behavioural intentions of smart phone users in using m-wallets.

The Proposed Comprehensive Model of Mobile Payment Adoption' is illustrated with the case of selected m-wallet users in the Vadodara city of the State of Gujarat. To practitioners, this research study will enable a deeper understanding of how and why smartphone users who are also customers are using mobile technologies. It is vital to present relationships between constructs that might impact a customer's propensity to use the m-wallet.

Research Methodology

The key objective of this empirical research study based on descriptive research design was to find out the smartphone users' perception and impact of demographic factors on adoption of digital mode of payment; to identify the underlying dimensions related to the selected variables related to use of m-wallet; to analyze security concerns in use of m-wallet; to study and examine the relationships of Technological- Driven Factors vis-a-vis Personal Factors with behavioural intentions of smartphone users in using m-Wallets through mediating variables of perceived usefulness, perceived ease of use. The researchers have clearly identified and selected few of the technological-driven factors viz., observability, triability, compatibility as well as personal factors viz., awareness, subjective norms, safety and security as well as trust to analyze its impact on perceived usefulness, perceived ease of use and behavioural intention of smartphone users in using m-Wallet.

The primary data were collected using statistically validated and pre-tested structured non-disguised questionnaire supported with personal interviews from 200 m-Wallet users who were conveniently drawn by applying non-probability sampling method

from amongst smartphone users residing in the Vadodara City of the Gujarat State, India. The reliability of structured non-disguised questionnaire was measured and the Cronbach's Alpha score on selected constructs was found as ranging from 0.647 to 0.769 which showed the internal reliability of the scale, and reflected the degree of cohesiveness amongst the selected items was considered for the purpose of data collection (Naresh, 2007 and Jum, 1981).

In pursuance of the above objectives, the following hypotheses were formulated for testing:

Hypothesis: 01: No significant difference is perceived by m-Wallet Users for selected technological factors of digital payment on the basis of the gender of m-Wallet Users.

Hypothesis: 02: No significant difference is perceived by m-Wallet users for selected personal factors of digital payment on the basis of Income of m-Wallet Users.

Data Analysis and Interpretation

The SPSS 15.0 was used for data analysis of collected primary data using descriptive statistics and application of chi-square test, and development of the Structural Equation Model [SEM] using AMOS 18.0 to study and examine the relationships between technological- driven versus personal factors and its influence on behavioural intentions of the smartphone users for using and adopting m-Wallets. The results of the application of different statistical tools in data analysis mainly revealed following.

Table 1: Reliability

Sr. No.	Selected Criteria	Cronbach's Alpha Co-efficient
01	Social Influence	0.769
02	Triability	0.647
03	Compatibility	0.685
04	Awareness	0.651
05	Subjective Norms	0.693
06	Safety and Security	0.648
07	Perceived Usefulness and	0.690
08	Perceived Ease of Use	0.685
09	Intention to Use and	0.629
10	Trust	0.626
Overall reliability of all criteria		0.838

As given in the Table 1, the reliability was measured for structured questionnaire used in this research study and the Cronbach's Alpha was found as ranging from 0.647 to 0.769 on selected constructs of opinion of selected m-Wallet users which showed the internal reliability of the scale, and reflected the degree of cohesiveness amongst the selected items that were considered for the purpose of data collection (Naresh, 2007 and Jum, 1981).

Table 2: Use of the payment methods for making transaction

Sr. No.	Mode of Payment	Always	Sometimes
		Number and Percentages of m-Wallet Users	
01	Debit Card	75 (37.5)	125 (62.5)
02	Credit Card	40 (20.0)	160 (80.0)
03	Online Banking	22 (11.0)	178 (89.0)
04	Mobile Wallet	22 (11.0)	178 (89.0)

The results of the use of the payment methods for making transaction by the selected m-Wallet users is given in the Table 2, and it can be inferred that the m-Wallet and online banking mode of payment was used 'sometimes' by the 89 per cent of m-Wallet users followed by 'sometimes' use of credit card by the 80 percent, and 62 percent sometimes use the debit card for making the payment. 37 per cent of m-Wallet users expressed that they always used a debit card, and 20 per cent showed that they had always used a credit card for making the payment. It shows that credit card charges inhibit the revolvers of credit cards and motivate them to pay by debit card.

It means there are m-Wallet users who are loyal to debit card and credit card mode of payment, and changing them to m-Wallet mode of payment requires more aggressive efforts on the part of digital payment service providers. It shows that the use of m-Wallet for making payment for the transaction is popular along with another mode of payments.

Table 3: Use of the service provider of m-wallets

Sr. No.	Mode of Payment	Yes	No
		Number and Percentages of m-Wallet Users	
01	Paytm	137 (68.5)	63 (31.5)
02	FreeCharge	25 (12.5)	175 (87.5)
03	MobiKwik	11 (5.5)	189 (94.5)
04	Vodafone M-pesa	09 (4.5)	191 (95.5)
05	PayPal	27 (13.5)	173 (86.5)
06	Google Wallet	15 (7.5)	185 (92.5)

It becomes evident from the Table 3 that Paytm is the first preferred digital payment service provider amongst 68 percent of m-Wallet users followed by PayPal with 13 per cent, and free charge with 12 percent respectively. The use of the other service provider such as Google Wallet, MobiKwik, and Vodafone M-pesa are less preferred for m-Wallet payment. It means that the choice of m-Wallet service provider requires understanding from the perspective of behavioural decisions, and intentions of current and prospective m-Wallet users considering innovations.

The usage and adoption of the particular m-Wallet service provider are influenced by certain factors such as perceived usefulness, perceived trust, personal traits, perceived ease of use and other external factors respectively.

Table 4: Frequency of use of m-wallets

Sr. No.	Frequency of Use of m-Wallet	Number and Percentages of m-Wallet Users
01	Once in a Month	119 (59.5)
02	Once in a Fortnight	53 (26.5)
03	Once in a Week	9 (4.5)
04	2-3 Times a Week	8 (4.0)
05	Daily	11 (5.5)
	Total	**200 (100.00)**

As given in the Table 4, 60 percent of the m-Wallet users used use the m-Wallet once in a month, and 26 percent used once in a fortnight. It means that the utility of using mobile payment is the deciding factor for the frequent use of m-Wallet for making payments by the m-Wallet users.

Table 5: Buying the items using M-wallets

Sr. No.	Product Categories	Rank to Given Products from 1 to 10 Number and Percentages of m-Wallet Users (N=200)									
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
01	Clothes	63 (31.5)	31 (15.5)	17 (8.5)	16 (8.0)	32 (16.0)	6 (3.0)	13 (6.5)	0 (0.0)	0 (0.0)	22 (11.0)
02	Travel Bags	2 (1.0)	16 (8.0)	20 (10.0)	43 (21.5)	6 (3.0)	28 (14.0)	31 (15.5)	36 (18.0)	9 (4.5)	9 (4.5)
03	Books	4 (2.0)	40 (20.0)	24 (12.0)	7 (3.5)	23 (11.5)	26 (13.0)	16 (8.0)	28 (14.0)	24 (12.0)	8 (4.0)
04	Electronics (T.V, Mobile, Etc.)	18 (9.0)	5 (2.5)	49 (24.5)	27 (13.5)	7 (3.5)	21 (10.5)	16 (8.0)	33 (16.5)	14 (7.0)	10 (5.0)
05	Jewellery	3 (1.5)	14 (7.0)	5 (2.5)	11 (5.5)	14 (7.0)	10 (5.0)	40 (20.0)	6 (3.0)	27 (13.5)	70 (35.0)
06	Recharge Mobile or DTH	28 (14.0)	14 (7.0)	27 (13.5)	23 (11.5)	33 (16.5)	19 (9.5)	20 (10.0)	11 (5.5)	19 (9.5)	6 (3.0)
07	To Transfer Money	23 (11.5)	16 (8.0)	11 (5.5)	23 (11.5)	27 (13.5)	4 (2.0)	11 (5.5)	25 (12.5)	37 (18.5)	23 (1.5)
08	To Pay Bills	25 (12.5)	25 (12.5)	14 (7.0)	14 (7.0)	27 (13.5)	24 (12.0)	9 (4.5)	25 (12.5)	24 (12.0)	13 (6.5)
09	Booking Movie Tickets	8 (4.0)	18 (9.0)	22 (11.0)	40 (20.0)	20 (10.0)	36 (18.0)	17 (8.5)	19 (9.5)	15 (7.5)	5 (2.5)
10	Book Train, Bus or Air Tickets	11 (5.5)	7 (3.5)	39 (19.5)	24 (12.0)	16 (8.0)	14 (7.0)	25 (12.5)	17 (8.5)	30 (15.0)	17 (8.5)

From the Table Number-05, it becomes clear that the most preferred products purchased by the selected m-Wallet users were Clothes followed by Books, Electronics (T.V, Mobile, etc.), Travels Bags, Recharge Mobile or DTH, Booking Movie Tickets, Jewellery and for making transfer of money.

The m-Wallet users' preference for buying a particular product using m-Wallet was found as dependent on the product category, the desire of m-Wallet users to feel, and inspection of the product physically, the probability of comparing the alternative products, the urgency of product requirement, favourable conditions for buying through m-Wallets and so on.

Results of Chi-Square Test on Gender and Income Variables Versus Variables Related to Use of m- Wallet

In this research study, the researchers had attempted to study and examine hypothesis concerning to the m-Wallet users considering the selected Technological and Personal Factors vis-à-vis Gender and Income variables of selected m-Wallet users by applying Chi-Square that mainly revealed following.

Hypothesis: 01:

No significant difference is perceived by m-Wallet users for selected Technological Factors of Digital Payment on the basis of the gender of m-Wallet users.

Table 6: Selected technological factors vis-a-vis selected background variables of m-wallet users

Sr. No.	Selected Items of Technological factors of m-Wallet Users	'P' Value of X^2	
		Gender	Income
	Social Influence		
01	I observe how my friends/Family purchases products through m-Wallets.	S (0.006)	NS (0.394)
02	I observe people using a m-Wallets for buying products.	S (0.001)	S (0.000)
03	I observe Purchasing products through m-Wallets is a common practice.	NS (0.997)	S (0.046)
	Triability		
04	After the first use, it is easy to use a m-Wallets.	NS (0.397)	S (0.000)
05	A trial would convince me that using m-Wallets is better than using another mode of payment.	S (0.036)	NS (0.212)
06	An experiment of using m-Wallets is better before adopting it.	S (0.036)	S (0.000)
	Compatibility		
07	Purchasing things through the use of m-Wallets is simple.	S (0.031)	S (0.024)
08	To navigate apps for mobile payments is simple.	S (0.000)	NS (0.089)
09	It is easy to use credit/debit cards, coupons through m-Wallets.	S (0.042)	S (0.000)

S = Significant Result and NS = Non Significant Result

As given in the Table 6, the null hypothesis was rejected as the selected demographic variables (gender and income) of m-Wallet users were found as significantly associated ('p' value < 0.05) with selected items concerning the selected variables of technological factors except in case of two the items i.e. 'I observe Purchasing products through m-Wallets is a common practice', and 'After first use it is easy to use m-Wallets' whereas with regard to Gender, the result was found as insignificant. With regard to background variable 'Income' also the results were found as insignificant for three items i.e., 'I observe how my friends/Family purchases products through m-Wallets'; 'A trial would convince me that using m-Wallets is better than using another mode of payment', and 'To navigate apps for mobile payments is simple'.

Hypothesis: 02: No significant difference is perceived by m-Wallet users for selected personal factors of digital payment on the basis of income of m-Wallet users.

Table 7: Selected personal factors vis-à-vis selected background variables of m-Wallet Users

Sr. No.	Selected Items of Personal factors of m-wallet users	'P' Value of X^2	
		Gender	Income
	Awareness		
10	I know about how to use m-Wallets for purchase.	NS (0.099)	NS (0.075)
11	I know about m-Wallets and its benefits.	NS (0.789)	S (0.036)
12	I am aware of the m-Wallets as an alternate payment method.	NS (0.403)	S (0.005)
	Subjective Norms (Beliefs)		
13	I believe that individuals are familiar with the use of m-Wallets.	S (0.000)	NS (0.779)
14	I believe using m-Wallets is a common payment method.	S (0.037)	S (0.009)
15	I believe it is normal practice to use a m-Wallets for a purchase.	NS (0.224)	S (0.000)
	Safety and Security		
16	I believe smartphones have a secured system to save my information.	NS (0.297)	NS (0.570)
17	I believe that m-Wallets service providers are reliable.	NS (0.364)	S (0.000)
18	There is no security risk as mobile technology always works properly.	NS (0.058)	NS (0.485)
	Trust		
19	I believe that mobile payment vendors are competent in providing service.	NS (0.067)	S (0.000)
20	I believe that mobile payment vendor does not exploit their consumers.	NS (0.258)	S (0.007)
21	Mobile payment vendors provide guarantees for safe, secure transactions.	NS (0.174)	S (0.003)

S = significant result and NS = non significant result

As given in the Table 7, the null hypothesis was not rejected as the selected demographic variable (gender) of m-Wallet users were found as 'non-significantly associated' ('p' value > 0.05) with selected items concerning the selected variables of personal factors of m-Wallet users except in case of two the items i.e. 'I believe that individuals are familiar with the use of m-Wallets', and 'I believe using m-Wallets is a common payment method' with regard to gender, the result was found as significant.

The null hypothesis was rejected as the selected demographic variable (Income) of m-Wallet users were found as significantly associated ('p' value < 0.05) with selected items concerning the selected variables of "Personal Factors" of m-Wallet users except in case of four items i.e., 'I know about how to use m-Wallets for purchase'; 'I believe that individuals are familiar with the use of m-Wallets'; 'I believe smart phones have a secured system to save my information', and 'There is no security risk as mobile technology always works properly' respectively where the result was found as 'Non-significant'.

Factor Analysis of Variables Related to Use of Mobile Wallet

Factor Analysis was applied or identifying the underlying dimensions related to the selected variables related to use of m-Wallet considering the scope of the research study. The findings of the use of Factor Analysis mainly revealed following.

Table 8: Kaiser-Meyer-Oklin (KMO) measures of sampling adequacy and bartlett's test of variables related to use of m-mallet

Sr. No.	Selected Items	Kaiser-Meyer-Olkin [KMO] Measure of Sampling Adequacy.	Bartlett's Test of Sphericity
01	Social Influence and Triability	0.681	0.000
02	Compatibility and Awareness	0.606	0.000
03	Subjective Norms and Safety and Security	0.594	0.000
04	Perceived Usefulness and Perceived Ease of Use	0.757	0.000
05	Intention to Use and Trust	0.739	0.000
06	Security concerns for use of Mobile Wallet	0.824	0.000

The Table 8 shows the results of the KMO measure of sampling adequacy for variables related to use of m-Wallet and all figures are more than was 0.6, which indicated that the present data were suitable for application of factor analysis. Similarly, Bartlett's Test of sphericity (0.00) was found as significant ($p<.05$), indicating sufficient correlation that existed between the criteria to proceed with the application of the factor analysis.

Factor Analysis of Technological Variables Related to Use of Mobile Wallet

Factor loadings score were used to measure the correlation between criteria and the factors and score close to 1 indicated a strong correlation while a score closer to zero indicated weak correlation. Principle Component Analysis (PCA) method was used and

the factors were rotated with the use of Varimax with Kaiser Normalization Rotation Method. Only those factors were considered for interpretation purpose whose values were greater than 0.7.

Table 9: Factor analysis of technological variables related to use of m-wallet

Sr. No.	Selected Items	No Components extracted and total variance	Commu-nalities	Factor loading score
	Social Influence	02 (64.3)		
01	I observe how my friends/Family purchases products through m-Wallets.		0.731	0.855
02	I observe people using a m-Wallets for buying products.		0.647	0.781
03	I observe Purchasing products through m-Wallets is a common practice.		0.689	0.827
	Triability			
04	After the first use, it is easy to use a m-Wallets.		0.435	0.638
05	A trial would convince me that using m-Wallets is better than using another mode of payment.		0.684	0.823
06	An experiment of using m-Wallets is better before adopting it.		0.670	0.818
	Compatibility	02 (61.2)		
07	Purchasing things through the use of m-Wallets is simple.		0.596	0.757
08	To navigate apps for mobile payments is simple.		0.615	0.774
09	It is easy to use credit/debit cards, coupons through m-Wallets.		0.667	0.816

From the Table 9, it becomes clear that which criteria were correlated with extracted components. In case of factor of Observability (Social Influence), all the items were found important as its loading score was above 0.7. The item-1 (I observe how my friends/ Family purchases products through mobile wallet), item-2 (I observe people using a mobile wallet for buying products), and item-3 (I observe purchasing products through mobile wallet is a common practice) were found as more correlated with factor Social influence. So far as another factor of Triability is concerned, the item-5 (A trial would convince me that using mobile wallet is better than using another mode of payment), and item-6 (An experiment of using mobile wallet is better before adopting it) were found as more important. In case of factor of Compatibility, each of the items were found as important as its loading score was above 0.7. The item 7 (Purchasing things through the use of mobile wallet is simple), the item-8 (To navigate apps for mobile payments is simple), and the item-09 (It is easy to use Credit/Debit Cards, coupons through Mobile wallets) were found as more correlated with factor of compatibility respectively.

Table 10: Factor analysis of personal variables related to use of m-mallet

Sr. No.	Selected Items	No Components extracted and total variance	Commu-nalities	Factor loading score
	Awareness	02 (61.2)		
10	I know how to use a m-Wallets for a purchase.		0.722	0.848
11	I know about m-Wallets and its benefits.		0.550	0.741
12	I am aware of the m-Wallets as an alternate payment method.		0.519	0.718
	Subjective Norms (Beliefs)	02 (61.1)		
13	I believe that individuals are familiar with the use of m-Wallets.		0.624	0.790
14	I believe using m-Wallets is a common payment method.		0.625	0.779
15	I believe it is normal practice to use a m-Wallets for a purchase.		0.612	0.779
	Safety and Security			
16	I believe smartphones have a secured system to save my information.		0.654	0.808
17	I believe that m-Wallets service providers are reliable.		0.738	0.855
18	There is no security risk as mobile technology always works properly.		0.411	0.624
	Trust	01 (42.0)		
19	I believe that mobile payment vendors are competent in providing service.		0.417	0.646
20	I believe that mobile payment vendor does not exploit their consumers.		0.380	0.617
21	Mobile payment vendors provide guarantees for safe, secure transactions.		0.461	0.679

From the Table 10, it becomes clear that which criteria were correlated with extracted components. In case of factor of Awareness, all the criteria were found as important as its loading score was above 0.7.

The item-10 (I know about how to use a mobile wallet for purchase), item-11 (I know about Mobile Wallets and its benefits), and item-12 (I am aware of the mobile wallet as an alternate payment method) were found as more correlated with factor of awareness. So far as factor of Subjective Norms is concerned the item-13 (I believe that individuals are familiar with the use of mobile wallet); item-14 (I believe using mobile wallet is a common payment method), and item 15 (I believe it is normal practice to use mobile wallet for purchase) were found as more important. In case of factor of 'Safety and

Security' the item-16 (I believe smartphones have a secured system to save my information), and the item-17 (I believe that mobile wallet service providers are reliable) were found as more important determinant.

So far as Trust factor was concerned, the score was found as lower than 0.7, it meant that the reason for less use of mobile payment can be attributed to lack of trust of m-Wallet users on mode of m-Wallet payment.

Table 11: Factor analysis of perceived usefulness and perceived ease of use related to use of m-Wallet

Sr. No.	Selected Items	No Components Extracted and Total Variance	Commu-nalities	Factor loading Score
	Perceived Usefulness	01 (64.3)		
22	m-Wallets provide benefits to individuals to purchase products.		0.484	0.696
23	Using m-Wallets support my purchase decision making.		0.497	0.705
24	m-Wallets can be an alternative choice of payment mode.		0.496	0.704
	Perceived Ease of Use			
25	It is easy to Interact through m-Wallets in making a purchase.		0.571	0.756
26	Using m-Wallets provides convenience in buying products.		0.498	0.706
27	Using m-Wallets offers an innovative way of making payment.		0.378	0.614

From the Table 11, it becomes clear that which criteria were correlated with extracted components. In case of Perceived Usefulness, two item were found as important as its loading score was above 0.7. 'Using mobile wallet supports my purchase decision making, and Mobile Wallet can be an alternative choice of payment mode were the items, 23 and 24, which revealed that given more importance by m-Wallet users.

As far as factor of 'Perceived ease of Use' is concerned the item-25 (It is easy to Interact through mobile wallet in making a purchase), and item-26 (Using Mobile Wallet provides convenience in buying products) were found as more important.

Factor Analysis of Security concerns for use of m-Wallets

Table 12: Factor analysis of security concerns for use of m-wallet

Sl.	Selected Items	Communalities	Factor loading Score
01	Need to introduce Security Layers to ensure complete protection from frauds.	0.508	0.594
02	Collection of unnecessary personal Data should be avoided	0.738	0.802
03	Need for m-Wallets account monitoring system	0.590	0.766
04	I Prefer PIN entry requirement	0.554	0.604
05	I Prefer Fingerprint verification	0.621	0.729
06	I Prefer Picture verification	0.755	0.858
07	I Prefer Facial features verification	0.716	0.836
08	I Prefer Retina verification	0.595	0.565
09	I Prefer Storing transaction data on the cloud	0.557	0.736
10	I Prefer Voice verification	0.434	0.606

From the Table 12, it becomes clear that m-Wallet users are interested in different ways of security of payment while using m-Wallet. Out of ten, the factor loading score for six items was above 0.7. So the item-2 (Collection of unnecessary personal Data should be avoided); item-3 (Need for Mobile Wallet account monitoring system); item-5 (I Prefer Fingerprint verification); item-6 (I Prefer Picture verification); item-7 (I Prefer Facial features verification), and item-9 (I Prefer Storing transaction data on the cloud) showed the concern of the m-Wallet users about security of payment while using m-Wallet.

Model Showing Relationship of Technological Driven Factors and Personal Factors with Behavioural Intention to Use m-Wallets

This Model exhibits the relationship of technological driven factors and personal factors with behavioural intention to use m-Wallets through mediating variables of perceived usefulness, perceived ease of use.

The above-given Figure 3 depicts the relationship of technological-driven factors (observability, triability, and compatibility) and personal factors (awareness, subjective norms, safety and security, trust) with behavioural intention to use mobile wallets through mediating variables of perceived usefulness, perceived ease of use.

In the above mode, the relationships between the constructs were examined based on chi-square associated with path coefficients between the constructs. The Chi-square value (119.971) was on the higher side than a certain critical value i.e. $p < .05$ which indicated a significant relationship that existed between constructs. The weightage of technological factors on perceived usefulness was 0.05, and perceived ease of use was 0.03 whereas

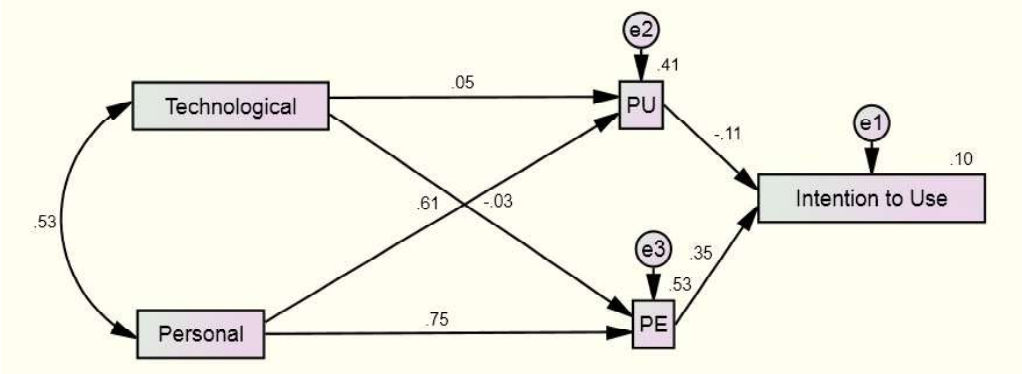


Figure 3: Structural Equation Model (SEM) showing the relationship of technological and personal factors with behavioural intention to use m-Wallets

the wheightage of personal factors on perceived usefulness was 0.61, and perceived ease of use was 0.75. It can therefore be inferred that the variables related with personal factors viz., awareness, subjective norms, safety, and security, trust are the major determinant of behavioural intention to use m-Wallets relative to the technological factors.

The suggested model provides an understanding that an intension to use m-Wallet is more of a personal choice of an m-Wallet user for which awareness about different apps is one of the important determinants. The marketer needs to constantly look for an opportunity to create awareness about their apps through the use of creative and innovative tools and methods of promotion so as to make the m-Wallet users aware about benefits available through the use of apps. The proper feedback mechanism needs to be developed to monitor the actual usage of apps.

The emotional appeal will be useful to build positive belief of accepting the m-Wallet as a common payment method as well as it is a normal practice adopted by m-Wallet users in the society to leverage the benefits offered by the digital payment service provider for the use of apps. The digital payment service provider of m-Wallet needs to assure the m-Wallet users about the secured and reliable system of m-Wallet where there is no risk of any loss or damage, the information remains confidential, and the consistency of service.

In the Model given above, one observed variable that is the intention to use m-Wallets of the m-Wallet users was predicted as a linear combination of the other two factors that is technological and personal factors consists of selected observed variables. The values of 0.35 and 0.11 showed against the single-sided arrow are the weight for the influence of technological and personal factors on behavioural intention to use m-Wallets through the mediating variable of perceived ease of use and perceived usefulness respectively.

The Model fit indices as given in the Table 13 considering the Structural Equation Model [SEM] showing the relationship between technological and personal factors with intension to use m-Wallets through mediating variable perceived usefulness and perceived ease of use of m-Wallet.

Table 13: Fit indices of measurement model

Name of the Index	Model fit Indices	Most Ideal Values
CMIN (Chi-square or Minimum Discrepancy Chi-square)	30.76	
GFI (Goodness of Fit Index)	0.851	0.95
NFI (Normed-Fit Index)	0.537	0.95
RFI (Relative Fit Index)	0.735	
CFI (Comparative Fit Index)	0.526	0.90
AGFI (Adjusted Goodness of Fit Index)	0.219	0.90
RMR (Root Mean Square Residual)	0.830	0.08
RMSEA (Root Mean Square Error of Approximation)	0.387	0.08

Conclusion

The most revolutionary technology responsible for sweeping the retail industry is m-Wallet payment with the different kinds of physical and psychological hurdles, that need to be tackled, and it appears that the use of mobile payment options is certainly going to increase. By addressing, answering and solving the questions that have been raised by the m-Wallet users, the mobile payment companies would be able to downsize their hesitations.

Still, there are many non-users with the voice of no interest in using smartphones for the purpose of making digital payments. After all, the act of swiping cards to complete payments is as easy and fast as the process of tapping smartphone apps for the very same purpose. This dilemma is answered for the businesses and marketers to offer more than just a payment means active via mobile apps; the businesses must also combine all other features of loyalty programs, in-store coupons, and redemptions into the mobile payment option. Global Standard of payment considering international compatibility is another concern associated with mobile payments.

The consumers will see the benefits of using their Smartphone as an electronic wallet only when that will allow them to conduct transactions than the basic traditional channels. Once a global standard is accepted, the consumers would not require installing new software making a purchase every time; instead, they will be able to use any application for making payments. This will significantly simplify the purchasing process. Despite these lingering concerns, the optimism for the bright future of mobile payments abounds.

REFERENCES

ABI report (2016). Cellular-enabled POS Terminals, ATMs, and Vending Machines, NFC world website, http://www.nfcworld. Com/2011/08/11/39038/abi-85-percent-of-pos-terminals-to-support-contactless-payments-in-2016/, August 2011.

Batra, Roopali. Kalra, Neha (2016). Are Digital wallets The New currency? *Apeejay Journal of Management and Technology*, 11 (1) 10-22.

Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, Present and Future of Mobile Payments Research: A Literature Review. *Journal of Electronic Commerce Research and Applications*, 7 (2), 165-181.

Dennehy, Denis, Sammon, David (2015). Trends in mobile payments research: a literature review. *Journal of Innovation Management*, 3 (1), 49-61.

http://ipsoshk.com/wp-content/uploads/sites/2/2016/04/Wallet-Payments-in-India.pdf, Retrieved on 10/05/2018.

https://www.statista.com/statistics/731910/barriers-of-digital-payment-use-india, Retrieved on 10/05/2018.

Jum C. Nunnally (1981). Psychometric theory. Tata McGraw-Hill Publishing Ltd. New Delhi.

Komal Gupta (2018). Mobile wallet transactions hit record Rs. 14, 170 crores in May. The Times of India 7th July 2018.

Naresh K. Malhotra (2007). Marketing research as an applied orientation. Pearson Prentice Hall, Fifth Edition, 2007, PP. 315.

Painuly, Poonam, Rathi, Shalu (2016). Mobile wallet: An upcoming mode of business transactions. *International Journal in Management and Social Science*. 4 (5), 356-363.

Rathore, Hem Shweta (2016). Adoption of digital wallet by consumers. *BVIMSR's Journal of Management Research*, 69 (1), 69-75.

Report of Research and Markets (2014-2018). Mobile wallet market in India. Retrieved from http://www. researchandmarkets.com/reports/3022303/mobile-wallet-market-in-India-2014-2018.pdf.

Report of Tata Consultancy Service (2015). Retrieved from http://www.tcs.com/ Site Collection Documents/White-Papers/BPS-Mobile-Wallets-Emerging-Economies-Financial-Inclusion- 1015-1.pdf.

Report on Mobile payments adoption rate (2016). Mobile payments to continue showing strong adoption rate. http://fintechranking.com/2016/04/14/mobile-payments-tocontinue-showing-strong-adoption-rate/, 14 April 2016.

Report on The Future of the Mobile Wallet (2015). Barriers and opportunities for the next stage of the mobile payment revolution. Consumer Pulse Study. http://www.cmbinfo.com/cmb-cms/wp-content/uploads/2015/06/PR_Consumer-Pulse_MW_2015.compressed1.pdf.

Sardar, Ramesh (2016). Preference towards mobile wallets among urban population of Jalgaon city. *Journal of Management*, 3 (2), 1-11.

Watal R (2017). Digital payments surge 55% in 2016-17. http://www.livemint.com/ Industry/hF8D3D6bWBie6IoJzWtdZO/Digital-payments-surge-55-in-FY17-Niti-Aayog.html.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

Development and Validation of Emotional Intelligence Scale

MADHULIKA P SARKAR AND SHELLY OBEROI

Abstract: The importance of Emotional Intelligence (EI) is gradually being recognized and assessed and many different measures and theories of EI are being developed. Several models of EI provide theoretical framework for hypothesizing the constructs but there is a paucity of Indian Literature on this subject. So, the present study will try to understand emotional intelligence in Indian context due to the presence of cultural diversity in the country. The study aims to explore and validate the Constructs of emotional intelligence. The sample includes 400 employees from IT (Information Technology) sector and Banking Sector working in Delhi-NCR. The findings depict that awareness and expression of emotions by employees and understanding the emotions of the fellow colleagues, skill of managing stress and conflicts at workplace, maintaining interpersonal relations at workplace, positive attitude and high workplace spirituality make them highly emotional intelligent and create a conductive working environment.

Keywords: Constructs; Development; Emotional Intelligence; Scale Validation

Introduction

Emotional Intelligence is an emotional capability that regulates how people identify and express their own emotions recognizes other's emotions and conflicts effectively. Salovey and Mayer (1990) expressed EI as the ability to monitor own feelings and emotions and to recognize the emotions of others, to guide one's actions.

The research on Emotional Intelligence has gained significant focus in recent years. Many researchers have developed number of models on emotional intelligence and have also identified various dimensions measuring Emotional Intelligence. Mayer and Salovey's (1997) emotional intelligence model gave four distinct mental abilities: perception of emotion, use of emotion to facilitate thought, understanding of emotion, and management of emotion. Emotional Intelligence is the ability for recognizing one's own feelings and of others, for motivating and managing own emotions in relationships (Goleman, 1998).

The three main models of EI are widely used in the literature: Mixed Models (Goleman (1995), Trait Model (Petrides & Furnham (2000) and Ability Model Mayer & Salovey (1990). All the models of EI are concerned with understanding and measuring the components of awareness and management of one's own emotions and other's emotions. There are number of methods, techniques and scale developed by various researchers for measuring Emotional Intelligence like Wong's emotional intelligence scale, Trait

Dr Madhulika P Sarkar is Reader and Miss Shelly Oberoi is Research Scholar, SOMS, IGNOU, New Delhi.

emotional intelligence Questionnaire (TEIQue), Work group emotional intelligence profile, Baron emotional Quotient Inventory, Mayer-Salovey-Caruso EI Test (MSCEIT) etc. Each of these scales of measurement has different constructs and items. Several comprehensive models of Emotional Intelligence provide theoretical framework for hypothesizing the constructs but there is a paucity of Indian literature on this subject. So, the present study will try to understand the emotional intelligence in Indian context due to the presence of cultural diversity in the country. The study aims to identify and validate the constructs of emotional intelligence in Indian context.

Objectives

The objectives of the study are:

1. To identify the various constructs which influence the emotional intelligence of Indian employees.
2. To validate the identified constructs which influence the emotional intelligence of Indian employees.

Hypotheses

The following hypotheses have been formulated and aligned with the objectives:

- *H_1: Interpersonal relations influence emotional intelligence.*
- *H_2: Stress management influence emotional intelligence.*
- *H_3: Empathy influence emotional intelligence*
- *H_4 : Conflict management influence emotional intelligence.*
- *H_5: Emotion management influence emotional intelligence.*
- *H_6: Emotion awareness and emotion expression influence emotional intelligence.*
- *H_7: Optimism influence emotional intelligence.*
- *H_8: Workplace spirituality influence emotional intelligence.*
- *H_9: Assessment of situation influence emotional intelligence.*

Review of Literature

Emotional Intelligence and Emotional Awareness and Emotional Expression

Goleman (1998b) found the importance of identifying own feelings and how they affect performance. The study was based on the financial planners working in Insurance Companies. The findings revealed that self-awareness do affect one's own performance. The study found that there is a delicate interaction between financial planner and a client in insurance companies and while dealing with hard questions like money matters, Self-awareness actually helped the financial planners in handling their emotional reactions. Goodness' & Thank god (2004) investigated the dimensions of emotional intelligence. A sample of 430 teachers of Obio/Akpor local Goveremnt area of Rivers state, Nigeria was taken on the basis of simple and purposive random sampling technique. Two questionnaires used to collect data .i.e. Emotional intelligence scale (DEIS) and Teaching job involvement. Multiple regression analysis was applied to test the hypothesis. The result confirmed that Self-Awareness was highest predictor of emotional

intelligence and all the dimensions of emotional intelligence are positively related to job involvement. Barbuto & Story Joana (2010) examined the dimensions of emotional intelligence and relation between emotional intelligence and locus of control and mental boundaries. A sample of 382 employees working in Midwest U.S was taken on the basis of cross sectional service design. Emotional intelligence was measured using Carson.et.al, 2000, locus of control was measured using Rotter's, 1966 and mental boundaries were measured using Hartmann, 1991. The collected data was evaluated by applying Correlation and Regression analysis. The result of the study portrayed that Self-Awareness is a major dimension to measure emotional intelligence and locus of control and mental boundaries explained 18% of variance in emotional intelligence. Kappagoda (2013) surveyed 470 English teachers from north province of Srilanka to find the connection among EI and five factor model of personality. 250 teachers were from western province of Srilanka and rest was from southern province. Data was collected through a questionnaire and was analyzed using correlation co-efficient and regression analysis. The findings of the study depicted that emotional intelligence are positively correlated to self-awareness. Baskara Mohan & Shalin (2016) explored the antecedents of emotional intelligence and to measure emotional intelligence among women executives. A sample of 457 women executives working in commercial banks of Kaniyakumari district was taken and data was collected through interview schedule. A pilot study was also conducted among 20 women executives of 5 banks of Nagercoil town. The result of the study revealed that the dimensions of Self-awareness, self-expression, social awareness, emotional management, change management, self-motivation, etc are valid and reliable. Olukayode (2017) developed valid and reliable indigenous scale of emotional intelligence. A sample of 850 students from 5 universities of Nigeria was taken. Author has used both Bar-On model and Goleman's model of emotional intelligence for the study. A total of 52 items were taken and factor analysis was applied to analyze the data.

The result of factor analysis exhibited that 42 items were valid and reliable for emotional intelligence scale like Self-awareness, interpersonal skills, empathy, stress, optimism, problem solving, empathetic etc. Nikic. et.al (2017) determined the difference between high level and middle level managers in terms of personality traits and emotional intelligence. A sample of 240 respondents was taken out of which 125 managers were from Mercator group trade chain of food industry, Serbia. Data were collected using two questionnaires i.e. Questionnaire of emotional competence (Takšiæ, Mohariæ, Munjas, 2006 and ZKPQ (Zuckerman, 2002). Pearson coefficient and correlation result demonstrated that high level managers show high level of emotional intelligence in understanding emotions, regulating and managing emotions and their personality traits are higher than others.

Emotional Intelligence and Empathy

Friedman & DiMatteo (1982) found the relationship between empathy, emotional intelligence and job performance among Physicians. The researchers discussed that the Physicians who could recognize the emotions of the patients in a better manner were more successful than those who could not understand the emotions of others. Ciarrochi, Joseph & et.al (2000) critically evaluated the emotional intelligence constructs. Four constructs were taken.i.e. Ability to perceive, ability to understand, manage emotions

and empathy. A sample of Australian undergraduates was taken. The result illustrated a substantial relationship between emotional intelligence and empathy and ability to manage moods. The result indicated that emotional intelligence construct is distinct and useful. Austin, et.al (2007) compared empathy level in medical students and examined the gender differences in empathy and emotional intelligence. A sample of 156 medical students was collected using a questionnaire. ANOVA and Pearson Correlation results indicated trends in the level of empathy differed by gender. A significant gender scores were found with male empathy scores increased between 1-2 years. The result exhibited that there is a sparse relationship between academic performance and emotional intelligence. There is a significant relation between EI and its various elements like self-awareness, self-regulation, motivation and social skills. (Behbahani, 2011). The researcher surveyed 160 managers from the department of physical education in Shahr-e-Rey, Iran using emotional intelligence quotient consisting of 33 questions. Kaelber & Schwartz (2014) explored the degree of empathy and emotional intelligence among Thai and American counselor trainees to determine the difference in eastern and western cultural orientation affect counseling skills. A specified sample of trainees was taken from eastern and western parts of the world i.e. Thailand and America. The result indicated that western trainees had greater empathy but no differences were found in EI between western and eastern trainees.

Emotional Intelligence and Emotion Management

Uphill & Mills (2011) examined the influence of emotional intelligence on emotions, emotional regulation strategies and performance. A sample of 104 rowers was taken consisting of 67 males and 33 females. Log Linear analysis was conducted to analyze the data. The result of the study recommended that there was no relationship between EI and rowing performance. The study also concluded that respondents who had high ET scores regulated positive and negative emotions differently from those who had low EI scores. Robini. et.al (2014) observed the connection between emotional intelligence and emotion regulation. A sample of 84 (54 males & 30 females) students of Iranian university was taken. Emotional intelligence was measured using situational test of emotional management. MacCann & Roberts, 2008) and emotional regulation was measured using (Gross & John's, 2003). Spearman correlation and Mann Whitney U test was applied to test the collected data. The result demonstrated that there is no discrepancy between males and females in context of emotions and also there is a significant relation between emotional intelligence and emotional management. Pena et.al (2015) integrated emotional intelligence and emotional regulation traditions. Exiting literature was used by employing the process model of emotional regulation (Gross, 1998b). The study confirmed that Individuals with high emotional intelligence regulate their emotions successfully in flexible manner when required. Maritza et.al (2015) validated the constructs and reliability of an emotional intelligence scale. A sample of 349 nursing students was taken and Trait Meta-Mood scale-24 was applied. It was a pilot study where univariate analysis and factor analysis was conducted. The result confirmed that all the dimensions.i.e. Perception, comprehension and regulation are reliable and valid to measure emotional intelligence. Sadri & Janani (2015) evaluated the correlation between emotional intelligence and self-regulation. A sample of 100 elite male athletes' swimmers was taken from Azerbaijan province, Iran. Emotional intelligence was

measured using emotional intelligence quotient of Bradberry & Greaves and self-regulation was measured using Self-regulation Quotient of Brown, miller & Lowendowski. The result displayed that all the components of emotional intelligence has significant correlation with total self-regulation scores.

Emotional Intelligence and Conflict Management

Conflict management positively affects the competitive performance of the organizations, thereby increasing their profitability and conflict management styles and emotional intelligence (Barrett lane, Sechrest and Schwartz, 2000). The study empirically tested through Structural Equation Modeling. A sample of 329 companies was taken from Slovenia and Croatia. Dearborn (2002) surveyed 160 managers working in Tarbiat Modarres University, to measure the relationship between emotional intelligence and conflict management styles. Data were collected through Shering's emotional intelligence and Thomas's conflict management questionnaire. Correlation, multiple regression and MANOVA results exhibited significant results. Jordan & Troth (2004) observed the utility of emotional intelligence in predicting the conflict resolution styles at workplace. A sample of 350 respondents was taken working in 108 teams. Respondents were given a problem solving task. The findings revealed that EI indicators are differently related to conflict resolution methods. Helena(2005) identified the factors underlying differing conflict management pattern within work team. A sample of 331 employees working in 69 medical teams was taken. Data were collected through Self-Reported structured questionnaire. Regression result revealed that cooperative pattern of conflict management style was positively related to intragroup emotional states and dominating pattern is interrelated with positive and negative emotions. The findings also established that avoidance pattern of conflict management style is positively associated with negative emotions. Mayer, Salovey & Caruso (2007) did a quantitative study among 108 school teachers to find relation between conflict styles and EI. Data were gathered using Siberia Shrink quotient for emotional intelligence and Robin's quotient for conflict management styles. The study suggested significant relationship between the two. The result also revealed that cooperative conflict management style is prominent among teachers (Oloyede, 2009). Data was collected from 5 organizations in Lagos state with the help of a questionnaire among 79 employees. Pearson Product moment correlation and structural equation modeling was applied. The study suggested future studies to investigate the other factors influencing emotional intelligence. Hsi, Ely, (2010) investigated the relationship among emotional intelligence and conflict management styles and job performance at select local government in Indonesia. A sample of 228 respondents was taken from two local districts and one province of Indonesia. Multiple Heirechial regression was used to test the hypothesis. A self-report measure of Wong and Law EI Scale (WLEIS, 2012) was used to measure Emotional Intelligence and Rahim Organizational Conflict Inventory (Rahim, 1983) was used to measure the conflict management style. The result demonstrated that conflict management is antecedent of emotional intelligence. The results also confirmed that integrating style of conflict management partially mediate the relation between emotional intelligence and job performance. The study also concluded that emotional intelligence of employees in public organizations and private organizations both had similar impact on job performance.

Godse & Thingujam (2010) observed the relationship between personality, conflict resolution styles and emotional intelligence. A sample of 81 technology professionals from India was taken. The findings established that IT professionals with higher perceived emotional intelligence are likely to adapt better style of conflict resolution a workplace and emotional intelligence was significantly correlated with integrating style of conflict resolution and negatively related with avoiding style. Abas. et al (2012) studied the emotional intelligence and conflict management style and examined the correlation of superiors emotional intelligence assigned by them and by their subordinates. A sample of 42 employees was taken from HRD division at XYZ University in Malaysia. Correlation results exhibited that emotional intelligence ratings given by superiors is not related to the ratings given by their subordinates. Su et al., (2015) tested the mediating effects of various types of conflict management style on emotional intelligence. A sample of 159 employees employed in construction industry in China was taken. The findings discovered that emotional intelligence is positively related to integrating, compromising and dominating styles. The study concluded that integrating style of conflicting management plays a moderating role in between emotional intelligence and innovation performance. Pandey. et.al (2015) studied the role of emotional intelligence and conflict resolution style and to understand the descriptive attributes like gender, age etc. Primary data was collected through a questionnaire consisting of 46 items from 99 respondents using random convenience sampling method. The findings revealed that avoiding style was widely adopted by respondents with increasing emotional intelligence scores. Competing style was used by respondents who had experience more than 10 years. The study also concluded that emotional intelligence score increases with age but after 35 years of age, emotional intelligence scores tend to decrease. Onyeizugbe et al., (2016) found the relationship between emotional intelligence and conflict management. A sample size of 340 employees was taken on the basis of Taro Yamane's formula from selected federal universities of Nigeria. Correlation and regression results revealed that conflict management styles are related to emotional intelligence. Bakhtiarimia (2017) took a sample of 90 full time sports staff using Siberia Schering emotional intelligence quotient and Stephen Robbins (Robbins's, 1998). Pearson Correlation Coefficient result exhibited that there is no significant relationship between emotional intelligence and competitive management style. Manikandan & Goapalakrishana (2017) scrutinized the association of conflict management style among nurses in relation to emotional intelligence and burnout. A sample of 136 nurses working in Goveremnt and private hospitals in Puducherry was taken using convenience sampling technique. Data was collected using Emotional Intelligence Scale (Wong & Law) and Thomas Kilman Conflict mode instrument. F-Test and Correlation results proposed that there is a positive and significant relationship between conflict management style and burnout among nurses, but there is no relationship between EI and burnout.

Emotional Intelligence and Stress Management

Gohm, Corser & Dalsky (2005) found the relationship between emotional intelligence and stress. A sample of 158 freshmen was taken. Data was collected through a questionnaire made using Mayer-Salovey-Caruso Emotional Intelligence test and Trait Meta Mood scale. The result of the study suggested that emotional intelligence tend to

reduce stress for few respondents but is irrelevant for other respondents. Montes-Berges et al (2007) inspected the role of emotional intelligence in stress coping strategies at workplace. A survey was conducted on nursing students. Stress was measured using Trait Meta-Mood scale. The result of the findings displayed the importance of perceived emotional intelligence in coping stress at workplace. Singh & Singh (2008) revealed that there is no significant difference in the level of EI and perceived role stress among genders. A survey was done by the researchers on 312 medical professionals consisting of 174 males and 138 females working in privately run hospitals of Delhi/NCR. Data collected was analyzed using Correlation and regression. Ramesar, Koortzen, & Oosthuizen, (2009) quantitatively determined how is stress management related to emotional intelligence. Data was collected using Occupational Personality Questionnaire (OPQ32i) and Emotional Quotient Intelligence (Bar-On-EQi). The result portrayed that stress is a component of emotional intelligence either in form of input or output. Darvish & Narsollahi (2011) explored the relationship between EI and occupational stress. A sample of 1349 employees was taken from Payame Noor University working as academic members using simple sampling method. To collect data, two questionnaires were used i.e. Swinburne University Emotional Intelligence Test (SUEIT) and Occupational Roles Quotient (ORQ). To analyze the collected data, Pearson Correlation and Multiple regression and path analysis were applied. The result depicted that emotional intelligence and occupational stress both are independent and are not related to each other. Demerdash, (2012) explained the role of emotional intelligence in managing stress and anxiety in elementary school teachers at the workplace. A sample of 100 teachers was taken from Saidy Salim Sector, Kafr EL, Sheikh Governorate, Egypt. Data was collected using Emotional Intelligence Scale (Schutte.et.al, 1998), Stress Perceived Scale, (Copen, Kamarak & Mermclstien, 1983) and State Trait Anxiety Inventory (Spielberger et al, 1970). The result revealed a significant relationship between EI and stress and anxiety. Mayuran (2013) discovered the association between emotional intelligence abilities and stress management in schools and banks in Jaffna district. A sample of 120 respondents was taken consisting of 60 teachers and 60 bank staff using simple random sampling technique. Total of 14 schools and 17 banks were selected to collect data. The result of the study established that school teachers do not merge stress with their emotions whereas; bank employees show a linear relationship between the two. There is a moderately positive relationship between emotional intelligence and stress coping styles in IT sector (Gujral, 2013). The researcher surveyed 150 employees working in IT sector through a structured questionnaire. Campuzano & Campo (2017) surveyed 60 qualified nurses and auxiliary Nurses of a hospital emergency department, Ourense. The study was a cross-sectional and descriptive study in which data was collected through Questionnaire using Trait method mood scale and Moren's brief burnout quotient. Result displayed that work stress is related to emotional intelligence. The result also showed a deficiency in emotional care with low scores while emotional clarity was situated with normal levels. It was identified that there is a positive relationship between emotional clarity and employment situation. Sayeda & Fatma (2017) inspected the relationship between EI and job stress among academic members at faculty of nursing .A sample of 40 academic members at faculty nursing of Cairo University was taken. The study was a descriptive correlational research where data was collected using Socio-Demographic data questionnaire, Job Stress Questionnaire and Emotional Intelligence Questionnaire.

The findings also highlighted that 95% of the respondents had stress at workplace and emotional intelligence is related to job stress.

Emotional Intelligence and Workplace Spirituality

Pradhan & Kesari (2016) studied the relationship between emotional intelligence and workplace spirituality and organizational commitment and found that emotional intelligence is a potential mediator between workplace spirituality and organizational commitment. A sample of 169 respondents working in private and public establishments of eastern India subcontinent was taken. Workplace spirituality was measured using Singh & Premrajan (2007), Organizational Commitment was measured using Allen & Meyer, 1990) and Emotional intelligence was measured using Wong & Law, 2002. Priyanka & Punia (2016) discovered a positive correlation relationship between emotional and spirituality intelligence and its effect on Organizational citizenship behaviour. A sample of 555 employees was taken working in public and private sector organizations in India. Data collected was analyzed through path analysis, Confirmation Factor analysis and structural equation analysis using AMOS. Renu (2016) revealed the relationship between emotional intelligence and spirituality and demonstrated that there is a positive link between emotional intelligence and spirituality.

Data and Methodology

The study is descriptive in nature and it focuses on the various constructs of emotional intelligence in Indian context.

Research Design

Data Collection and Data Instrument

The study mainly focuses on the primary data for which a Structured Questionnaire is formulated using Google docs. The study also includes the descriptive analysis which will highlight the emotional intelligence of Indian employees in terms of demographic factors like income, age etc.

Sample

In order to collect data, a sample size of 400 employees is being taken from Delhi/NCR working in IT (Information Technology) sector and Banking Sector on the basis of Convenience Sampling and Questionnaire is being circulated to them. Out of 400 responses, only 378 responses were received and after rejecting biased responses only 348 responses were taken. (Table 1)

Tools and Techniques

Various statistical techniques are used to analyze the data. In order to test the hypothesis and to validate the various constructs measuring the emotional intelligence of Indian employees, a factor analysis is being carried out for the same. To bring out a causal relationship between various constructs measuring the emotional intelligence, Structural Equation Modeling (SEM) is being applied using Analysis of Moment Structures (AMOS).

To test the Reliability and Validity, Cronbach Alpha is being used which determines the internal consistency.

Table 1: Sample collection

	IT Sector		Banking Sector	
Companies	Aricent.Altran Group	Nippon Telegraph & Telephone (NTT) Data Services	Royal Bank of Scotland (RBS)	ICICI BANK
Top level	12	10	8	13
Middle level & lower level	78	69	76	82

Analysis of Results

KMO & Bartlett's Test

Table 2: Sample adequacy results

KMO and Bartlett's test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.742
Bartlett's Test of Sphericity	Approx. Chi-Square	14970.832
	Df	703
	Sig.	.000

As shown in Table 1 with the Kaiser-Meyer-Olkin Measure of Sampling Adequacy exceeding .70 (Table 2) and Bartlett's Test of Sphercity being statistically significant we have confidence of the appropriateness of the analysis.

Reliability and Content Validity

Table 3: Reliability and content validity

Constructs	Items	Factor Loadings	Mean	Std. deviation	Eigen value	Variance explained	Cronbach's alpha
Interpersonal Relations(IR)	IR1	.830	3.47	1.124	17.053	12.079	.908
	IR2	.695	3.84	1.017			
	IR3	.788	4.12	1.037			
	IR4	.843	3.83	.973			
	IR5	.833	3.71	.948			
	IR6	.725	3.86	.967			
	IR7	.902	3.71	.957			
	IR8	.841	4.37	.891			
Stress Management(SM)	SM1	.785	3.57	1.110	2.103	11.840	.878
	SM2	.762	3.36	1.124			

Contd....

Contd....

	SM3	.703	3.53	1.106			
	SM4	.644	3.74	.957			
	SM5	.626	3.48	1.099			
Empathy(EP)	EP1	.691	3.91	.955	2.041	11.584	.843
	EP2	.671	3.45	1.217			
	EP3	.763	3.86	1.028			
	EP4	.917	3.82	.993			
	EP5	.841	3.91	1.018			
Conflict Management	CM1	.775	3.43	1.107	1.686	10.517	.897
(CM)	CM2	.957	3.72	1.159			
	CM3	.789	3.61	.956			
	CM4	.771	3.60	.950			
	CM5	.855	3.83	.973			
	CM6	.749	3.96	.924			
EmotionManagement	EM1	.803	3.43	1.064	1.593	8.954	.756
(EM)	EM2	.788	3.56	1.079			
	EM3	.606	3.86	1.028			
Emotion Awareness	& Emotion Expression(EA)		EA1	.805	3.63	1.050	
1.375	7.753	.776					
	EA2	.969	3.68	1.044			
	EA3	.787	3.47	1.124			
	EA4	.804	3.43	1.107			
Optimism(O)	O1	.866	3.82	1.030	1.229	5.790	.847
	O2	.783	4.09	.913			
	O3	.726	4.05	.924			
Workplace	WS1	.892	2.19	1.060	1.077	5.132	.701
Spirituality(WS)	WS2	.804	2.68	1.106			
Assessment of Situation (A)	A1	.642	3.84	1.017	1.035	3.175	.

The results of the Exploratory Factor Analysis (EFA) extracted only 9 constructs as only these have Eigen Values of 1.00 or greater. The cumulative total variance explained for first 9 constructs was found to be 76.824%.

The results in the Table 3 depicts that Interpersonal Relations (IR) is the most important construct among employees which reveals Emotional Intelligence with its Eigen Value 17.053 and Variance explained is 12.079. Out of total 38 items, one of the items was excluded from analysis as it did not show any factor loading, hence, among 9 constructs; only 37 items depicted factor loadings.

After extracting 9 Constructs using Principal Component Analysis, Rotation of the constructs was done using Varimax with Kaiser Normalization which yielded that out

of the 9 constructs extracted one of the construct i.e. Assessment of situation had only 1 item, so, its reliability could not be tested, and hence, it was excluded from further analysis.

Therefore, out of 9 constructs and 38 items, only, 8 constructs and 36 items were taken for further analysis, thus rejecting the alternate hypothesis of H_9.

Confirmatory Factor Analysis (CFA)

Reliability Analysis

Table 4: Cronbach's Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardized items	No of items
0.959	0.961	36

Table 4 indicates the result of reliability analysis, where, the Cronbach Alpha value of all 36 items together is .959, which indicates a good internal consistency of all the variables as its value is above 0.70.

Validity

Convergent Validity

Convergent validity checks the individual construct of the model. Before examimng the convergent validity, there is a need to look into the factor loadings first. As rule of thumb, the loadings should be at least 0.5 and preferably 0.7 or higher. While examimng the factor loadings, we need to look into two additional measures.i.e Average Variance Extracted (AVE) and Composite Reliability (CR). AVE should be 0.5 or greater to suggest adequate Convergent Validity and Composite Reliability should be 0.7 or greater to indicate adequate convergence.

Table 5: AVE and CR Values

Constructs	AVE	CR
IR	0.655	0.937
SM	0.499	0.831
EP	0.611	0.885
CM	0.67	0.923
EM	0.544	0.779
EA	0.713	0.908
O	0.63	0.835
WS	0.721	0.837

All the items taken in the study have significant loadings as they are between 0.606 and 0.969 as given in Table 3. The AVE and CR values are given in Table 5 which depicts AVE and CR values are satisfactory and also AVE values for all 8 constructs are less than CR.

Discriminant Validity

The next step is to move to the Discriminant Validity to find out the extent to which a variable is distinct from the other variable. AVE should be higher than Maximum Shared Value (MSV) and Average Shared Value (ASV) (Fornell & Larcker, 1981). The values MSV and ASV of all 8 constructs are less than AVE values of all constructs. (Table 6)

Table 6: MSV and ASV values

	MSV	ASV	AVE
IR	0.255	0.161	0.655
SM	0.225	0.138	0.499
EP	0.255	0.177	0.611
CM	0.197	0.122	0.67
EM	0.217	0.092	0.544
EA	0.223	0.173	0.713
O	0.22	0.155	0.63
WS	0.003	0	0.721

Discriminant validity can also be measured by comparing the AVE values with the Squared Inter variable Correlation estimates (SIC). To measure Discriminant validity, AVE values should be greater than the Squared Inter Construct Correlation estimates (SIC).Our results shows that AVE values are greater than the squared correlation estimates which is significant for adequate Discriminant Validity. (Table 7)

Table 7: Squared inter construct correlation estimates

	IR	SM	EP	CM	EM	EA	O	WS
IR	0.729							
SM	0.61	0.779						
EP	0.715	0.684	0.731					
CM	0.714	0.656	0.702	0.742				
EM	0.537	0.541	0.558	0.541	0.695			
EA	0.655	0.509	0.618	0.696	0.487	0.747		
O	0.715	0.638	0.728	0.726	0.523	0.702	0.596	
WS	0.370	0.564	0.628	0.651	0.492	0.592	0.512	0.519

Model Fit

Table 8: Factors revealing model fit

CMIN/DF	GFI	AGFI	CFI	RMSEA
2.347	.878	.818	.966	.082

For model fit, we are reporting several factors like CMIN/DF, GFI, AGFI, CFI and RMSEA.

CMIN/DF is a minimum discrepancy divided by its degree of freedom. Kline (2004) has suggested that a model exhibits reasonable fit if the statistics adjusted by its degrees of freedom does not exceed 3.0 and it came out to be 2.347 (Table 8) thus, our model has a reasonable fit as per Kline, 2004. Goodness of fit (GFI) should be less than or equal to one and it came out to be as .878 (Table 8) (Joreskog and Sorbom, 1984) which indicates a good model fit. AGFI (Adjusted Goodness of Fit Index) came out to be .818 (Table 8) which also indicates a perfect fit. CFI (Comparative Fit Index) came out to be .966 (Table 8), which is close to one and thus, it also indicates a very good fit (Bentler, 1990). RMSEA (Root Mean Square Error of Approximation) of about 0.05 indicates a close fit of the model and it is coming out to be .082 (Table 7) (Cudeck and Browne, 1983 and Steiger, 2000).

Conclusion

The present study had two objectives. First, to develop a scale which measures emotional intelligence among employees working in IT and Banking sector and second, to check the structural model illustrating the relation among various constructs measuring emotional intelligence. The constructs were interpersonal relations, stress management, conflict management, empathy, optimism, workplace spirituality, emotion management, emotion awareness and emotion expression. The EFA figures show that assessment of situation has no influence on emotional intelligence, thus rejecting the alternate hypothesis of H9. The results of the study revealed that the interrelatedness of rest of the constructs was found to be greater than the permissible limit of 0.6 (Malhotra & Birks, 2008). The scale was validated by measuring Average Variance Extracted (AVE), Maximum Shared Value (MSV) and Average Shared Value (ASV). The findings reported that AVE was greater than 0.5 and MSV and ASV were less than AVE. The factor analysis result discovered that interpersonal relations is the most important construct which measures emotional intelligence among employees. It signifies that higher the interpersonal relations, higher will be the emotional intelligence among employees. The result also revealed that a person who can manage stress at workplace can also be an emotionally intelligent and a person who understands the feelings of others also makes them emotionally intelligent. The study highlighted that emotional awareness & emotional expression and emotion management also play significant role in measuring emotional intelligence. It was also found that a person with high workplace spirituality i.e. a person with high level of integrity, devotion, sincerity and ethics, is also highly emotional intelligent, hence, supporting all the rest alternate hypotheses.

Implications

The present study contributed in the present literature and provides a valid and reliable scale for measuring emotional intelligence. It presents important parameters required by researchers as well as for the management of organizations. It will help researchers and practitioners to understand and develop behaviour strategies to create harmonious environment in the organization. This study provides guidelines for future research to concentrate on the strengths and to dismiss the weaknesses; hence, a future study is suggested to inculcate more constructs that relate to emotional intelligence.

REFERENCES

Abas, H.N., et al., (2010). Emotional intelligence and conflict management styles. *Applied Psychology*, pp. 1-73

Agbonna, Y., Yusuf, M., & Onifade, C. (2009). Sources of motivation, interpersonal conflict management styles & leadership effectiveness: A structural model. *Psychological Reports*, Vol 98 (1), pp. 3-20.

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, Vol 63, pp. 1 – 18.

Austin, Elizabeth., et.al., (2007). A preliminary study of empathy, emotional intelligence and examination performance in MBChB students. Wiley Online Library.

Bakhtiarimia, A., et.al., (2017). Analysis of the relationship between emotional intelligence and conflict management component of sports and youth sports staff in Hornozgan province. *Specialty journal of Knowledge Management*, Vol 2(4), pp. 24-33

Barbuto & Story, J (2010). Antecedents of emotional intelligence: An empirical study. *Journal of Leadership Education*, Vol 9(1), pp.144-154

Barrett, J. H., et al., (2000). Model of emotional intelligence and conflict management strategies: A study in seven countries, *The International Journal of Organizational Analysis*, Vol 10(4), pp. 302-326.

Baskara, M & Shalin (2016). Antecedents of emotional intelligence among women executives in banking industry: An empirical study in Kaniyakumari District. *Shanlax International Journal of Management*, Vol 4(2)

Campuzano, T. & Campo, M. (2017). Emotional intelligence and stress management in nursing professionals in a hospital emergency department, *Enfermeria Clinica,* Vol 27 (3), pp. 172-178.

Carson, K. D., et al., (2000). Measuring emotional intelligence: Development and validation of an instrument. *Journal of Behavioral and Applied Management,* Vol 2(1), pp. 32-44.

Ciarrochi, Joseph., et.al (2000). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences*, Vol 28(3), pp. 539-561

Darvish, H & Narsollahi, A.Ali (2011). Petroleum gas university of Ploiesti Bulletin. *Economic Sciences Series*, Vol 63 (2), pp. 38-49

Dearborn, A. E. (2002). Emotional intelligence and team performance: The good, the bad and the ugly. *International Journal of Organizational Analysis*, Vol 10(4), pp. 343-362

Demerdash, F. (2012). Emotional intelligence: Its role in managing stress and anxiety in Elementary school teachers at workplace. *International Journal of Psycho-Educational Sciences*, Vol 1 (1), pp. 22-31

DiMatteo, M. R., & Friedman, H. S. (1982). Social psychology and medicine. Cambridge, MA: Oelgeschlager.

Godse, A. S., & Thingujam, N. S. (2010). Perceived Emotional Intelligence and Conflict Resolution Styles among Information Technology Professionals- Testing the Mediating Role of Personality. *Singapore Management Review*, Vol 32(1), pp. 69-83.

Goodness' & Thank God. (2004).Dimensions of emotional intelligence as predictor of job involvement among teachers. *International Journal of Development and Emerging Economics*. Vol 2, (1), pp. 8-18.

Gohm, C. L., et al., (2005). Emotional intelligence under stress: Useful, unnecessary, or irrelevant? *Personality and Individual Differences*, Vol 39(6), pp. 1017-1028.

Goleman, D. (1998b). What makes a leader? *Harvard Business Review*, November-December.

Gujral & Harminder, K. (2013).Emotional Intelligence buffers stress: A study on emotional intelligence and coping styles. *International Journal of Multidisciplinary Management Studies*, Vol.3 (11), pp. 76-82.

Hartmann, E. (1991). Boundaries in the mind: A new psychology of personality. New York: Harper Collins.

Helena, S. D & D, Yagil (2005). The Role of Emotions in Conflict Management: The Case of Work Teams. *International Journal of Conflict Management*, Vol. 16 (1), pp. 55-69,

Hsi An Shih & Ely Susanto. (2010).Conflict management styles, emotional intelligence, and job performance in public organizations. *International Journal of Conflict Management*, Vol. 21(2), pp. 147-168

Jordan, P.J. & Troth, A.C. (2004). Managing emotions during team problem solving: emotional intelligence and conflict resolution. *Human Performance*, Vol. 17 (2), pp. 195 218

Kaelber, K. & Schwartz, R. (2014). Empathy and Emotional Intelligence among eastern and western counselor trainees: A preliminary study. *International Journal for the Advancement of Counseling*. Vol 36(3), pp. 274-286.

Kappagoda. (2013).The relationship between emotional intelligence and five factor model of personality of English teachers in Srilanka. *International Journal of Business, Economics and Law*, Vol 2(1), pp. 1-12

M.A, Uphill. & H, Mills. (2011).Emotional Intelligence: association with emotions, Emotional regulation and rowing performance. *British Journal of Sports Medicine*, Vol 45(15)

Manikandan & Gopalakrishana. (2017).Conflict management style among hospital nurses in relation to their burnout and emotional intelligence. *The International Journal of Indian Psychology*, Vol 4(4)

Maritza Espinoza-Venegas., et.al. (2015). A validation of the construct and reliability of an emotional intelligence scale applied to nursing students. Rev. *Latino-Am. Enfermagem*, Vol 23(1), pp. 139-47

Mayer, L. W., et al., (2007). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, Vol 59(5), pp. 603-609.

Mayuran Logendran (2013). Impact of emotional intelligence on stress management: Study of schools with banks in Jaffna district. *Global Journal of Commerce and Management Perspective*, Vol 2(6), pp. 67-71.

Montes-Berges, B., & Augusto, J.M. (2007). Exploring the relationship between Perceived Emotional Intelligence, Coping, Social Support and Mental Health in Nursing Students. *Journal of Psychiatric and Mental Health Nursing*, Vol 14(2), pp. 163-171

Nikic., et.al (2017). Emotional competencies and personality traits of managers in modern agro business. *Economics of Agriculture*, Vol 64(1), pp. 97-111.

Oloyede, M. S. (2009). Health, performance and emotional intelligence: An exploratory study of retail managers. *Stress and Health*, Vol 18(2), pp. 63-68.

Olukayode, Ayooluwa A. (2017). Indigenous emotional intelligence scale: development and validation. *Psychological Thought*, Vol. 10 (1), pp. 138–154

Onyeizugbe., et al., (2016). Emotional intelligence and conflict management in selected universities in south east zone of Nigeria. *Greener Journal of Business and Management*, Vol 6(3), pp. 077-093

Pandey.S., et al., (2015). Study on effect of emotional intelligence on conflict resolution style. *Indian Journal of Science and Technology*, Vol 8(S6), pp. 71–81

Pradhan, R. K. & J. Kesari. (2016).Workplace spirituality and organizational commitment: Role of emotional intelligence among Indian banking professionals. *Journal of Human Resource Management*, Vol 19 (1), pp.13-23

Priyanka, Y. & B. Punia. (2016). Emotionality does but spirituality does not- The effect of emotional and spirituality intelligence on organizational citizenship behaviour. *Asia Pacific Journal of Management Research and Innovation*, Vol 12 (1), pp. 46-55

Pena S., et.al (2015). Integrating emotional regulation and emotional intelligence traditions: a meta-analysis. *Frontier in Psychology*, Review Article.

Ramesar, S., Koortzen, P., & Oosthuizen, R.M. (2009). The relationship between emotional intelligence and stress management. *SA Journal of Industrial Psychology*, Vol 35(1), pp. 39-48

Renu, S. (2016). Emotional intelligence and spirituality: A review. *The International Journal of Indian Psychology*. Vol 4(1)

Robini, A., et.al., (2014). Relationship between emotional intelligence and emotional regulation of EFL learners. *International Journal of Sciences. Basic and Applied Research*, Vol 3 (7), pp. 376-380.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General & Applied,* Vol 80, pp. 1-28.

Sadri, A. & Janani, H. (2015). Relationship of emotional intelligence and self-regulation of male elite swimmers. *Annals of Applied Sports Science*, Vol 3 (4), pp. 9-18.

Sayeda, M. & Fatma, N. (2017). Emotional intelligence and job stress among Academic members at faculty of nursing - Cairo University. *IOSR Journal of Nursing and Health Science*, Vol 6 (1), Ver. 4, pp. 10-19.

Spencer, L.M. Jr and Spencer, S.M. (1993). Competence at work: models for superior performance, Wiley, New York, NY.

Su, Juan Z. et al., (2015). Emotional intelligence, conflict management styles, and innovation performance- An empirical study of Chinese employees. *International Journal of Conflict Management*, Vol. 26 (4), pp. 450-478.

Takšiæ, V., Mohariæ, T., Munjas, R. (2006). Emocionalna inteligencija: teorija operacionalizacija, primjena i povezanost s pozitivnom psihologijom, Filozofski fakultet, Rijeka, *Croatia*, Vol 64 (1), pp. 97-111

Wong, C., & Law, K. S. (2002). The effect of leader and follower emotional intelligence on performance and attitude: An exploratory study. *Leadership Quarterly*, Vol 23, pp. 243 – 274.

Zuckerman, M. (2002). Zuckerman-Kuhlman Personality Questionnaire (ZKPQ): An alternative five factorial model. B. DeRaad, and M. Peru-sini (Eds.). Big Five Assessment, pp. 377 - 396, Hogrefe and Huber Publishers, Seattle, USA.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

Evaluation of Stock Selection and Market Timing Ability of Mutual Fund Managers in India

SAURABH PANDEY

Abstract: Investors prefer to invest in the mutual funds with an expectation to get more return at less risk, for this fund managers may augment the returns through their stock selection and market timing skills. However, in the market there are different fund managers for different schemes and it is very difficult for common individual investors to choose the best fund managers among them. In this context, Treynor and Mazuy (1966) TM model and Henriksson & Merton (1981) HM model was extensively used in the earlier academic literature. However, this study adopts both the models to evaluate and compare (public and private) the performance of stock selection and market timing ability of fund manager with a sample (from CRISIL, March 2018 report) size of 44 mutual fund schemes with daily data from 1st April 2013 – 31st March 2018. The result of the study based on TM and HM model showed that majority of the private sector fund managers are efficient in stock selection but that private sector fund managers are efficient in good forecasting skill and have aggressive behavior in terms of stock selection and market timing ability than public sector fund managers. It is also found that no fund manager is equally efficient in both the activities.

Keywords: Mutual fund schemes, TM model & HM model, Timing & Selection Ability, Daily Data.

Introduction

The financial market plays a crucial role in the economic development of a country by facilitating the allocation of scarce resources and transferring the surplus savings from saver to borrowers. It directs resources from the idle to the productive sectors, thus accelerating investment activities in the economy. During the 19th century, a revolution in investment took place through the banking system as it provided many investment options like Fixed deposits (FDs), government bonds, Public Provident Fund (PPF) to investors. With the development of the capital market, investment in stocks became a good option for generating higher returns. However, greater risk and lack of knowledge about the movement of stock prices were also associated with them. Therefore, mutual funds emerged as an ultra-modern method of investment to lessen the risk at low cost with experts' knowledge.

Mutual fund is essentially a mechanism of pooling the savings of investors and invest the collected fund in various types of securities as per defined objectives. Mutual funds (MFs) have witnessed explosive growth during the last two decades in the Indian financial

Saurabh Pandey is Research Scholar, Faculty of Commerce, Banaras Hindu University, Varanasi

markets. As on 31st March 2018, there are 44 MFC with 1941 schemes and net AUM is recorded as Rs.22,859 billion with a wide variety of investment avenues open-ended and close-ended in them equity, hybrid, & debt, Exchange-Traded Funds (ETFs) & Fund of Funds (FoFs) etc. that caters to the investors' needs, risk tolerance and return expectations. The mushrooming growth of MFI increase the investment avenues which puzzled the investors to know which sector, which category & which scheme perform best for the investment of their savings.

Mutual funds schemes attract investment from investors to beat not only the conventional financial product like provident fund, post office, bank savings, which they in fact do, but also the market. This made possible by the fund managers who have the ability to predict the market movement in advance and accumulate the information about the impeding market movements. This enables the fund manager to move their investment in such a way to reduce the systematic risk, which is known as market timing ability. The efficient fund manager increases the portfolio weightage on high beta equity securities before to a rise in the market, and switches over from the high beta equity securities to low beta equities when the capital market fells down. In other words, the fund managers can shift stock composition as per price movement in the stock market. Technically, market timing implies altering the beta of the portfolio return by balancing the portfolio mix of the scheme. This also implies that the differential return is generated not only by correct stock picking which is done at the individual stock level, but also by involving in market timing activities. This would suggest that the fund managers are capable of perfectly assessing the direction of change of market in the near future. Hence, by correctly timing the market, the fund manager could produce superior returns.

Review of Literature

There are abundant studies related to the fund managers' stock selection and market timing ability with the help of Treynor and Mazuy (1966) & Henriksson and Merton's (1981).

Grinblatt & Titman (1989) found that abnormal performance of the funds based on gross returns was inversely related to the size but transaction cost was inversely related Sawicki and Ong (2000) use both unconditional and conditional Jensen's measures, as well as Treynor and Mazuy's market timing model to examine the performance of MFs and found weak evidence of positive performance and negative market timing performance. However, they claim that the conditional model looks better by incorporating lagged information variables in the model. Cuthbertson et al. (2010) examined market timing and security selection of German Equity Mutual Fund by using the false discovery rate (FDR) and Fama-French three-factor (3F) model. The study founds less than 1% of funds exhibited positive alpha performance and 27% showed negative alpha performance and majority mutual fund schemes displayed zero-alpha performance. Leite and Cortez (2009), Kour et al. (2011), Gudimetla (2015), Tan (2015) and Blake et al. (2015) also found no evidence of selective ability and market timing ability. In India, Bhuvaneswari and Selvam (2010) found fifty percent of the fund managers failed to time the market. Prasad, & Srinivas (2012) indicated that fund managers are successful in timing the market by repining returns more than the market. Muruganandan (2013), Padmasani. (2013), Dhar,

& Mandal (2014), Choudhary and Chawla (2015) found that the fund managers have failed to time the market and registered negative selection ability. Kumar (2016) assessed the performance of 51 mutual fund schemes and found that Indian fund managers are having strong stock picking ability but unable to time the market. The study concludes that fund returns are sensitive to market actions. Pandow (2016) found the majority of fund managers have shown superior timing performance. Tripathy, (2017) founds that the performance persistence of MFs is not evident in the market. If funds own past performance is compared, about 36% of the funds displaying this trait. Some studies like Bollen & Busse (2001), Jiang, Yao, and Yu (2007), Huang & Wang (2010) and Cao, Chen, Liang, & Lo (2011) are the exception to the literature in the evaluation of the performance of fund managers who found significant market timing ability

Though plenty of research has been examined the timing and selection ability of the fund managers in India, no previous research has examined the efficiency of fund manager sector and category wise mutual fund schemes , along with this very few studies has examined the performance the viability of the TM & HM model on daily return. Hence, this paper seeks to address this gap by examining the timing and selection ability of Indian mutual fund managers.

Objective

To make comparative analysis of Mutual fund managers' stock selection and market timing ability for private and public sector.

Hypothesis

H_0: There is no significant difference between Mutual fund managers' stock selection and market timing ability of private and public sector

H_1: Mutual fund managers' stock selection and market timing ability for private sector is better than for public sector.

Research Methodology

Analytical design

To evaluate the fund managers' ability, TM & HM models have been used. Since the data is time series, we started the analysis with test of stationarity-ADF. Generally variables of financial market are highly volatile. ARCH/GARCH model is appropriate in this context. To test the appropriateness of method of estimation we test for ARCH effect. This study applies ARCH/GARCH model to analyse the data.

Description of Data & Variables

Data: In the study the fund manager efficiency are evaluated in terms of stock selectivity and market timing ability on the basis of Treynor and Mazuy model and Henriksson and Merton Model only for equity categories of schemes on daily return basis for the period of 1st April 2013 to 31st March 2018 and make comparison between public and private sector fund manager efficiency. Following categories of equity schemes and number of schemes are taken for study: Large Cap Fund (4), Large & Mid Cap Fund (6),

Multi Cap Fund (8), Mid Cap Fund (4), Small Cap Fund (2), Value/Contra Fund (4), Focused Fund (2), Thematic Infrastructure Fund (4), ELSS Fund (6), and ETF (6) and in each category both private and public sector has equal number of schemes.

Variables Description

Table 1: Variables description

Sl.	Variables	Definition	Calculated from	Source & Year
1.	R_p	Return of portfolio	Return is calculated by using formula:(Closing value- Opening Value/ Opening Value)*100	Daily NAV of selected schemes is drawn from CRISIL database from 1st April 2013-31st March 2018. And then 91 days Treasury bill weekly return is taken from RBI website from 1st April 2013 to 31st March 2018. After that convert weekly data into daily by taking the average of week and divide by 365.
2.	R_f	Risk Free return	––-	
3.	Rm	Return of market		
4.	R_p-R_f	Excess return of portfolio	And then return is calculated by using formula:(Closing value-Opening Value/Opening Value)*100	Daily closing value of Nfty 500 is taken from NSE India website for the period of 1st April 2013 – 31st March 2018.
5.	R_m-R_f	Excess return of market		
6	$(R_m-R_{Rf})^2$	Quadratic term of excess return of market	Difference between portfolio and risk free return	––-
7.	D	dummy variable	Difference between market and risk free return	––- ––-
			Quadratic term of excess return of market	––-
			––	

Models

Treynor and Mazuy (1966)

Treynor and Mazuy were the first to tackle the problem of managers who time the market or alter their beta with market conditions. The Treynor-Mazuy model is essentially a quadratic extension of the basic CAPM. It is estimated using a multiple regression. The second term in the regression is the value of excess return squared. If the gamma coefficient in the regression is positive, then the estimated equation describes a convex upward-sloping regression line. In order to detect the market timing abilities of fund manager TM model have suggested one should add a quadratic term (squared term) to the excess return version of the linear relationship model as below.

The quadratic regression is

$$Rp - Rf = \alpha + \beta(Rm - Rf) + \gamma\,(Rm - Rf)^2 + \varepsilon pt$$

Where α, β, γ are the parameters of the model and β is the constant term and β & γ are the slope coefficient.

TM has argued that a market forecaster will hold a greater proportion of the market portfolio when the return on the market is high and vice versa. Thus, a statistically significant positive.

If á is positive and significant indicates strong potential of fund manager in selection of security in portfolio, and negative significant indicates lack of selection of security, as in the security line model. â indicates the systematic risk involved in the portfolio. Positive value of ã would imply that the mutual fund manager possesses market timing skills, whereas a negative value is interpreted as a lack of ability of fund managers to trap the timing of market correctly.

Henriksson and Merton Model

Henriksson and Merton (1981) develop another similar but simpler model that also allows market timing and selectivity of fund manager to be evaluated simultaneously. In their model, the portfolio beta is assumed to adjustment between two betas. This model tells us whether the stock market will provide a greater return than risk-free return. However Henriksson and Merton model follow more qualitative approach. If return of market is greater than risk free rate (*Rm* > *Rf*), it indicates up market and market return less than risk-free rate (*Rm* < *Rf*) displays down market. As per this model, the successful market timers are assumed to be less sophisticated and their task is, to some extent, limited in comparison to how it is seen using, say, the TM model. Therefore, a fund manager who is a successful market timer, as per this model, is required to select a high up-market beta and a low down-market beta. Such a relationship is represented mathematically using a regression equation involving a dummy variable as follows:

Original form of HM model

$$Rp - Rf = \alpha + \beta\ (Rm - Rf\ ) + \gamma\ [D(Rm - Rf\ )] + \varepsilon \quad ---(1)$$

Where *Rp* = return of the portfolio, *Rf* = risk-free rate, *Rm* = market return, á indicates fund managers selection ability, β is systematic risk. Parameter γ indicates the difference between the two betas and measures a fund managers' market timing ability Significant Positive/negative value of γ indicate good/poor market timing skill of the fund managers, ε = error term, where *D* is a dummy variable that equals 1 for *Rm* > *Rf* and 0 otherwise. A successful market timer's mutual fund should exhibit positive values of α and γ.

Estimable (derived) form of HM model

$$R_p\text{-}R_f = \alpha + \beta_{up} X_1 + \beta_{down} X_2 + \varepsilon_t \quad ---------- (2)$$

$$\beta_{up} = \beta + \gamma\ ;\ \beta_{down} = \beta$$

Test of Stationarity: Augmented Dickey Fuller (ADF)

All the variables- Rp, Rf and Rm are stationary at level.

Test of Volatility: ARCH Test

To test the volatile nature of data and to ensure the presence or absence of ARCH effect, the following procedure has been followed: Ordinary Least Square (OLS) estimation model has been applied followed by ARCH model. The test ensures presence of autoregressive conditional heteroscedasticity (ARCH) in the model.

Method of Estimation (ARCH/GARCH)

GARCH (1,1) method has been applied to estimate the model.

$yt = \alpha + \beta^*xt + \varepsilon t$

$\sigma^2 t = \gamma_0 + \gamma_1^*\varepsilon^2_{t-1} + \delta_1^*\sigma^2_{t-1}$

where γi are the ARCH parameters; δi are the GARCH parameters

Result and Discussion

The result of Treynor and Mazuy model and Henriksson and Merton model of selectivity and market timing of fund manager of the sample of 44 mutual funds schemes comprising from different categories of equity and from different sector are as follows:

Result of Treynor and Mazuy Model

When the efficiency of the fund manager is examined through TM model, out of 44 selected sample mutual fund schemes the alpha (á) p-value portrays that 20 schemes are positively significant, 6 schemes are negatively significant and remaining18 schemes shows insignificant relationship at 5% significance level (Table 2 & 3). The positive significant value indicates that the fund managers of 20 schemes (45%), in which 13 schemes (29%) pertains to private and 7 schemes (15%) relates to the public sector are efficient in stock selection. On the other hand, 6 schemes (13%) which are negative significant consist 3 schemes from each sector (6.5%), defines these schemes fund manager have stock selection ability but in the wrong direction. Whereas 18 schemes (40%) which are found insignificant consist 6 schemes (13%) from private and 12 schemes (27%) belongs to the public sector, states that following schemes fund managers do not exhibit the stock selection ability. To examine the market timing ability the gamma (ã) coefficient 9 schemes are positively significant, 22 schemes are negatively significant and rest 13 schemes are insignificant. The 9 schemes (20%) which are positive significant consist 5 schemes (11%) of private and 4 schemes (9%) of public and shows following schemes fund manager have market timing ability. On the other hand, 22 schemes (50%) are negatively insignificant, and their fund managers are efficient in market timing but moving in the wrong direction. Along with this, the 13 schemes (30%) are insignificant which comprises 6 schemes (14%) of private and 7 schemes (16%) of the public sector and their fund managers do not exhibit the market timing ability.

The beta (β) value indicates the market (systematic) risk and all selected funds are positively significant and most of the selected funds are less volatile but 6 funds are quite volatile among them 4 private and 2 public funds. This ensures that mutual fund is less risky investment avenue than other investment option.

Table: 2 Treynor and Mazuy Model

Category	Sector	Scheme Name	Alpha	P value	Beta	P value	Gama	P value
Large Cap Fund	Private	ICICI Prudential Bluechip Fund	-0.00228	0.725	0.937931	0.000*	0.008892	0.000*
		Axis Bluechip Fund - Growth	0.003995	0.576	0.922022	0.000*	-0.00127	0.591
	Public	SBI Blue Chip Fund	0.010689	0.094	0.888766	0.000*	0.001837	0.525
		UTI Mastershare Unit Scheme	-0.00031	0.956	0.906401	0.000*	0.005165	0.001*
Large & Mid Cap	Private	DSP Equity Opportunities Fund	0.0216	0.017*	0.9981	0.000*	-0.00266	0.458
		Aditya Birla Sun Life Equity Advantage Fund	0.038694	0.000*	1.015056	0.000*	-0.01154	0.01*
		Franklin India Equity Advantage Fund	0.003569	0.637	0.861165	0.000*	0.005956	0.038*
	Public	Canara Robeco Emerging Equities	0.093852	0.000*	0.90347	0.000*	-0.04869	0.000*
		SBI Large & Midcap Fund	0.035903	0.000*	0.937461	0.000*	-0.01921	0.000*
		UTI Core Equity Fund	0.005941	0.394	0.90907	0.000*	0.00029	0.933
Multi Cap Fund	Private	Principal Multi Cap Growth Fund	0.03461	0.000*	1.06921	0.000*	-0.02178	0.000*
		Aditya Birla Sun Life Equity Fund	0.026526	0.001*	0.961937	0.000*	-0.005	0.245
		HSBC Multi Cap Equity Fund	0.015554	0.093	1.00952	0.000*	-0.0003	0.938
		Reliance Multicap Fund	0.019139	0.114	0.910051	0.000*	-0.01431	0.007*
	Public	SBI Magnum MultiCap Fund	0.034902	0.000*	0.929171	0.000*	-0.01574	0.000*
		Canara Robeco Equity Diversified	0.01311	0.103	0.98567	0.000*	-0.01755	0.000*
		UTI Equity Fund	0.01138	0.09	0.909606	0.000*	-0.00143	0.657
		BARODA PIONEER Multi Cap Fund	-0.00698	0.364	0.989025	0.000*	0.005522	0.084
Mid Cap Fund	Private	Franklin India Prima Fund	0.052441	0.000*	0.824469	0.000*	-0.02077	0.000*
		Reliance Growth Fund	0.038583	0.002	0.986708	0.000*	-0.02536	0.000*
	Public	UTI Mid Cap Fund	0.074183	0.000*	0.927572	0.000*	-0.04917	0.000*
		SBI Magnum Midcap Fund	0.072415	0.000*	0.778709	0.000*	-0.04815	0.000*
Small Cap Fund	Private	Aditya Birla Sun Life Small cap Fund	0.095188	0.000*	0.878574	0.000*	-0.04854	0.000*
	Public	SBI Small Cap Fund	0.076845	0.000*	0.874897	0.000*	-0.02705	0.000*

Contd...

Value/Contra Fund	Private	Tata Equity PE Fund	0.048718	0.000*	0.960325	0.000*	-0.0256	0.000*
		Aditya Birla Sun Life Pure Value Fund	0.07003	0.000*	0.973131	0.000*	-0.04139	0.000*
	Public	SBI Contra Fund	0.014211	0.097	0.867114	0.000*	-0.01068	0.000*
		UTI Value Opportunities Fund	-0.00584	0.368	0.931295	0.000*	0.001883	0.395
Focused Fund	Private	DSP Focus Fund	0.00149	0.894	0.971476	0.000*	0.005351	0.323
	Public	SBI Focused Equity Fund	0.060769	0.000*	0.663081	0.000*	-0.04116	0.000*
Thematic Infrastructure Fund	Private	Reliance Power & Infra Fund	0.045967	0.01*	1.073393	0.000*	-0.05415	0.000*
		ICICI Prudential Infrastructure Fund	-0.01176	0.402	1.032449	0.000*	-0.00476	0.476
	Public	SBI Infrastructure Fund	-0.00525	0.744	1.033968	0.000*	-0.0055	0.325
		UTI Infrastructure Fund	-0.01089	0.437	1.156712	0.000*	0.001747	0.822
ELSS	Private	IDFC Tax Advantage (ELSS) Fund	0.040568	0.000*	0.899361	0.000*	-0.01894	0.000*
		L&T Tax Advantage Fund	0.021962	0.006*	0.93371	0.000*	-0.00671	0.114
		Sundaram Diversified Equity	0.019413	0.019*	0.97995	0.000*	-0.00897	0.002*
	Public	Canara Robeco Equity Tax Saver	0.013209	0.095	0.944552	0.000*	-0.01481	0.000
		UTI Long Term Equity Fund	0.010886	0.075	0.916626	0.000*	-0.00505	0.033*
		SBI Magnum Tax Gain Scheme	0.00732	0.332	0.93683	0.000*	-0.0026	0.477
Exchange Traded Fund	Private	Kotak Nifty ETF	-0.02989	0.000*	0.994687	0.000*	0.021101	0.000*
		Franklin India Index Fund	-0.03337	0.000*	0.985322	0.000*	0.020653	0.000*
		Reliance Index Fund	-0.03392	0.000*	0.99054	0.000*	0.020654	0.000*
	Public	SBI Nifty Index Fund	-0.03388	0.000*	0.990986	0.000*	0.0203	0.000*
		UTI Nifty Index Fund	-0.03082	0.000*	0.986369	0.000*	0.020435	0.000*
		SBI - ETF	-0.02502	0.001*	0.955329	0.000*	0.020062	0.000*

Source: calculated from secondary data

Note: *Indicates 5% level of significance

Table 3: Summary of TM Model

Sector	Total Number of Schemes	Alpha			Beta			Gamma		
		Significant		Insignificant	Significant		Insignificant	Significant		Insignificant
		+tive	–tive		+tive	–tive		+tive	–tive	
Private	22	13	3	6	23	0	0	5	11	6
Public	22	7	3	12	23	0	0	4	11	7
Total	44	20	6	18	46	0	0	9	22	13

Therefore, it is apparent by Alpha (α) & Gamma (β) result of TM model that private sector sample schemes fund managers are more efficient in stock selection and market timing ability it indicates private sector fund managers have good forecasting skill and a presence of aggressive behavior.

Result of Henriksson and Merton Model

Another similar model is used to evaluate fund manager efficiency in terms of stock selection and market timing ability is Henriksson and Merton (1981) model.

When the competence of fund managers of sample schemes analyzed in terms of selection and market timing through the HM model, it was found that the majority of sample schemes fund managers have stock selection ability (α), i.e., 24 schemes are positively significant, and with that 9 schemes are negative significant and 11 schemes are insignificant (Table 4 & 5). The positive significant á value of 24 schemes (55%) comprises 14 schemes (32%), from private &10 schemes (23%) from public sector indicates following fund managers have stock selection ability. On the other hand, 9 schemes (20%) which are negative significant comprises 4 schemes (9%) pertain to private & 5 schemes (11%) relates to the public sector, signifies these schemes fund managers are efficient in stock selection but assign portfolio in the wrong direction of the market. And the11 schemes (25%) which are insignificant comprises 4 schemes (9%) from private & 7 schemes (15%) relates to the public sector, and it signifies that these schemes fund manager does not exhibit stock selection ability. However to analyze the market timing ability of fund manager through gamma (ã) coefficient it was found that 15 schemes are positive significant, 29 schemes negative significant and none of the schemes is insignificant. The 15 schemes (34%) which are positive significant comprises 7 schemes (16%) pertains to the private sector, and 8 schemes (18%) relates to public sector, exhibit that these schemes fund manager has good forecasting ability and efficient in market timing ability. On the other hand majority of the schemes i.e.29 (65%) are negative significant, in which 15 schemes (34%) relates to the private sector, and 14 schemes (31%) belong to public sector which implies that following schemes fund manager are efficient in market timing ability but assessing market trend in the wrong direction.

Beta values indicate volatility of scheme and express the market (systematic) risk. Through the beta value it was found that majority of the schemes are less volatile but some schemes are quite volatile in them 10 schemes from private and 5 schemes pertains to public sector. Along with this all selected funds are positively significant as per α p-value.

Table 4: Henriksson & Merton Model

Category	Sector	Scheme Name	Alpha	P value	Down (Beta)	P value	Up	Gama (up-Down)	P value
Large Cap Fund	Private	ICICI Prudential Bluechip Fund	-0.0215	0.015*	0.8966	0.000*	0.9766	0.0800	0.000*
		Axis Bluechip Fund - Growth	-0.0103	0.274	0.9052	0.000*	0.9439	0.0387	0.000*
	Public	SBI Blue Chip Fund	0.0092	0.274	0.8836	0.000*	0.8928	0.0091	0.000*
		UTI Mastershare Unit Scheme	-0.0182	0.015*	0.8726	0.000*	0.9398	0.0672	0.000*
Large & Mid Cap	Private	DSP Equity Opportunities Fund	0.0263	0.025	1.0086	0.000*	0.9881	-0.0205	0.000*
		Aditya Birla Sun Life Equity Advantage Fund	0.0413	0.003*	1.0368	0.000*	0.9999	-0.0369	0.000*
		Franklin India Equity Advantage Fund	-0.0107	0.308	0.8315	0.000*	0.8900	0.0585	0.000*
	Public	Canara Robeco Emerging Equities	0.1561	0.000*	1.0703	0.000*	0.7572	-0.3131	0.000*
		SBI Large & Midcap Fund	0.0567	0.000*	0.9977	0.000*	0.8875	-0.1102	0.000*
		UTI Core Equity Fund	-0.0014	0.88	0.8988	0.000*	0.9212	0.0224	0.000*
Multi Cap Fund	Private	Principal Multi Cap Growth Fund	0.0659	0.000*	1.1475	0.000*	0.9996	-0.1479	0.000*
		Aditya Birla Sun Life Equity Fund	0.0318	0.004	0.9776	0.000*	0.9494	-0.0282	0.000*
		HSBC Multi Cap Equity Fund	0.0202	0.092	1.0163	0.000*	1.0019	-0.0145	0.000*
		Reliance Multicap Fund	0.0322	0.034	0.9507	0.000*	0.8765	-0.0742	0.000*
	Public	SBI Magnum MultiCap Fund	0.0588	0.000	0.9874	0.000*	0.8778	-0.1096	0.000*
		Canara Robeco Equity Diversified	0.0216	0.041	1.0204	0.000*	0.9545	-0.0659	0.000*
		UTI Equity Fund	0.0029	0.744	0.9004	0.000*	0.9213	0.0209	0.000*
		BARODA PIONEER Multi Cap Fund	-0.0090	0.381	0.9771	0.000*	0.9972	0.0202	0.000*
Mid Cap Fund	Private	Franklin India Prima Fund	0.0819	0.000*	0.8997	0.000*	0.7585	-0.1412	0.000*
		Reliance Growth Fund	0.0893	0.000*	1.1014	0.000*	0.8850	-0.2163	0.000*
	Public	UTI Mid Cap Fund	0.1405	0.000*	1.1021	0.000*	0.7793	-0.3228	0.000*
		SBI Magnum Midcap Fund	0.1426	0.000*	0.9578	0.000*	0.6240	-0.3338	0.000*

Contd...

Small Cap Fund	Private	Aditya Birla Sun Life Small cap Fund	0.1631	0.000*	1.0530	0.000*	0.7291	-0.3238	0.000*
	Public	SBI Small Cap Fund	0.1359	0.000*	0.9890	0.000*	0.7573	-0.2318	0.000*
Value/Contra Fund	Private	Tata Equity PE Fund	0.0802	0.000*	1.0453	0.000*	0.8867	-0.1586	0.000*
		Aditya Birla Sun Life Pure Value Fund	0.1389	0.000*	1.1386	0.000*	0.8298	-0.3089	0.000*
	Public	SBI Contra Fund	0.0333	0.005*	0.9105	0.000*	0.8277	-0.0827	0.000*
		UTI Value Opportunities Fund	-0.0219	0.016*	0.9063	0.000*	0.9589	0.0526	0.000*
Focused Fund	Private	DSP Focus Fund	-0.0091	0.546	0.9485	0.000*	0.9940	0.0455	0.000*
	Public	SBI Focused Equity Fund	0.1190	0.000*	0.8110	0.000*	0.5355	-0.2755	0.000*
Thematic Infrastr-ucture Fund	Private	Reliance Power & Infra Fund	0.1106	0.000*	1.2479	0.000*	0.9179	-0.3300	0.000*
		ICICI Prudential Infrastructure Fund	-0.0036	0.848	1.0511	0.000*	1.0150	-0.0361	0.000*
	Public	SBI Infrastructure Fund	0.0253	0.249	1.0832	0.000*	0.9785	-0.1048	0.000*
		UTI Infrastructure Fund	-0.0056	0.768	1.1607	0.000*	1.1489	-0.0118	0.000*
ELSS	Private	IDFC Tax Advantage (ELSS) Fund	0.0712	0.000*	0.9735	0.000*	0.8326	-0.1409	0.000*
		L&T Tax Advantage Fund	0.0213	0.04*	0.9442	0.000*	0.9290	-0.0152	0.000*
		Sundaram Diversified Equity	0.0285	0.008*	1.0076	0.000*	0.9572	-0.0504	0.000*
	Public	Canara Robeco Equity Tax Saver	0.0250	0.013*	0.9853	0.000*	0.9130	-0.0723	0.000*
		UTI Long Term Equity Fund	0.0117	0.144	0.9267	0.000*	0.9110	-0.0158	0.000*
		SBI Magnum Tax Gain Scheme	0.0076	0.439	0.9416	0.000*	0.9340	-0.0076	0.000*
Exchange Traded Fund	Private	Kotak Nifty ETF	-0.0595	0.000*	0.9190	0.000*	1.0613	0.1423	0.000*
		Franklin India Index Fund	-0.0626	0.000*	0.9109	0.000*	1.0506	0.1397	0.000*
		Reliance Index Fund	-0.0622	0.000*	0.9173	0.000*	1.0545	0.1372	0.000*
	Public	SBI Nifty Index Fund	-0.0627	0.000*	0.9176	0.000*	1.0556	0.1380	0.000*
		UTI Nifty Index Fund	-0.0598	0.000*	0.9128	0.000*	1.0512	0.1383	0.000*
		SBI - ETF	-0.0582	0.000*	0.8766	0.000*	1.0260	0.1494	0.000*

Source: calculated from secondary data
Note: *Indicates 5% level of significance

Table 5: Summary of HM Model

Sector	Total Number of Schemes	Alpha			Beta			Gamma		
		Significant		Insignificant	Significant		Insignificant	Significant		Insignificant
		+tive	–tive		+tive	–tive		+tive	–tive	
Private	22	14	4	4	22	0	0	7	15	0
Public	22	10	5	7	22	0	0	8	14	0
Total	44	24	9	11	44	0	0	15	29	0

Therefore, it is apparent from the above table and paraphrase through Alpha (α) and Gamma (β) result of HM model it can be evident to say that among the selected mutual fund schemes of equity categories, the private sector schemes fund manager are more efficient in assigning the portfolio of stock. However in assessing the market timing the public sector schemes fund manager is slightly efficient than private sector fund managers.

Category wise Evaluation

1. **Large Cap Fund:** Under the large cap fund category the schemes which are selected as per the TM model no fund manager have stock selection ability in term of á but 2 schemes fund managers are ICICI Bluechip fund & UTI Mastershare unit scheme have market timing ability in term of gamma. Similarly as per HM model 2 schemes á are negatively significant are ICICI Bluechip fund and UTI Mastershare Unit scheme their fund manager have stock selection ability but in wrong direction and in case of market timing ability (gamma) all selected funds are positively significant which means all selected schemes funds manager have market timing ability. Here the performance of both public and private sector schemes are at par.

2. **Large & Mid Cap Fund:** Under the large & Mid cap fund category 4 schemes are selected from each private and public sector. Strength examined of selected schemes fund managers in terms of stock selection and market timing ability as per TM & HM model á value 2 schemes of private (DSP Equity opportunity & Aditya Birla Advantage fund) & public (Canara Robeco Emerging equities & SBI large & Mid Cap) are statistically significant at 5% level of significance which means following schemes fund manager have stock selection ability (micro forecasting skill) and as per gamma (y) value of TM & HM model only Franklin India equity fund (private) have market timing ability (macro forecasting skill). Here stock selection and market timing ability of fund manager at par in both TM & HM model and it was also found that private sector fund manager is efficient in market timing ability at macro level.

3. **Multi Cap Fund:** Under the multi cap fund again 3 schemes are selected from each public and private sector. Through the TM and HM model strength of selected schemes fund manager are examined as per á value of TM model 2 schemes of private (Principal Multi Cap growth & Aditya Birla Equity Fund) & 1 scheme of

public (SBI Magnum Multi Cap fund) are statistically significant at 5% in stock selection and as per gamma (y) value of TM none of selected schemes fund manager are statistically significant in market timing ability whereas 2 schemes of private (Principal Multi cap and Reliance Multi Cap) and 2 Schemes of public (SBI Magnum Multi cap & Canara Robeco Equity Diversified) fund managers are negatively significant that means they have ability of market timing but doing in wrong direction along with this 1 scheme of private and 1 scheme of public is in insignificant i.e. they do not have market timing ability . Similarly as per HM model á value 3 schemes of private (Principal multi cap, Aditya Birla Equity & Reliance Multi cap fund) and 2 schemes of public (SBI Magnum Multi Cap & Canara Robeco Equity Diversified) are positively significant in stock selection (micro) but only UTI Equity fund (public) is positively significant (y) in market timing (macro) with this 3 schemes of private and 2 schemes of public fund managers have market timing skill but in wrong direction and none of the fund managers are insignificant in market timing.

Hence as per TM (á,y) and HM (á) private sector fund managers are more efficient in stock selection and market timing but HM (y) public sector fund managers are quite efficient in market timing.

4. **Mid Cap Fund:** Under the mid cap fund category 2 schemes are selected from each private and public sector. The strength of selected schemes fund managers are examined in terms of stock selection and market timing ability through TM and HM model and the result are same. All the selected fund in both private and public sector are positively significant as per á and negatively significant as per gamma (y). This may propound that the fund managers are inclined more towards micro forecasting or stock selection, parallel to macro forecasting or market timing.

5. **Small Cap Fund:** Under the Small Cap fund category 2 schemes are selected from public and private sector and the efficiency of selected schemes fund managers are examined through TM and HM model and performance is equivalent in both the case. It was found that both the selected schemes are positively significant as per alpha and negatively significant as per gamma @ 5 % level of significance. Therefore, it is apparent that the fund managers of selected schemes are efficient in stock selection (micro) but in market timing ability they are efficient but moving towards wrong direction.

6. **Value/Contra Fund:** Under value contra fund 2 schemes are selected from each public and private sector for examining the potential of fund managers in terms of stock selectivity (á) and market timing ability (y) through TM and HM model at 5% level of significance and it was found that the selected schemes under private sector (Tata Equity & Aditya Birla pure valued fund) are statistically significant in stock selection ability (á) but negatively significant in market timing ability (y) in both TM & HM model case.

   Similarly in public sector as per TM model both the scheme SBI contra and UTI Value Opportunity fund are insignificant in terms of stock selection ability (á) and UTI Value Opportunity fund is also insignificant in market timing (y) but SBI Contra

fund manager have market timing ability (y) but in wrong direction. The strength of public sector fund managers as per HM model SBI Contra fund is positive significant in stock selection ability (á) but have market timing ability (y), whereas UTI value opportunity fund is negatively significant in stock selection (micro) but positive in market timing (macro).

7. **Focused Fund:** Under focused category fund 2 schemes are selected from public and private sector and the efficiency of selected schemes fund managers at 5% significance level are examined through TM and HM model and performance of DSP focused fund manager, in term of stock selection ability (á) is insignificant in both TM & HM and in market timing ability (y) again it is insignificant as per TM but positive significant as per HM. On the other hand SBI focused fund managers efficiency is same in both TM & HM model they have stock selection ability in right direction but market timing ability in wrong direction.

8. **Thematic Infrastructure Fund:** Under the thematic infrastructure fund 2 schemes are selected from each private and public sector and the efficiency of selected scheme fund managers are examined through TM & HM model at 5% significance level. Under the private sector as per TM & HM model Reliance power & Infra fund manager have skill in stock selection (á) but in market timing ability (y) they have skill but move toward wrong direction and ICICI Prudential Infra fund is insignificant in stock selection as per TM & HM and in case of market timing ability it is insignificant it as per TM and negatively significant as per HM. Whereas in public sector SBI & UTI Infrastructure fund is selected and TM and HM model portrays that there fund managers do not exhibit stock selection ability (á) and move in wrong direction in assessing market timing (y).

9. **Equity Linked Saving Scheme (ELSS):** Under the ELSS category 3 schemes are selected from each public and private sector. In private sector all selected schemes fund managers have stock selection ability (á) and have market timing ability (y) but move in wrong direction as per TM & HM model however L&T tax advantage fund managers do not exhibit market timing ability. On the other hand in public sector all the selected scheme fund manager, do not exhibit stock selection ability (á) as per TM but Canara Robeco Equity tax saver scheme fund managers are efficient in stock selection as per HM, and in market timing ability (y) all selected fund are negatively significant as per TM & HM however SBI Magnum Tax gain scheme fund manager is inefficient in market timing as per TM.

10. **Exchange Traded Fund (ETF):** Under the ETF category fund 3 schemes are picked from each private and public sector and competence of selected schemes fund manager are examined through TM and HM model at 5% level of significance and it was found that performance is same in both the cases. All selected funds are negatively significant in stock selection (á) and positively significant in market timing ability (y). Therefore it is apparent the fund managers of selected schemes are efficient in market timing ability (macro) but they are efficient in stock selection (micro) and moving toward the wrong direction.

    By comparing the result of both TM & HM model it was noticed with sound evidence that as per TM private sector fund managers are efficient in assigning the portfolio

of stock (micro forecasting skill) and have market timing ability (macro forecasting skill) and as per HM private sector fund managers have stock selection ability (á) but public sector fund manage is quite efficient is assessing the market timing (ã). Through the overall perspective of all the parameter on an average, it found that equity private sector fund managers are efficient in good forecasting skill and have aggressive behavior in terms of stock selection and market timing ability than equity public sector fund manager. It is also found that no fund manager is equally efficient in both the activities (ability). It supports the arguments of N. Tripathi (2017).

Conclusion

This study evaluates performance of fund managers of 44 Indian equity mutual fund schemes in terms of stock selection and market timing ability of both public and private sector by using TM & HM model on the basis of daily NAV. Through examining all the parameters of both the models it was found that private sector fund managers are efficient in good forecasting skill and have aggressive behavior in terms of stock selection and market timing ability than public sector fund managers. It is also found that no fund manager is equally efficient in both the activities (ability). It supports the arguments of Tripathi (2017). The result also showed that the majority of the schemes fund managers do not exhibit the market timing ability as per both models.

On the basis of result of the study it can be concluded that the mutual fund managers in India are not seriously engaged in any market timing activities and relied only on stock selection skills, among them private sector fund managers are quite efficient than public sector fund managers.

The investment actions of fund managers are not directly noticeable by investors; this study will provide insights to understand the dynamics of selectivity and market timing skill of fund managers. Apart from this, the study will also provide insights to the fund management companies to formulate market timing strategies in better way to manage funds in broad market movements. Finally, it is suggested that regulation is to be passed for mutual fund industries to disclose the methods of stock selection in the offer documents for the awareness of investors. This study is not free from the limitation as it restricted only to take 44 equity schemes NAV for five years, hence the result may lead to certain level of bias. Research is continuous process that provides opportunities for future researchers, however, further research can be carried out by taking more schemes in other category (Hybrid & Debt) along with some other parameters like expense ratio, exit load etc. and researcher may apply DEA techniques, Fama- French three factor models and Carhart four factor models for the analysis.

REFERENCES

Bhuvaneswari and Selvam (2010). Market timing ability of Indian mutual fund managers under conditional models. Available at: http://ssrn.com/abstract=1910764.

Blake D., Caulfield, T., Loannidis, C. and Tonks, L. (2015). *New evidence on mutual fund performance: A comparison of alternative bootstraps methods*. Discussion paper P1-1404, Pension Institute, London.

Bollen, N.P.B. and Busse, J.A. (2004). Short-term persistence in mutual fund performance. *Review of Financial Studies*, Vol. 18, No. 2, pp.569–597.

Cao Charles, Simin T. T. & Wang Y. (2011). Do mutual fund managers time market liquidity? *Journal of Financial Market*, 16, 279-307.

Cuthbertson, K., Nitzsche, D. and O'Sullivan, N. (2010). The market timing ability of UK mutual funds. *Journal of Business, Finance and Accounting*, Vol. 37, No. 1, pp.270–289.

Dhar, J., & Mandal, K.(2014). Market timing abilities of Indian mutual fund managers: An empirical analysis. *Decision*, *41*(3), 299-311.

Grinblatt, M., Titman, S. and Wermers, R. (1995). Momentum investment strategies, portfolio performance, and herding: a study of mutual fund behavior. *American Economic Review*, Vol. 85, No. 5, pp.1088–1105.

Gudimetla, A. (2015). Timing and selectivity in Indian sector mutual funds performance. *International Journal of Research and Development – A Management Review (IJRDMR)*, Vol. 4, No. 3, pp.2319–5479.

Henriksson, R.D. and Merton, R.C. (1981). On market timing and investment performance II: statistical procedures for evaluating forecasting skills. *Journal of Business*, Vol. 54, No. 4, pp.513–534.

Huang J. Wang Y. (2010). The timing ability of government bond funds: Evidence from portfolio holdings. Working Paper, Pennsylvania State University and University at Albany-SUNY.

Jiang G. J., Yao T. & Yu T. (2007). Do mutual funds time the market? Evidence from portfolio holdings. *Journal of Financial Economics*, 86, 724-758.

Kumar, R. (2016). Conditional models in performance evaluation of mutual funds in India. *International Journal of Technical Research and Applications*, Vol. 4, No. 1, pp.94–101.

Leite, P. and Cortez, M. (2009). Conditioning information in mutual fund performance evaluation: Portuguese evidence. *European Journal of Finance*, Vol. 15, Nos. 5–6, pp.585–605.

R.Sivaram Prasad and B.Srinivas, (2012). A Study of selection of mutual fund schemes by investors with reference to Andhra Pradesh. *ZENITH International Journal of Business Economics & Management Research* Vol.2 Issue 2, PP: 112-117

Sawicki, J. and Ong, F. (2000). Evaluating managed fund performance using conditional measures: Australian evidence. *Pacific-Basin Finance Journal*, Vol. 8, No. 4, pp.505–528

Tan, Ö.F. (2015). Mutual fund performance: evidence from South Africa. *Emerging Markets Journal*, Vol. 5, No. 2, pp.49–57.

Treynor J. L. (1965). How to rate management of investment funds. *Harward Business Review,* vol. 43, no. 1, pp. 63-75, Jan-Feb.

Tripathy, N. (2017). Efficiency of mutual funds and performance measurement in India: an empirical investigation. *International Journal of Business Excellence*, *13*(2), 217-237.

Yuxing Yan (1999). Measuring the timing ability of mutual fund managers. *Annals of Operational Research,* Vol.87, pp.233-243.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

An Analysis of Compliance Level of Global Reporting Initiative in Indian Scenario

M SHIVALINGEGOWDA, ABHISHEK N AND DIVYASHREE M S

Abstract: *Business Information Reporting and Disclosure Measures taken by business house is most essential as it speaks about the Accountability and Responsibility towards its Stakeholders. Today is the scenario having greater development in the reporting and disclosures aspects of the business. Due to the dynamic environmental changes, it is not only important to report and disclose financial information but also it is vital to report and disclose non-financial information to enable the stakeholders specifically the investors to evaluate the economic, environmental, social and ethical risks which would impact on the volatility of the profits of the company. At the global context IFRS (International Financial Reporting Standards) and GRI SRs (Global Reporting Initiative Sustainability Reporting Standards) provides the base framework for reporting and disclosure of financial and non-financial information respectively. The present study is intended to analyze how cement industries of India are complying with GRI-G4 guidelines in disclosing economic and environmental information. For the purpose of data collection, the study relied on secondary sources collected through sustainability reports of the companies retrieved from their website. To analyze the information content analysis, one sample t-test and Cooke's disclosure compliance index were used and found that the selected companies are not up to the mark or not fully complying with the G4 guidelines in disclosing environmental aspects.*

Key words: GRI, BRR, Non-financial information, Integrated reporting

Introduction

Business Information Reporting and Disclosure Measures taken by business house is most essential as it speaks about the accountability and responsibility towards its stakeholders. Today is the scenario having greater development in the reporting and disclosures aspects of the business.

Due to the dynamic environmental changes, it is not only important to report and disclose financial information but also it is vital to report and disclose non-financial information to enable the stakeholders specifically the investors to evaluate the economic, environmental, social and ethical risks which impacts on the volatility of the profits of the company. At the global context IFRS (International Financial Reporting Standards)

Dr. M. Shivalingegowda is Principal, Sri K Puttaswamy College, Mysore, Abhishek N is UGC-JRF Scholar, DOS in Commerce, University of Mysore, Divyashree MS is Assistant Professor, GFGC, Uppinangady, Mangalore.

and GRI SRs (Global Reporting Initiative Sustainability Reporting Standards) provides the base framework for reporting and disclosure of financial and non-financial information respectively. In the same way in Indian context Ind-AS (Indian converged accounting standards with IFRS) and BRR (Business Responsibility Reporting Framework) provides guidelines, policies, procedures and framework to disclose financial and non-financial information for companies. Today, accounting environment is majorly being discussed on adopting Integrated Reporting System which enables company to disclose both financial and non-financial information under a single report. Ind-AS and BRR framework are aiming towards this integration.

GRI is an international non-profit oriented consortium based in Amsterdam, The Netherlands, established with a vision of providing guidelines for integrated reporting of business and financial information of economic, environmental, social and corporate governance performance of business. The guidelines given by GRI is popularly known as sustainability reporting framework which is the combination of sustainability reporting guidelines, reporting and measurement aspects and sector wise standards. The adoption of these standards to report non-financial information by the companies indicates the organizational efforts towards socio-economical sustainable development.

In 2011, forty-three companies reported non-financial information as per the GRI framework. TATA automotive industry was the first industry to disclose sustainability report in India16. In 2009 Ministry of Corporate Affairs provided the voluntary guidelines for corporate social responsibility reporting, and in 2013 it was mandated to spend at least 2% of the net profit by the large and medium-sized organizations for sustainable development projects18. India became the first country to impose legal requirements on the corporate for the sustainable development. From this period the nation witnessed the rapid growth in CSR spending by the companies from year to year. This on the other hand created the problem of consistency, comparability, transparency in reporting and disclosure pattern for the accountability purpose. So there was a need for having a separate set of standards which are applicable to report non-financial information. For this to achieve GRI guidelines are considered as the greatest tool because it helps the firms to match their sustainability reporting with Sustainable Development Goals set by UN and to become a company which is globally competitive. ACC Ltd.,18 was the first company to report non-financial information in India in confirmation with GRI standards in 2016 and published its first report on 5th June 2017.

GRI standards can be used by the Indian corporate houses because it helps them to comply with mandated BRR requirements laid down by SEBI a controller of stock exchanges in India. GRI consortium has released a separate document that enables to give link for both GRI and BRR requirements which is known as 'Linkage Document'21. These reporting requirement is in confirmation with the 'National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs)'19 notified by the Ministry of Corporate Affairs, Government of India, in 2011. Then on November 30, 2015, SEBI finalized the BRR to mandate for the top 500 listed companies which are based on their market capitalization, as of March 31st of every year. BRR requirements are mandatory for the top 500 companies listed in stock exchange since 2015. Both GRI and BSE entered into an official MoU in 2016 to develop a harmonized standard to

support top 500 listed companies to disclose the non-financial information in a standardized format by the end of 2017. The output of this was Linkage Document discussed above which enables the companies make a sustainability report as per the GRI standards and which complies the SEBI's BRR framework. This also favours the companies in fulfilling the growing demands of all stakeholders who are situated within and outside the country. This initiative by SEBI made the BSE as the First Asian stock exchange to recognize as sustainable stock exchange initiative. The present study considers the GRI-G4 sector specific disclosure guidelines which are issued in May 2013. This paper analyses the GRI initiative undertaken by Indian companies.

Review of Literature

Tailor and Modi (2017) conducted a study to analyze the corporate social reporting practices of cement companies of India with help of both primary and secondary source of information and to analyze the collected information they employed rank analysis, averages, percentages, Chi-square test and F-test and concluded that among selected companies except JK Lakshmi Cement all other are good at CSR practices and spending majorly on rural education, infrastructure, employees medical care, security purpose and also found out that companies are in need of constructive suggestions for the improvement of CSR Activities and are trying to remove the existing problems in CSR activities with the help of HR Department.

Giorgino et al. (2017) studied the impact of disclosing material information of an organization on share price of an organization. The data were analyzed with the help of event analysis technique and found that the disclosure of material information as part of integrated reporting system impacts on the share prices of an organization. Kumar and Devi (2012) Examined the sustainability reporting practices in India with the aim of analyzing the factor being caused for the slower paced development in integrated reporting practices in India and also analyzed the needs, challenges and opportunities to adopt sustainability reporting. They concluded that there is a lack of awareness

Among the companies on the benefits of SR. and there is a skill gap to create a sustainability reports and also there is a complexity and confusions among available frameworks and standards.

Erol and Demirel (2016) Investigated on the integrated reporting approach on European S and P 500 companies and found that most of the integrated reporting reported by large business organization's and particularly which are of financial sector organizations. The reports are more or less based on GRI framework. And they also emphasized that there is need of focusing on to what extent these company's IIRCs guidelines are following in their integrated reporting mechanism. Kumar (2014) Compared the sustainability reporting practices among NIFTY 50 companies and fortune 50 global companies with GRI index and concludes that the NIFTY 50 companies are better in disclosing the sustainability reports as compared global fortune 50 companies and they also stressed that there is a need of legal enforcement to be made on global fortune companies to make them better in disclosing sustainability reports in par with GRI framework. Boolaky (2011) Has analyzed and compared human resource practices disclosure in non-financial

reports of financial service sector firms with G3-Guidelines given by GRI between firms within a region and between regions of Europe, Asia and others. And found that the compliance level in Europe is higher than others and Asian region. Also found that the compliance gap is highest in Asia because fewer firms comply with G3 guidelines.

Research gap

From the review of earlier researches, it is found that the most of the studies have only focused on the conceptual and general aspects of sustainability and integrated reporting. only few studies have focused on the compliance level of GRI framework in Indian scenario especially in construction and real estate sector. So the present study is intended to analyze the compliance level of global reporting initiative in Indian scenario and how GRI putting efforts to harmonize with India's BRR requirements with its framework by considering the annual reports of selected cement companies of India.

Scope of the Study

The scope of the study is limited to cement industries in India. This comes under GRI G4-reporting guidelines for construction and real estate sector. The sample companies for the study is 5 which includes ACC Ltd, Birla corporation Ltd, Ambuja Cement Ltd, Shree Cement Ltd and Ultra Tech Ltd which are selected randomly from top 10 largest cement companies based on their production size in India (2017)17. Five years' sustainability reports from 2013 to 2017 are taken for the study purpose; the reports were collected from the website of the companies. Specifically, for the present study only General, Economic and Environmental factors of GRI G-427 guidelines were considered. Instead of considering BRR requirements study considered GRI G-4 guidelines were considered because GRI complies with SEBI BRR requirements also as per Linkage document.

Statement of the Problem

Integrated Reporting is the recent development in disclosure of business information which encompasses and analyses both financial and non-financial information. There are many standards and guidelines with regard to disclosure of financial information. But there are only few standards and guidelines available for disclosure of non-financial information. One such generalized world class standards are given by Global Reporting Initiative (GRI). It stresses on disclosure of sustainability reports of companies. Sustainability reporting helps organizations to evaluate, understand and communicate their governance practice, economic, environmental and social performance. Sustainability report is similar to non-financial reporting, Corporate social responsibility reporting, triple bottom line reporting and more.

Therefore, the present study aims at examining to what extent GRI guidelines are being followed in order to meet domestic and global standards of sustainability reporting.

Research questions

- Is there any difference between the G4-GRI guidelines and actual economic and environmental disclosure made by the cement companies in India?

- What is the level of disclosure of economic and environmental aspects by the Indian cement companies?
- What is the level of disclosure of sector specific standards of GRI by Indian cement companies?

Objectives

- To compare the G4-GRI guidelines and the actual disclosure of economic and environmental aspects by Indian cement companies.
- To measure the disclosure level of economic and environmental aspects by the Indian cement companies.
- To study the disclosure level of sector specific standards of GRI by Indian cement companies

Hypotheses

Following are the hypotheses framed for the purpose of study:

H_1 : There is noa significant difference between G4-GRI guidelines and the actual disclosure of general, economic and environmental aspects by selected cement companies of India.

H_2 : There is no significant level of disclosure of general, economic and environmental aspects by selected cement companies of India.

H_3 : There is no disclosure level of sector specific standards of GRI by selected cement companies of India.

Research Methodology

The study adopts secondary sources of data gathered through sustainability reports of selected companies for the study. For the analysis of data, content analysis technique is used and which is the most suitable method for analyzing the disclosure contents in the annual reports of the companies (Cooke, 1991; Gray et al., 1995; Neu et al., 1998; Krippendorff 2004). The study used the GRI-G4 guidelines (Appendix-1) for reporting and disclosing general, economic and environmental aspects to analyze the selected companies' disclosure level. To record two number coding methods is used that is 0 and 1. 0 represents there is no disclosure and 1 represents there is a disclosure. For recording the content analysis results of selected companies coding sheet is developed based on the GRI – G4 guidelines (Appendix-2). To test the internal consistency of the coding sheet reliability analysis is used. Cooke's disclosure compliance index is used to measure the level of compliances with GRI-G4 guidelines by the cement industries of India. Alongwith these one-sample t-test is also used for the study. Cooke's disclosure index

The index determines the ratio between the actual disclosure scores and the standards disclosure score of the companies.

$$\text{Total disclosure index} = \frac{\text{Sum of disclosure score}}{\text{Standard disclosure score for each company}}$$

This model also emphasizes on compliance gap index that can be determined as:

Compliance gap index = 1- total disclosure index

In the study, we assumed that if total disclosure index is 0 then it is treated as the companies are not following the GRI-G4 guidelines in disclosing general, economic and environmental information.

Table 1: Reliability analysis

Disclosure elements under G-4 of GRI Guidelines	Cronbach's Alpha	NO. of. Items	Remarks
General, economic and environmental disclosure elements	.704	24	Good

Table 1. Shows the results of reliability analysis of research instrument and shows that Cronbach's alpha is 0.704, which indicates good internal consistency of the research instrument. It concludes that the variables selected for the study is reliable.

Limitations of the Study

The sample size is less and this study has not compared G4 with any other guidelines and the study has used content analysis methodology for analyzing the compliance levels. This methodology suffers from its own limitations so there might be slight influence on the results.

Results and Discussions

Table 2: One-sample t-test for general aspects disclosures

General Disclosure Elements	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Strategy and analysis	5	1.00	.000	-	-
Organisational profile	5	.92	.179	5.250	**.006**
Identified materials aspects and boundaries	5	.80	.200	3.354	**.028**
Stake holders engagement	5	.76	.167	3.474	**.025**
Report profile	5	.92	.179	5.250	**.006**
Governance	5	.96	.089	11.500	**.000**
Ethics and integrity	5	.96	.089	11.500	**.000**

Table-2 shows the results of one-sample t-test at the 5% significance level, which indicates the mean value above 0.5 (known mean value). This means all the selected companies are disclosing in good manner in respect to general disclosure elements. Further the p-value in respect of all these elements is less than 0.05, so we can conclude that there is no significant difference between GRI-G4 guidelines and actual disclosures made. Therefore null hypothesis is rejected and alternative hypothesis H_1 is accepted. H_1:

Table-3 One-sample t-test for economic aspects disclosures

Economic Disclosure Elements	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Economic Performance	5	.96	.089	11.500	.000
Market Presence	5	.68	.110	3.674	.021
Indirect Economic Impacts	5	.64	.167	1.871	.135
Procurement Practices	5	.24	.167	-3.474	.025

Table-3 shows the results of one-sample t-test at the 5% significance level in relation to economic elements. The mean value is above 0.5 (known mean value) except for procurement practices. This means all the selected companies are disclosing in good manner with respect to economic disclosure elements. Further the p-value of all these elements is less than 0.05 except indirect economic impact elements. Thus we can conclude that there is no significant difference between GRI-G4 guidelines and actual disclosures made, hence null hypothesis is rejected and alternative hypothesis H_1 is accepted.

Table-4 shows the results of one-sample t-test at the 5% significance level with relation to Environmental Elements. The mean value is above 0.5 (known mean value) except procurement practices elements. This means all the selected companies are disclosing in good manner. Further the p-value with respect to all these elements is less than 0.05 except transport, overall, supplier environment assessment, environmental grievance mechanisms and land degradation, contamination and remediation elements. Thus we can conclude that there is a significant difference between GRI-G4 guidelines and actual disclosures, hence null hypothesis is not rejected.

Table 4: One-sample t-test for environmental aspects disclosures

Environmental Disclosure Elements	N	Mean	Std. Deviation	T	Sig. (2-tailed)
Materials	5	.84	.261	2.915	**.043**
Energy	5	.92	.179	5.250	**.006**
Water	5	.88	.110	7.757	**.001**
Biodiversity	5	.76	.329	1.769	**.152**
Emmissions	5	1.00	.000a		

Contd...

Contd...

Effluents And Wastes	5	.80	.245	2.739	**.052**
Products And Services	5	.52	.303	.147	**.890**
Compliance	5	.64	.261	1.200	**.296**
Transport	5	.36	.261	-1.200	**.296**
Overall	5	.36	.167	-1.871	**.135**
Supplier Environmental Assessment	5	.28	.303	-1.622	**.180**
Environmental Grievience Mechanisms	5	.16	.261	-2.915	**.043**
Land Degradation, Conatmination and Remediation	5	.28	.268	-1.833	**.141**

The table 5 & 6. Show the results of Disclosure Compliance Index and Gap Index indicating the extent to which the Indian cement companies complying with G4-standards. All the selected companies are highly complying with G4 guidelines with regard to general disclosures aspects. The average compliance percentage of these companies with respect to general disclosures are 87.5%, 82.8%, 94.2%, 97.1% and 97.1% respectively and the compliance gap percentage is very less, resulting 14.3%, 17.2%, 5.8%, 2.8% and 2.9% respectively. ACC Lltd and Ultra Tech Ltd are highly complying with GRI-G4 guidelines with regard to economic disclosure aspects where the compliance rate is 70% each. Birla's compliance rate is very low with regard to economic disclosure aspects; hence the compliance gap rate is 55%. Lastly the environmental aspects compliance is comparatively low among all the selected companies where the compliancepercentage is less than 70%. The rate of compliance gap of these companies is 30.8%, 52%, 40%, 32% and 38% respectively. In overall Shree and Ultra Tech Ltd., are highly complying with G4 guidelines as compared to other three companies. The overall compliance percentage is 76.5% and 76.2% respectively and other companies are also good in complying with G4 standards. It is also confirmed that the GRI frame work is the standard which recognizes the companies at the global market and meanwhile in Indian context. It helps companies to comply with BRR requirements specified by SEBI.

Table 5: Disclosure compliance indexes of cement companies based on the G4 guidelines of GRI on general, Economic and environmental disclosure aspects

Disclosure elements as per GRI–G4 guidelines		ACC Ltd.	Birla corporation Ltd.	Ambuja Ltd.	Shree Ltd.	Ultra Tech Ltd.
1.	General disclosures					
a.	Strategy and analysis**	1	1	1	1	1
b.	Organizational profile**	1	1	1	1	1
c.	Identified material aspects and boundaries**	0.6	0.6	0.8	1	1
d.	Stakeholders engagement**	0.6	0.6	1	0.8	0.8

Contd...

e.	Report profile	1	0.6	1	1	1
f.	Governance	0.8	1	1	1	1
g.	Ethics and integrity	1	1	0.8	1	1
DCI of General disclosures		0.857*	0.828*	0.942*	0.971*	0.971*
2.	Economic Disclosures					
a.	Economic performance**	1	0.8	1	1	1
b.	Market presence**	0.8	0.6	0.8	0.6	0.6
c.	Indirect economic impact**	0.8	0.4	0.6	0.6	0.8
d.	Procurement practices	0.2	0	0.2	0.4	0.4
DCI of Economic disclosures		0.700*	0.450*	0.650*	0.650*	0.700*
3.	Environmental disclosures					
a.	Materials**	1	0.8	0.4	1	1
b.	Energy**	1	0.6	1	1	1
c.	Water**	1	0.8	1	0.8	1
d.	Bio-diversity**	1	0.2	0.8	0.8	0.8
e.	Emissions**	1	1	1	1	1
f.	Effluent and waste**	1	0.8	1	1	0.8
g.	Products and services**	0.6	0.8	0.4	0.2	0.8
h.	Compliance	0.4	0.8	0.2	1	0.6
i.	Transport**	0.8	0.2	0.4	0.2	0.2
j.	Overall	0.2	0.2	0.4	0.6	0.4
k.	Supplier environmental Assessment	0.6	0	0.4	0.6	0
l.	Environmental grievance Mechanisms	0	0	0.2	0.6	0
m.	Land degradation, contamination and Remediation**	0.4	0	0.6	0	0.4
DCI of Environmental disclosures		0.692*	0.476*	0.600*	0.676*	0.615*
Overall Disclosure compliance index		0.741*	0.584*	0.730*	0.765*	0.762*

* indicates the values calculated based on the cooke's compliance index given in appendix.
** indicates the sector specific standards.

Table 6: Disclosure compliance Gap index of cement companies based on the G4 guidelines of GRI on general, economic and environmental disclosure aspects

Disclosure elements as per GRI–G4 guidelines		ACC Ltd.	Birla corporation Ltd.	Ambuja Ltd.	Shree Ltd.	Ultra Tech Ltd.
1.	General disclosures					
a.	Strategy and analysis**	0	0	0	0	0
b.	Organizational profile**	0	0	0	0	0
c.	Identified material aspects and boundaries**	0.4	0.4	0.2	0	0
d.	Stakeholders engagement**	0.4	0.4	0	0.2	0.2

Contd...

e. Report profile	0	0.4	0	0	0
f. Governance	0.2	0	0	0	0
g. Ethics and integrity	0	0	0.2	0	0
DCGI of general disclosures	0.143*	0.172*	0.058*	0.028*	0.029*
2. Economic Disclosures					
a. Economic performance**	0	0.2	1	1	1
b. Market presence**	0.2	0.4	0.8	0.6	0.6
c. Indirect economic impact**	0.2	0.6	0.6	0.6	0.8
d. Procurement practices	0.8	0	0.2	0.4	0.4
DCGI of economic disclosures	0.300*	0.550*	0.350*	0.350*	0.300*
3. Environmental disclosures					
a. Materials**	1	0.8	0.4	1	1
b. Energy**	1	0.6	1	1	1
c. Water**	1	0.8	1	0.8	1
d. Bio-diversity**	1	0.2	0.8	0.8	0.8
e. Emissions**	1	1	1	1	1
f. Effluent and waste**	1	0.8	1	1	0.8
g. Products and services**	0.6	0.8	0.4	0.2	0.8
h. Compliance	0.4	0.8	0.2	1	0.6
i. Transport**	0.8	0.2	0.4	0.2	0.2
j. Overall	0.2	0.2	0.4	0.6	0.4
k. Supplier environmental Assessment	0.6	0	0.4	0.6	0
l. Environmental grievance Mechanisms	0	0	0.2	0.6	0
m. Land degradation, contamination and Remediation**	0.4	0	0.6	0	0.4
DCGI of Environmental disclosures	0.308*	0.524*	0.400*	0.324*	0.385*
Overall Disclosure compliance Gap Index	0.259*	0.416*	0.270*	0.235*	0.238*

* indicates the values calculated based on the cooke's compliance index given in appendix.
** indicates the sector specific standards.

Table-7: One-sample for disclosure compliance index t-test (test value-1)

Disclosure Compliance Index	N	Mean	Std. Deviation	t	Sig. (2-tailed)
General Disclosure Compliance Index	5	.9138	.06695	-2.879	.045
Economic Disclosure Compliance Index	5	.6300	.10368	-7.980	.001
Environmental Disclosure Compliance Index	5	.6118	.08536	-10.169	.001
Overall Disclosure Compliance Index	5	.7164	.07543	-8.407	.001

Table- 7 shows the results of one-sample t-test for the disclosure compliance index. The mean value of all the Compliance indexes are more than 0.5, which is the expected mean value. Which means the mean compliance with GRI-G4 guidelines is more than 60% in respect of general and economic and environmental aspects. The p-value for these index is showing less than 0.05,which means there is a good level of disclosure compliance with GRI-G4 guidelines by Indian cement companies, hence null hypothesis is rejected.

Table-8 shows the results of one-sample t-test for the disclosure compliance gap index, the mean value of all the Compliance GAP indexes is below 0.5 which is expected mean value. Which means the mean compliance GAP with GRI-G4 guidelines is less, but in case of environmental aspects it is more. The p-value for these gap indexes is less than 0.05, which means there is a low level of disclosure gap with GRI-G4 guidelines especially in case of sector specific guidelines by Indian cement companies, hence null hypothesis

Table 8: t-test for disclosure compliance gap index one-sample statistics

DCGI	N	Mean	Std. Deviation	t	Sig. (2-tailed)
DCGI of General disclosures	5	.0860	.06716	-30.431	.000
DCGI of Economic disclosures	5	.3700	.10368	-13.587	.000
DCGI of Environmental disclosures	5	.3882	.08536	-16.027	.000
Overall DCGI	5	.2836	.07543	-21.236	.000

Source: SPSS Output

Findings and Conclusion

The summary of findings and conclusions of the study are discussed below:

- During the last five years the cement companies have improved their reporting level of sustainability aspects and the mean compliance rate of all selected cement companies is more than 70% of the G4 guidelines and the overall compliance gap rate is more or less below 30% so it is evidently found that there is no much difference in G4-GRI guidelines and the actual disclosure of general and economic aspects.
- In environmental aspects there are differences in disclosure elements because some of the environmental aspects such as environmental grievances mechanisms, land degradation, contamination and remediation, Supplier environmental assessment, overall, transport, compliance and products and services elements are not at all disclosed.
- It is found that the companies are disclosing only mandatory aspects and not giving importance to voluntary items to be disclosed.

- It is confirmed that sustainability reporting standard which recognizes the companies at the global market and meanwhile in Indian context helps companies to comply with BRR requirements specified by SEBI.
- It is also found that the selected cement companies of India are not properly disclosing sector specified standards of GRI particularly relating to environmental aspects.

Suggestions

- The study suggests that the regulatory authority should take initiative in improving the disclosure level of economic and environmental aspects as per GRI guidelines.
- In addition, the companies should voluntarily disclose the non-financial information because they operate in the society and enjoy the resources of the society and has to be accountable for their actions on economic and environmental aspects.
- The study also suggests that a greater move is required towards Integrated Reporting System by regulatory authorities and it has to be mandated.
- Since GRI standards accepted as sustainability reporting principles in the world which gives efficient guidelines for sustainability reporting.

Scope for Further Research

Further research can be done with regard to other disclosure aspects of G4. Additionally, other sectors can also be touched, such as Financial Service, Airport Services, Mining, Manufacturing and results can be compared.

REFERENCES

Boolaky, P. K. (2011). Global reporting initiatives (G3), standard disclosures for human resource practices: compliance and determinants in The Financial Services Sector: Europe, Asia and Others. *Academy of Taiwan Business Management Review*, *7*, 1-15.

Cooke, T. E. (1989a). Disclosure in the corporate annual reports of Swedish Companies. *Accounting and Business Research*, 19(74), 113-124.

Cooke, T. E. (1991). An assessment of voluntary disclosure in the annual reports of Japanese Corporations. *The International Journal of Accounting,* 26, 174-189.

Cooke, T. E. (1992). The impact of size, stock market listing and industry type on disclosure in the Annual Reports of Japanese Listed Corporations. *Accounting and Business Research*, 22(87), 229-237.

Cooke, T. E. (1993). Disclosure in Japanese Corporate annual reports. *Journal of Business Finance and Accounting,* 20(4), 521-535.

Cooke, T.E. (1989b). Voluntary corporate disclosure by Swedish Companies. *Journal of International Financial Management and Accounting,* 1(2), 171-195.

Erol, I., & Demirel, B. (2016). Investigation of integrated reporting as a new approach of corporate reporting. *International Journal of Business and Social Research*, *6*(10), 32-46.

Giorgino, M. C., Supino, E., & Barnabè, F. (2017). Corporate disclosure, materiality, and integrated report: An event study Analysis. *Sustainability*, *9*(12), 2182

Gray, R. Dey, C., Owen. ., Evans, R. And Zadek, S., (1997). Struggling with the praxis of social accounting: stakeholders, accountability, audits and procedures. *Accounting, Auditing & Accountability Journal*, Vol. 10 No 3, pp. 325-364.

Gray, R., Kouthy, R. And Lavers, S. (1995). Corporate social and environmental reporting: A review of literature and a longitudonal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, Vol. 8 No 2, pp.47-77.

Gray, R., Meek, G. And Robert, C. (1995a). International capital market pressures and voluntary annual report disclosure by U.S and U.K multinationals. *Journal of International Financial Management & Accounting*, Vol. 6, pp. 43-68.

Gray, R., Owen, D. And Adams, C. (1996). Accounting and Accountability, Prentice Hall, London.

Gray, R., Owen, D. And Maunders, K. (1987). Corporate Social Reporting, Prentice Hall, Eaglewoods Clifs, NJ.

GRI, 2006b. Sustainability reporting guidelines. global reporting initiative, Amsterdam.

http://greencleanguide.com/gri-based-sustainability-reporting-in-india/

https://nextwhatbusiness.com/top-largest-cement-companies-india/

https://www.globalreporting.org/information/news-and-press-center/Pages/Leading-Indian-companies-join-GRI%27s-reporting-network.aspx

https://www.globalreporting.org/information/news-and-press-center/Pages/Harmonizing-sustainability-reporting-practices-in-India.aspx

https://www.globalreporting.org/resourcelibrary/G3.1-Sustainability-Reporting-Guidelines.pdf

https://www.globalreporting.org/standards/resource-download-center/linking-the-gri-standards-and-the-sebi-brr-framework

Krippendorff, K. (2004). Reliability in content analysis: some common misconceptions and recommendations. *Human Communication Research*, Vol. 30. No. 3, pp.411-433.

Kumar, K. V., & Devi, V. R. (2015, January). Sustainability reporting practices in India: challenges and prospects. In *Twelfth AIMS International Conference on Management*. Kozhikode: IIM.

Kumar, R. (2014). A study on sustainability reporting practices in Indian and global companies with special rerences to the petroleum companies. *Abhinav National Monthly Refereed Journal of Research in Commerce and Management*, *3*(4).

Neu, D., Pdewell K. And Warsame, H. (1998). Managing public impressions: environmental disclosure in annual reports?, *Accounting, Organisations and Society*, Vol. 23, No.23, pp.265-282.

Tailor, R. K., & Modi, R. K. (2017). Corporate social reporting: A comparative study of cement companies in India. *Indian Journal of Accounting*, Vol.XLIX No 2, pp-89-97.

www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-

www.pwc.com/id/en/Consulting/Asset/S&CC/Sustainability%20Reporting%20-%20Global%20Reporting%20Initiative%20(GRI)%20G4.pdf

Appendix

GRI-G4 guidelines for disclosure elements for the cement industry (General, economic and environmental aspects)

General Standard Disclosures	Economic aspects	Environmental aspects
• Strategy andAnalysis	• Economic Performance	• Materials
• Organizational Profile	• Market Presence Indirect	• Energy
• Identified Material Aspects and Boundaries	• Economic Impacts • Procurement Practices	• Water • Biodiversity
• Stakeholder Engagement		• Emissions
• Report Profile		• Effluents and Waste
• Governance		• Products and Services
• Ethics and Integrity		• Compliance
		• Transport
		• Overall
		• SupplierEnvironmental Assessment
		• Environmental Grievance Mechanisms
		• Land Degradation, Contamination and Remediation

Note: there are social disclosure aspects in G4 guidelines but that are outside the scope of the presentstudy.

The Indian Journal of Commerce
Vol. 72, No. 1, Jan-March 2019

How Does Financial Literacy Influence Financial Inclusion? A Study of the Unorganized Sector in Purba Medinipur District of West Bengal

DEBABRATA JANA, ABHIJIT SINHA AND ARINDAM GUPTA

Abstract: *The study attempts to look into the impact of financial literacy along with demographic and socio-economic factors on the financial inclusion level of those bank account holders who opened account under the Pradhan Mantri Jan-Dhan Yojana (PMJDY) scheme. The target group for the study is the unorganized sector of Purba Medinipur district in West Bengal. For this study, primary data are collected from four hundred respondents of which one hundred and forty opened bank account under the PMJDY scheme. A self-developed close-ended questionnaire is used. The study computes the financial literacy score by using data driven weight in factor analysis. Binary logistic regression analysis is applied to test the impact of demographic and socio-economic variables of financial literacy on financial inclusion. The study reveals a statistically significant and positive impact of 'Gender', 'Types of unorganized sector employment', 'income', 'educational qualification' and 'financial literacy' on financial inclusion.*

Key words: Financial Literacy, Financial Inclusion, Unorganized Sector, Binary Logistic Model.

Introduction

The decision to participate in financial market depends upon the level of access to financial products as well as functional awareness of the financial system. Though one may consider financial literacy to play a role in access to services, it is one of the major challenges being faced by different countries across the globe, irrespective of their level of economic development and is receiving significant attention from policy-makers worldwide. The term financial literacy refers to a set of skills that allow people to manage their money wisely by attaining an understanding about essential financial concepts relating to risk and return. It is not just about markets and investment, but also includes within its scope savings, budgeting, financial planning, basics of banking and most importantly, about being Financially Smart. To understand financial planning, a person should be financially literate and be able to understand the importance of preparing household budgets, cash-flow management and asset allocation to meet financial goals.

Thus, financial literacy has a wide scope and thus is gaining importance in both developed

Debabrata Jana is Research Scholar, Department of Commerce with Farm Management, Vidyasagar University, Midnapore, West Bengal, Abhijit Sinha **is** Assistant Professor, Department of Commerce with Farm Management, Vidyasagar University, Midnapore, West Bengal and Arindam Gupta is Professor, Department of Commerce with Farm Management, Vidyasagar University, Midnapore, West Bengal

and emerging economies. However, we need to keep in mind that the focus of financial literacy initiatives varies depending on the economic profile of the target population. For developed countries, since the access to financial products/services is fairly widespread, the focus there is imparting more financial education among the consumers and other participants. However, for emerging market economies, ensuring adequate access to financial products and services is more important with the financial literacy initiatives focusing on creating demand for these products/services. Financial literacy is considered an important appendage for promoting financial inclusion, consumer protection and ultimately, financial stability. Financial inclusion and financial literacy need to go hand in hand to enable the common man understand the needs and benefits of different products and services offered by formal financial institutions.

Financial inclusion is about ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups, such as weaker sections and low income groups in particular, at an affordable cost, in a fair and transparent manner by regulated mainstream institutional players. So, from the financial literacy perspective, two elements become important, access to services and the other of literacy. In India, a large number of stakeholders including the central and state governments, financial regulators and players, civil society, educationists and others are involved in spreading financial literacy. As we have adopted a bank-led model for financial inclusion, banks are actively contributing to our financial literacy initiatives by setting up Financial Literacy and Credit Counselling Centres with focus on educating people on availability of various deposits, credit and remittance products offered by banks, in order to create demand for the same, with the aim of attaining financial inclusion which is about delivery of financial services at an affordable cost to vast sections of the disadvantaged and low-income groups and the demand stems from the understanding that banking services were in the nature of public good and should be available to the entire population without discrimination.

In this research, the researchers explore the impact of financial literacy on the level of financial inclusiveness of those households who have opened a bank account following the initiative of the Centre to open a bank account under the Pradhan Mantri Jan-Dhan Yojana (PMJDY). The main objective of the scheme was to ensure at least one bank account for every household of the country so that they gain an access to credit facilities of the banks apart from availing insurance and pension benefits. The present study explores whether basic knowledge of finance has an impact on the level of inclusiveness among the account holders under the aforesaid scheme.

Literature Review

Albeerdy and Gharleghi (2015) point out the various factors that influence financial literacy among the Malaysian university students and found a significant relationship between financial literacy with education and money attitude. In the contrary, there is no relationship between financial socialization agents and financial literacy. Altintas (2011) examined the financial literacy level among Turkish university students and pointed to the dominating influence of class rank, age, education level of father, discussion potential about financial issues with parents and family income level of family are the

most important parameter that affected the overall personal financial literacy of university students. Bagli and Dutta (2012) aimed to study the relative importance of indicators of financial inclusion and composite index of financial inclusion for each state in India. They concluded that financial literacy and awareness among the marginalized sections of people are absolutely necessary to achieve financial inclusion. Boon et al. (2011) examined the level of financial literacy of individuals with their engagement in personal financial planning. The study revealed that more financially literate individuals focus more on personal financial planning compared to the other category. Education level is found to be strongly related to financial literacy. Chen and Volpe (1998) examined how an individual's knowledge impacts their opinions regarding personal finance issues and financial decision making. Dangi and Kumar (2013) looked into the present situation of financial inclusion in India and concluded that a huge percentage of the rural class does not have access to banking and other financial services. Dixit and Ghosh (2013) studied the growth in financial inclusiveness in Indian states and mentioned the positive role played by different stakeholders like regulators, banks, governments, civil societies, NGOs, etc. In another study by Garg and Agarwal (2014) the effects of financial exclusion and necessities of financial inclusion were examined. It found that the effort of stakeholders like government, regulators, financial institutions did not yield result as expected. Gupta and Singh (2013) assessed the correlation between usage dimension of financial inclusion index and literacy level in India. The study revealed large variation in the correlation among the different states of the country with a low average correlation considering all states together. Kaur and Tanghi (2014) found out how financial inclusion acted as an instrument for inclusive growth in selected six developing countries and also ascertained the position of India. The study revealed that though developed countries have been affected by the program, low income and disadvantaged class did not show a major improvement in terms of access to financial services. Kumar and Anees (2013) explored into the determinants of financial literacy and education, role of regulatory authorities towards improvement of financial education and relevance of financial education in present day in India. The study pointed that the level of financial literacy depends on the education, income, family size, family background, age, regions and nature of employment. Rohini et al. (2015) assessed the financial literacy in the villages of Kanyakumari district in Tamil Nadu and found that the financial literacy of respondents was positively related to their educational status, income and frequency of operation. Shaari et al. (2013) examined the financial literacy level among students from the local Universities of Malaysia. The study established a significantly negative relationship with both age and spending habit and a significantly positive relationship with gender, business and years of education. Shahulhameedu (2014) examined the measurement and analysis of financial inclusion. The analysis recognized the contribution of microfinance institutions and local communities in achieving financial inclusion and also expected that a change of a traditional banking model into a customer centric model will help in spreading financial inclusion. Sing (2014) studied the role of financial literacy in bringing about sustainable development in the country and mentioned the initiatives taken by Reserve Bank of India in this regard. The researcher showed financial literacy to be an important component in increasing saving rates and lending to the poorest and most vulnerable consumers and is also linked to lower household savings and higher reported over-indebtedness. The Taft et al. (2013) study examined the relation between

financial literacy, financial well-being and financial concerns which revealed that age and education were positively related with financial literacy and financial well-being. Thangasamy (2014) evaluated the current scenario of financial inclusion in north east India and highlighted the major challenges and suggestions to improve its growth. The study found that north eastern states have a slow progress in banking sector thereby leading to low level of financial inclusiveness. The main reasons are geographical barriers, lack of financial literacy and low awareness about financial products within the country. Trivedi and Trivedi (2014) examined the status of financial literacy and analyzed the role of financial literacy in empowering consumer with the knowledge to understand financial markets. Wachira and Kihiu (2012) examined the impact of financial literacy on access to credit in Kenya especially with respect to the decision making process. The research revealed that access to financial services depends not only on financial literacy but also on demographic factors like gender, age, marital status, household size and level of education.

Research Gap

On the basis of literature reviewed, it is observed that most of the studies look into the status of financial literacy and a few others look into the determining factors. There are also some empirical evidences on financial literacy that identify the determining factors. There one limited studies on the effect of financial literacy on financial inclusion in the unorganized sector after introduction of PMJDY scheme by the Central government.

Objectives of the Study

The objectives of the study are:

- To analyse the impact of financial literacy along with demographic and socio-economic factors on financial inclusion.
- To explore the level of financial literacy in the selected district.

Hypothesis

The following hypothesis is tested:

H_{01}: There is no relationship between demographic and socio-economic factors, financial literacy with financial inclusion.

Research Design

Data Source: The research work is based on primary data which is collected through a structured questionnaire.

Sampling Frame: The sampling frame for this study includes the people employed in the unorganized sector of Purba Medinipur district of West Bengal.

Sampling Method: Multi-stage random sampling method is applied. First, eight blocks of the district have been chosen, following which five villages from each of them have been chosen. Then, ten respondents from each village are interviewed. The blocks chosen from Purba Medinipur district are:

Bhagwanpur-I, Chandipur, Contai-I, Egra-II, Haldia, Panskura, Patashpur-II and Ramnagar-II.

Sample size: Based on our sampling design, the final sample size is 400 out of which 140 is PMJDY holders.

Research methods applied: The researchers applied factor analysis to compute the financial literacy score and perform the reliability test to check reliability of the questionnaire. For looking into the effect of explanatory variables on the explained variable, binary logistic regression is applied.

Analysis and Findings

Reliability

A pilot study was conducted to test the efficacy, sufficiency and validity of the questionnaire before going for the full-fledged data collection using the questionnaire method. For this purpose, initially five blocks were selected and from every block, one village was chosen following which 10 respondents were chosen from each of the villages. So the sample size of the pilot study was 50. After the data was gathered, the reliability of the questionnaire was tested by computing Cronbach's alpha.

Table 1: Reliability statistics

Cronbach's Alpha	No. of Items
0.784	36

Source: Computed by authors

The value of alpha in this study is 0.784 which exceeds the accepted cut-off score of 0.70. Therefore, the questionnaire is acceptable and reliable for data collection

Measurement of Financial Literacy Score

The data is collected using a questionnaire which has several questions. In order to make the findings more conclusive and concrete, the investigators put them into eight sub-categories viz. FL_1, FL_2, FL_3, FL_4, FL_5, FL_6, FL_7 and FL_8 where,

FL_1: Basic awareness about different banking products,

FL_2: Knowledge about banking products,

FL_3: Knowledge about regulatory bodies,

FL_4: Awareness about risk and return on investment and decision making ability,

FL_5: Awareness about basic financial management concept,

FL_6: Securing family security,

FL_7: Planning for basic financial necessities, and

FL_8: Concern for future security.

To generate the financial literacy score for each respondent, each question is assigned one mark. If a respondent gives a correct answer or is at least aware, s/he is awarded a score of one. No score is given for incorrect answers or for answers like 'don't know'. For computing the level of financial literacy of each respondent, first the total score is calculated for each sub-section. Then the weighted score is computed where the weight refers to the data-driven weight for the different sub-sections obtained using factor analysis.

The result of factor analysis is given below.

Table 2: KMO and Bartlett's test of sphericity for financial literacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.776
Bartlett's Test of Sphericity	Approx. Chi-Square	497.626
	Df	28
	Sig.	.000

Source: Computed by authors

According to the criterion suggested by Kaiser (1974), a value of less than or equal to 0.50 is unacceptable. In this case, the KMO measure is 0.776 which shows adequate sample size. Thus, factor analysis is applied to arrive at the data-driven weights.

Table 3: Communalities for financial literacy

Variables	Initial	Extraction
FL_1	1.000	0.645
FL_2	1.000	0.554
FL_3	1.000	0.683
FL_4	1.000	0.557
FL_5	1.000	0.604
FL_6	1.000	0.843
FL_7	1.000	0.571
FL_8	1.000	0.628

Source: Computed by authors Extraction Method: Principal Component Analysis.

The table above has been used to arrive at the weights for computing the weighted score of financial literacy.

$FLS_i = W_1.FL_{1i}+W_2.FL_{2i}+W_3.FL_{3i}+W_4.FL_{4i}+W_5.FL_{5i}+W_6.FL_{6i}+W_7.FL_{7i}+W_8.FL_{8i,}$

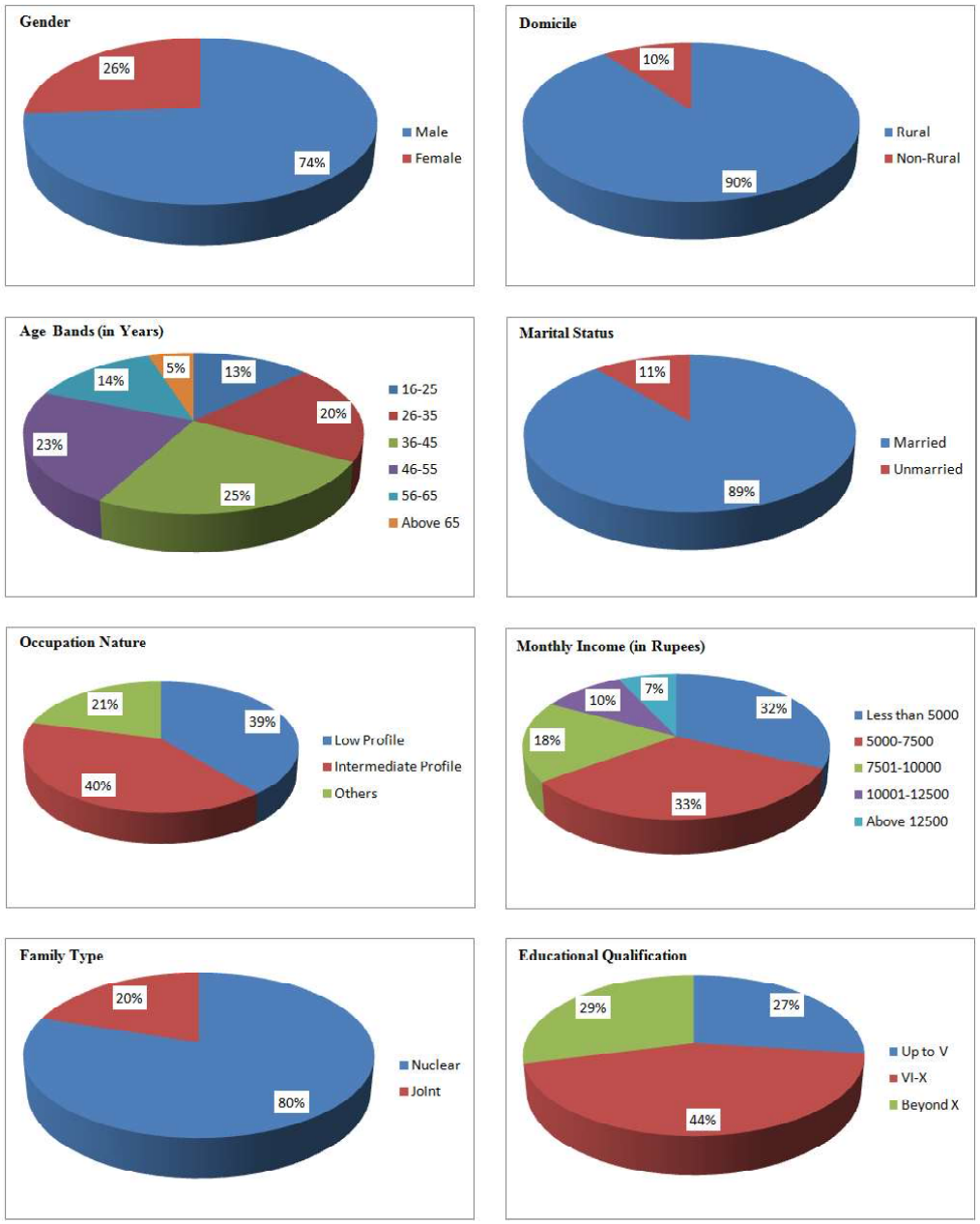
where, FLS_i is the financial literacy score of the i-th respondent.

W_1 is the data driven weight for sub-section 1, W_2 for sub-section 2 and likewise.

FL_{1i} is the financial score for i-th respondent in sub-category 1 under financial literacy and likewise for the remaining seven sub-categories.

Demographic and Socio-economic Profile of the Respondents

Figure– 1: Profile of respondents of Purba Medinipur



Source: Primary Data

Results of Binary Logistic Regression Analysis

In this section, the result of logistic regression with financial inclusion as the dependent variable is discussed. The regression analysis is run to measure the effect of demographic and socio-economic factors and financial literacy on the level of financial inclusion. The results are given below.

Table 4: Omnibus tests of model coefficients

Step	Chi-square	df	Sig.
1	3.767	9	0.009

Source: Computed by authors

Based on the table above, the chi-square value is 3.767 which is significant at 1% level, thereby supporting the use of the regression model. The result of the Hosmer and Lemeshow Test also supports the application of the regression technique.

Table 5: Hosmer and Lemeshow/Test

Step	Chi-square	df	Sig.
1	1.847	8	.985

Source: Computed by authors

Next is the result on model summary which helps to identify the explanatory power of the variables.

Table 6: Model summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	514.191	0.439	0.481

Source: Computed by authors

From the Cox & Snell R Square value of 0.439, it can be said that the independent variables explain up to 44% of variation in financial inclusion. Similarly, the Nagelkerke R Square value of 0.481 indicates a moderate relationship between the explanatory and explained variables. The effect of different variables on financial inclusion is shown in the table 7.

The regression coefficient values reveal that 'gender', 'occupation', 'income', 'educational qualification' and 'financial literacy' have a positive and significant impact at 1% level. 'Financial literacy', the key explanatory variable for this research has a coefficient of 1.954 (Wald = 1.031, p = 0.001) which reveals a positive and significant impact at 1% level. a few other demographic and socio-economic variables viz., 'gender', 'occupation', 'income' and 'educational qualification' are also significant at 1% level with a coefficient of 1.011 (Wald = 0.02), 1.075 (Wald = 0.411), 1.083 (Wald = 0.538) and 1.737 (Wald = 0.153, p = 0.007) respectively.

Table 7: Variables in the equation

Step		B	S.E.	Wald	Df	Sig.	Exp(B) 95% C.I.for Exp(B)		
								Lower	Upper
1	Gender	0.011	0.254	0.002	1	.010	1.011	0.615	1.663
	Domicile	0.207	0.515	0.162	1	.687	1.230	0.449	3.374
	Marital Status	-0.255	0.390	0.427	1	.514	0.775	0.361	1.665
	Age	0.106	0.092	1.329	1	.249	1.112	0.928	1.333
	Occupation	0.073	0.114	0.411	1	.005	1.075	0.861	1.343
	Income	0.080	0.109	0.538	1	.004	1.083	0.875	1.341
	Family Type	0.205	0.285	0.518	1	.472	1.228	0.702	2.149
	Educational Qualification	0.037	0.094	0.153	1	.007	1.737	0.863	1.247
	Financial Literacy	-0.047	0.263	1.031	1	.001	1.954	0.570	1.599
	Constant	-1.347	0.679	3.931	1	.047	0.260		

Source: Computed by authors

With regard to change in the odds ratio, it is observed that with a move to higher financial literacy' level and higher educational qualification, the odds in favor of financial inclusion increase by 95.4% and 73.7%, whereas the increase in odds for gender, occupation and Income, are merely 1.1%, 7.5% and 8.3% respectively. It is observed that males have a higher level of inclusion level. Moreover, the importance of financial literacy is evident from the findings. Thus, if the government can create scope for better employment opportunities which will provide them more income and also stress on more number of years on schooling, there is a higher chance of these people getting included in the formal financial system. It is logical since education increases the knowledge level and provides a better job leading to increase in income. With the rise in income, there will be some surplus fund which is to be utilized and deposited somewhere where banking habit will come in handy.

Conclusion

In an open and efficient society, it is necessary to ensure proficient, timely and uninhibited access to public goods and services. As financial products and services, especially banking services are considered as public goods and services, making available these services to the entire population without any type of discrimination, is the foremost need of the inclusive system. The present study is an interesting one since it studies two very important social issues in finance viz. financial literacy and financial inclusion which are worrying the policy-makers across the globe. The study observes a significant positive impact of financial literacy upon people's access to financial services. The binary logistic regression results show that gender, occupation, income, educational qualification and

financial literacy have a significant positive impact on the financial inclusion level of unorganized sector workers in Purba Medinipur district. It can be inferred that with better occupational standards, an individual improves the financial inclusion level. The possible reason is the frequent interaction with more knowledgeable people with improved jobs in the society. Also, a better job generates higher income which in turn improves the financial inclusion. A noticeable point is that improvement in financial literacy leads to an increased tendency to be financially included more than before. The possible reason is the willingness to be a part of the formal financial system after understanding the advantages which the individual or household can enjoy. It is therefore recommended that, the government should devise programmes to improve the educational level of all children, especially from the vulnerable groups so that the next generations can be in a better-off position. These developments will contribute to enhance the levels of financial literacy and financial inclusion that will ultimately accelerate the country's growth rate in the long-term.

REFERENCES

Boon, T. H., Yee, H. S. and Ting, H. W.(2011). Financial literacy and personal financial planning in Klang Valley, Malaysia. *International Journal of Economics and Management*, 5(1), 149-168.

Gupta, P. and Singh, B. (2013). Role of literacy level in financial inclusion in India: empirical evidence. *Journal of Economics, Business and Management,* 1(3), 272-276.

Singh, U. (2014). Financial literacy and financial stability are two aspects of efficient economy. *Journal of Finance, Accounting and Management,* 5(2), 59-76.

Trivedi, P. and Trivedi, S. (2014). Financial literacy an essential prerequisite for financial inclusion. *Global Journal for Research Analysis,* 3(3), 28-30.

Wachira, M. I. and Kihiu, E. N. (2012). Impact of financial literacy on access to financial services in Kenya. *International Journal of Business and Social Science*, 3(19), 42-50.

Garg, S. and Agarwal, P. (*2014).* Financial inclusion in India – a review of initiatives and Achievements. *IOSR Journal of Business and Management,* 16(6), 52-61.

Kaur, H., Tanghi, B.S. (2014). Financial Inclusion: A way to sustainable growth*, Gyan Jyoti,* 4(1), 11-20.

Dangi, N. and Kumar, P. (2013). Current situation of financial inclusion in India and its future visions. *International Journal of Management and Social Sciences Research,* 2(8), 155-166.

Dixit, R. and Ghosh, M. (2013). Financial inclusion for inclusive growth of India - A study of Indian States. *International Journal of Business Management & Research,* 3(1), 147-156.

Shahulhameedu, M. (2014). Financial inclusion - issues in measurement and analysis. *International Journal of Current Research and Academic Review,* 2(2), 116-124.

Thangasamy, E. (2014). Financial inclusion in north east India: An analytical study. *International Journal of Commerce, Business and Management,* 3(1), 180-188.

Bagli, S. and Dutta, P. (2012). A study of financial inclusion in India. *A Journal of Radix International Educational and Research Consortium,* 1(8), 1-18.

Shaari, N. A., Hasan, N. A., Mahamed, R. K. M. H. and Sabri, M. A. J. (2013). Financial literacy: A study among the university students. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 279-299.

Altintas, K. M. (2011). The dynamics of financial literacy within the framework of personal finance: An analysis among Turkish University Students. *African Journal of Business Management*, 5(26), 10483-10491.

Albeerdy, M. I. and Gharleghi, B. (2015). Determinants of the financial literacy among college students in Malaysia. *International Journal of Business Administration*, 6(3), 15-24.

Rohini, A., Monika, C. and Sudha, R. (2015). Financial literacy status in the villages of kanyakumari district in Tamil Nadu State, India. *Economic Affairs,* 60(2), 215-218.

Kumar, S. and Anees, M. (2013). Financial literacy & education: present scenario in India. *International Journal of Engineering and Management Research*, 3(6), 83-87.

Chen, H. and Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2), 107-128.

Boon, T. H., Yee, H. S. and Ting, H. W.(2011). Financial literacy and personal financial planning in Klang Valley, Malaysia. *International Journal of Economics and Management*, 5(1), 149-168.

Taft, M. K., Hosein, Z. Z., Mehrizi, S. M. T. and Roshan, A. (2013). The relation between financial literacy, financial wellbeing and financial concerns. *International Journal of Business and Management*, 8(11), 63-75.

Book Review

Business Bullshit

by Andre Spicer

Routledge, 2018, ISBN-13:978-1138911673, price $23.62, Hardcover pages 200

As a reputed philosophy professor from the Stanford University had bemoaned, "Public discourse in our times is in many ways debased. It contains a depressing stew of bullshit, propaganda, spin, and outright lies…The human mind is a powerful instrument, one of *natural selection's* most amazing products. It's the creator of art, science, and philosophy. It has spawned complex forms of social life and dizzying variety of cultural formations. Yet, for all its astounding cognitive and cultural achievements, that very same mind not only produces, but is regularly taken in by bullshit, propaganda, spin, and the outright lie." (Taylor, 2006). In light of this contextualizing template, the book under review is a demystifying elaboration in particular of contemporary "management speak" as bullshit in contrast to the euphoric, nay rather narcissistic, celebration of the "age of management" by HBR (2012). Written by a famous professor of organizational behaviour at the prestigious CASS Business School, London, this book must be taken not as a cheap parody of the management function, but as a brilliantly serious work that entertains the reader as well—in 'desi' language, it is loaded with "manovikas with manoranjan".

The book offers the reader a thoroughly enjoyable reading on how to introduce corporate bullshit, howto spot bullshit, why there is so much bullshit, how to do things with bullshit, and finally how to "cut the crap". It is a must read for all students and teachers in business schools and commerce colleges. The author has exhibited "deep honesty" and spoken the truth that I have been desperately and since long waiting for someone to write, and his discomforting or inconvenient analysis deserves utmost attention from everyone. A flavour of the book can be presented as follows.

Bullshit is a deliberately opaque and unintelligible lingua franca found everywhere, in schools, in banks, in consultancy firms, in politics, in the media, in the advertising and public relations agencies and the like. In this book, the author is bothered about the meaningless language of management: "Rolling out bleeding-edge innovation; going forward by getting granular; taking a helicopter view to doing some blue sky thinking; circling back before close of play; proactively pushing the envelope; reaching out to get on the radar; taking a bio-break to avoid boiling those low hanging fruit; synergizing some sunsetting; having a cold-eyed review of core competencies; diarizing some drilling down; thought leaders touching base in town hall meetings; having your human capital do some horizon scanning; benchmarking best practice. Unintelligible to the uninitiated, but all too familiar to those who are unfortunate enough to be exposed to this kind of piffle everyday of their working lives. This is business bullshit."

Noteworthy is the fact that there is a sheer impermanence of management concepts given the ever changing management fads and fashions. And there is grandiose management jargon coming from literally a management fashion industry consisting

of a group of intermediaries, such as consultants, gurus, the business press, business schools and think tanks whose business is to create, distribute and stoke the consumption of new management fashions. In all this so-called bullshit economy, statements come forth with a lack of facts and details, a lack of logic, a lack of comprehension by the audience, maligned intention and the use of a vocabulary that is purposefully vague and strategically and calculatedly attempts to mislead the audience. That is bullshit par excellence. And "…as bullshit grows in organisations, it can begin to increasingly take up more of the time and effort of people working within that organization…As the sheer amount of time and resources devoted to producing, circulating and consuming bullshit increases, it leaves little room in an organization for much else…As people give up fighting to find time and space to do the work they think is meaningful, these very tasks stop getting done. As a result, the bullshit-work/real-work ratio begins to tip in favour of the bullshit. When this happens across the organization, it can mean much of the core work, which actually helps the organization to fulfill its central purpose, is neglected…the organization starts to be hollowed out. As the organisation's core tasks are neglected, people start to ask why it exists in the first place. They lose trust…Sadly, the growth of business bullshit has stopped some of our best organisations from understanding why they exist in the first place…Even when a gaping hole opens up between management rhetoric and day-to-day reality, it is largely ignored and the responsibility for failure is pushed onto workers".

Bullshit jobs abound in such organisations in things like strategy creation, vision articulation, brand building, motivation enhancement, public relations, corporate laws and the like. And these jobs are intimately connected with the rise of maddening bureaucracy, neoliberalism and state policing. In this milieu, personal productivity is made out to be amounting to getting through the bullshit more efficiently, so that one can get to the non-bullshit tasks, which never happens! And "That might involve reading self-help books, attending motivational seminars, searching for the perfect life-hack, setting goals on your life gamification platform, or perfectly parsing your tasks for the day. All this produces a new form of meta-bullshit work—bullshit which helps you to get through the bullshit more efficiently. And what's more, much of this meta bullshit is not imposed on you through workplace discipline, the dull compulsion of economic necessities or even threats of violence. Instead, you impose these systems on yourselves in the pursuit of fantasies of a life without the shit."

"So, the promise of escaping bullshit seems to take us deeper into bullshit…one's work is meaningless…and…there is no amount of life-hacks that will redeem it." The irony is that bullshit like perpetual quest for self-promotion presents itself as a solution to the ongoing identity crises of many of the people who have had their occupational identities dissolved, thereby escalating their insecurity perceptions. It gives people, who are desperately searching, a way to create a new story for themselves that might allow them to get by…Business bullshit is a way of keeping social interaction going. Questioning bullshit is a sure way to lose friends and alienate people", so much so that people literally trade the bullshit, get trapped in their own shit and ultimately drown in that shit. Given this kind of human condition, organisations ultimately choke on their own bullshit and lose trust of people.

To sum up, business bullshit flourishes on account of six factors: (1) bullshit jobs (work

disconnected from any meaningful end or goals); (2) individual delusion (driven by yawning gaps between what individuals think they can do and what they can actually do; (3) insecurity about one's own professional or occupational identity and the various attempts to building up a viable sense of who we are in a world which constantly rips any stable identity to pieces; (4) inability to question bullshit spewing from others and ourselves; (5) a growing bureaucracy that generates a massive body of jargon to keep itself and others busy; and (6) an even more virulent neocracy on top of this bureaucracy, which continually reforms the organization in the hope of producing some kind of perfect utopia of productivity and creativity, a utopia which never arrives!!!

The author accounts for all the above with case study materials and references on Nokia, BBC, National Health Service in the UK, banking and financial crisis of 2008, university reform, various change initiatives in large business organisations in the name of 'lean manufacturing movement', 'big data movement', 'empowerment', 'team work', and 'talent management' as HRM, 'total quality'/ 'six sigma'/, 'lean' as operations management, 'level five leadership', public sector branding, nudging and the like. There are wonderfully disturbing revelations for the reader in all this: Best of the organisations have imploded on their own bullshit. New management fads create hopes of disruption but do not increase economic performance and end up delivering costly disappointment. The management function collapses due to decoupling of talk and practice. Managers are busy wanting to "look good", as self-confident and attention grabbers, which is much ado about nothing as they are not really keen about efficiency or effectiveness. Very intelligent people thus end up as very stupid.

In the final analysis, the author's prescription is as follows: if bullshit jobs are not eliminated, if corporate escapism is not cut back, if employees are not provided with some security, if employees are not given some space to ask questions, if corporate copying does not stop, if stability and organizational maintenance is not valued, the production of bullshit will not decrease. The exchange of bullshit will not slow down if there are not reality testing, rationality testing, meaningfulness testing, intentionality testing and clarifiability testing. And consumption of bullshit will be minimized if and only if rewarding bullshit stops by limiting attention to it, by not legitimizing it, and by promoting alternative bases of self-confidence, by making stupidity and increasing organizational load costly, very costly indeed, and by tracking trust. All these efforts constitute the "anti-bullshit movement" which we badly need.

References

Harvard Business Review (2012). HBR at 90: How management changed the world. Spotlight, pp.61-91, November.

Kenneth Taylor (2006). Bullshit and the foibles of the human mind, or: What the masters of the dark arts knowledge, in Gary L. Hardcastle and George A. Reisch, eds. Bullshit and Philosophy. Chicago, IL: Open Court, pp.49-62.

Dr. Annavajhula J.C. Bose
Associate Professor
Department of Economics
Shri Ram College of Commerce
Delhi

Statement about Ownership and Other Particulars of the Journal –
THE INDIAN JOURNAL OF COMMERCE

Form – 5
(Rule 8)

1.	*Printer's Name* *Nationality* *Address*	: : :	The Indian Commerce Association Indian
2.	*Place of Publication*	:	New Delhi
3.	*Periodicity of Publication*	:	Quarterly
4.	*Publisher's Name* *Nationality* *Address*	:	The Indian Commerce Association Indian
5.	*Chief Editor's Name* *Nationality* *Address*	:	Prof. Nawal Kishor Indian Flat-141, Azad Hind Society, Sector-9 Dwarka, Delhi-110077
6.	*Name and address of the individuals who own the newspaper and Partners or share-holders holding more than one percent of the total capital*	:	The Indian Commerce Association
7.	*Printed at*	:	Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, Bhubneswar-751024 Orissa

I, Nawal Kishor, hereby declare that the particulars given are true to the best of my knowledge and belief.

(Sd/-)
Prof. Nawal Kishor
(Signature of the Publisher)

CORRIGENDUM

This is to inform that in the July-Dec 2018 issue of the Indian Journal of Commerce, there has been a typographical error on the last inner cover page of the journal. The Printer's name has been printed as Indira Gandhi National Open University, Maidangarhi,New Delhi-110068. This is a typographical error. The correct Printer's name is as follow :

THE INDIAN COMMERCE ASSOCIATION

The inconvenience is deeply regretted.

Editorial Team
The Indian Journal of Commerce

Regd. No. 4973/60

Rs. 20/-

Printed by:

KIIT Deemed to be University, Bhubaneswar, Odisha, India
On behalf of Indian Commerce Association