

DIAS Technology Review

The International Journal for Business & IT

Vol. 16 No. 2

#32

www.dias.ac.in



October 2019 – March 2020

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DIAS Technology Review

The International Journal for Business & IT

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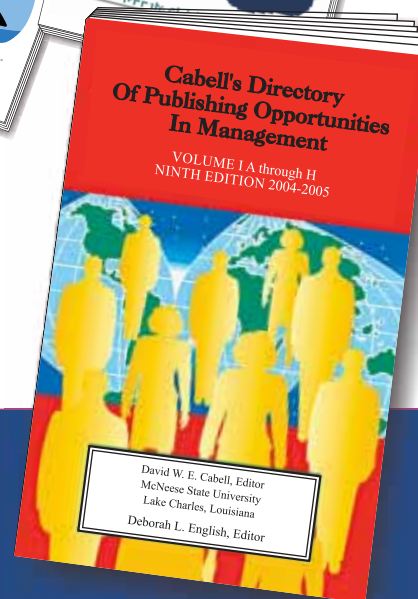
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Printed, Published and Edited by Shri Sanjay Sachdeva, on behalf of Delhi Institute of Advanced Studies, Plot No.6, Sector-25, Rohini, Delhi-110085 and Printed at Swan Press, B-71, Naraina Industrial Area, Phase-II, New Delhi-110028.

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Prof. Puja Khatri, Ms. Neha Raheja

The aim of this paper is to develop and validate the scale to assess the level of satisfaction of alumni with their Alma Mater in India. It focuses on the various Public, Private and Deemed Universities offering Management and Engineering education in Delhi/NCR.



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17 Consumer Impulse Buying Behavior in Indian Hypermarkets

Ms. Charu Sarin

This paper focuses on identifying and exploring the shopper's motivations for impulse buying in hypermarkets. It also observes the different types of impulse buying behaviours with respect to the demographics of the respondents by using the Content Analysis Technique and tested the findings by AMOS.



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30 Understanding impulsive and Compulsive Buying Behavior of Online Consumers

Dr. Pratiksha Tiwari, Ms. Tanuja Puri

This paper primarily studies the factors formulating compulsive and impulsive buying behavior of online buyers. It also identifies the relationship between both of them by using exploratory factor analysis, confirmatory factor analysis and structured equation modeling



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41 Impact of Celebrity Endorsements on Consumer Buying Behavior: An Empirical Analysis of Millennials

Dr. Shilki Bhatia, Ms. Jyoti Tandon

The authors through this paper intend to understand the factors associated with the celebrity endorsements and its impact on the purchase intention of the millennials in India.



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54 Coherence of Growth & Inflation in BRICS: ARDL Bound Test Approach

Dr. Kirti Khanna



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The author has analysed the link between the economic growth and inflation for BRICS nations by using ARDL testing of cointegration.

63 Analysis of Health Record Management System in Private Hospitals

Ms. Sheetal Johar, Dr. Basanna Patagundi

The authors through this paper have focused on the selected private hospitals in Karnataka to assess the usage and challenges in implementing electronic health management system.

DOCTORAL ABSTRACT

74 Investment Behaviour of Institutional Investors in India: A Comparative Study of Foreign Institutional Investors and Mutual Funds

Dr. Kavita

The author has studied the investment behavior of Foreign Institutional investors and Indian Mutual funds as an avenue of capital market.

From The Editor's Desk

We are delighted to present to our readers the 32nd Issue of DIAS Technology Review.

Alumni relations have become a strategic asset for the higher education institution, keen to stick out from the domestic and international competition. In fact, alumni are the reflection of an institution's past, representation of its present and a link to its future. The higher education institutions, now a day, have started to harness the power of alumni as mentors and their best ambassadors providing competitive edge in tough job market. The alumni's sense of loyalty, support and connection with its alma mater depends upon their satisfactory relationships with faculty and staff, level of preparedness given by the institute, as well as the student life experiences. Hence, developing and verifying alumni satisfaction of higher education institutions continuously has become an area of interest for institutional administrators. The research paper **Scale Development and Validation of Alumni Satisfaction in context of Indian Higher Education** is an enthusiastic step of researchers with a purpose of preparing a reliable and valid scale for measuring satisfaction level of alumni of public, private and deemed Universities offering management and engineering education in Delhi NCR. The authors have identified a definite set of psychometric parameters for preparing and measuring the construct of alumni satisfaction (ASAT) by conducting Exploratory Factor Analysis. The topic is very crucial as alumni satisfaction studies are valuable not only to assess institutional effectiveness but also support institutional planning and revenue generation strategies.

The hustle-bustle of modern life causing paucity of time and an easy access to technology has paved way to introduction of new formats in marketing, namely organized retailing in supermarkets, hypermarkets or online shopping. Since, organized retail is on a rise now a day, the consumers end up making on-the spot purchases, without any pre-shopping objective. In the article "**Consumer Impulse Buying Behavior In Indian Hypermarkets**" the author has pondered upon this unintended, non-reflective reaction, which occurs after being exposed to some stimuli inside the store. She has explored shopper's motivations for impulse buying by identifying product categories in hypermarkets and has also determined the post-purchase feelings of impulse buyers from selected hypermarkets in Delhi-NCR. The article makes an identification of a new category of impulse purchase namely 'Referential impulse buying' also. Similarly, in a study on **Understanding Impulsive and Compulsive Buying Behavior of Online Consumers**, the authors have discovered rapid increase in consumers' preferences for online shopping and e-commerce. They have investigated that the compulsive and impulsive buying patterns of the online consumers in the Fast-moving Consumer Goods sector are generally governed by personal, psychological and social factors. The study conducted through Structural equation modeling concludes that impulsive buying behavior has a positive impact on compulsive buying behavior.

The advent of digitization and information explosion through social media has influenced the product promotion, positioning and advertisements in a revolutionary manner. The media power and celebrity promotion has played a prominent role in shaping the attitude and perceptions of the consumers, especially Generation Y and Generation Z. The research article **Impact of Celebrity Endorsements on Consumers' Purchase Intention: An Empirical Analysis of Millennials** gives the glimpses of celebrity branding and celebrity endorsements in a developing economy of India. The authors have delved deeper to find out various factors associated with the celebrity endorsements like attractiveness, trustworthiness and expertise of endorsers, consumers' perception of quality of the products, the value of money for including celebrities in endorsements and brand attractiveness which stimulate youngsters for purchase. Statistical tools like Factor Analysis and Multiple Regression Analysis have been adopted to derive that celebrity endorsements have a positive impact upon the purchase intention of millennials.

Economic growth and the sustainable production capacity of a country has conflicting relationship with inflation in general, but in the research **Coherence of Growth & Inflation in BRICS: ARDL Bound Test Approach** the author has tried to explore rationality between these two variables. The study applies autoregressive distributed lag model (ARDL) for long term relationship and granger causality test to check the direction of short term and long-term causal relationship. The author has concluded that BRICS nations have significant relationship in terms of inflation (CPI) and economic growth (GDP) while suggesting cooperation in Trade and Tariff with effective policies for economic development.

The research article **Analysis of Health Record Management System in Private Hospitals**, advocates the electronic database records maintenance about the patient's health in the past and present, to facilitate better and faster treatment, as per National Health Policy of India, 2017. In this study conducted at selected private hospitals in Karnataka, the author has observed that in spite of huge advantage in usage of electronic health management system, there is still preference for manual record-keeping due to numerous challenges in implementation of EHR in health centers.

In the Doctoral Abstract, **Investment Behaviour of Institutional Investors in India: A Comparative Study of Foreign Institutional Investors and Mutual Funds**, the author has focused on the Foreign Institutional investors in the category of foreign investors and Mutual funds in the category of domestic investor in various investment avenues of capital market.

In our pursuit of knowledge proliferation and dissemination amongst our venerable readers, we are sure that this new edition of DIAS Technology Review will, be captivating and informative as usual.



Regards,

Dr. Anju Batra

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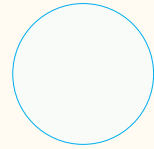
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Dr. Kavita

Scale Development and Validation of Alumni Satisfaction in Context of Indian Higher Education

* Prof. Puja Khatri,
**Ms. Neha Raheja



ABSTRACT:

This paper aims at developing and validating scale for assessing the level of satisfaction of alumni with their Alma Mater. The literature on higher education expansion indicates that the higher education market is now well-established as a global phenomenon. An alumnus could be the most valuable asset an institution could invest in. "Alumni studies are useful not only to assess institutional effectiveness but also to aid institutional planning and revenue generation" (Volkwein, 2010). Therefore, it becomes essential on our part to conduct such alumni studies in India and in order to perform such studies, we need to develop reliable and a valid scale to study and examine the level of satisfaction of alumni with their alma mater which will help institutions to plan and execute a framework to improve their relations with the alumni. This study has been conducted among alumni of Public, Private and Deemed Universities offering Management and Engineering education in Delhi/NCR.

Keywords: Alumni, Alma mater, Management, Engineering, Satisfaction, India

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INTRODUCTION

In India, alumni relations for professionals are entering an exciting and vibrant phase. Calitz et al. (2017) commented "Alumni are a university's best ambassadors and they bring real-world experience to the modern-day student and increase the perceived value that the university offers."

An alumna is most valuable for its institution and is often the biggest supporter of the alma mater. "Alumni who enjoyed their student experience give positive feedback to people in their networks, act as role models for students, share their skills and experiences, and advise institutional programs" (Hansen, 2015).

While addressing alumni of NMIMS Sarla Anil Modi School of Economics, Prof. Amita Vaidya (Associate Dean), mentioned "Alumni satisfaction is also an important measure of our quality. We now have over 100 alumni who have succeeded at attaining their degree at Sarla Anil Modi School of Economics, NMIMS and each year our most recent alumni tell us how satisfied they are with their academic experience, the skills they acquired and how both are helping them in the workplace and in places they have gone for further studies."

According to Pike (1994), Hartman & Schmidt (1995), Pascarella & Terenzini (2005) it is imperative to understand the dimensions of alumni satisfaction as its vital for developing educational outcomes and success criteria and evaluating academic programs of the institution. Pike (1994) and Pace (1979) have suggested that alumni satisfaction is the most valuable tool to assess the effect of the institution on students. Calitz et al. (2017) confirmed that "the alumni perception of the extent of learning and the usefulness of the knowledge is a key measure for Universities".



LITERATURE REVIEW

Various studies have suggested that the key to developing a strong, lasting relationship starts for graduates when they are a student (Zabatta, 2017). "As university administrators look forward to future alumni relations it would seem critical to begin building and planning for the alumni relationship with the institution during the course of the student's educational experience" (McAlexander & Koenig, 2001).

The undergraduate experience is at the heart of the relationship between the university and the students. It is through this experience that the students shapes feelings and perceptions regarding the college. According to Johnson and Eckel (1998), "Graduates who had a rewarding undergraduate experience may feel more connected to their alma mater, become more involved, and contribute financially when able". Pedro et al. (2018) found 'satisfaction with social and academic environment' during graduation as one of the key element to ensure the voluntary, conscious and long lasting bonds of alumni with their alma mater. Barkley (1993) suggested alumni satisfaction as a function of past experiences, and how those experiences relate to the current situation.

Satisfaction, a student had with his or her student experience has been identified as the strongest predictor of alumni giving

(Belfield & Beney, 2000; Clotfelter, 2003; Hunter et al., 1999; Stephenson & Bell, 2014; Weerts & Ronca, 2008). Hoyt (2004) suggested that alumni satisfaction is not only a significant predictor of willingness to give back to their institution but also has an indirect effect through involvement with alma mater. Gaier (2005) also reported significant increase in both alumni giving and alumni participation based on the degree of alumni satisfaction with the undergraduate academic experience.

Purpose: The purpose of this paper is to propose a reliable and valid scale for measuring satisfaction level of alumni of Public, Private and Deemed Universities offering Management and Engineering education in Delhi NCR.

Design/ Methodology: – The purpose of our work is to identify a definite set of parameters for measuring alumni satisfaction (ASAT) by conducting Exploratory Factor Analysis (EFA)- Stage 1. The data was collected from 584 respondents through a self-constructed questionnaire based on a five-point Likert-type scale. In Stage 2, Confirmatory Factor Analysis (CFA) was conducted to confirm the dimensions of alumni satisfaction identified through EFA in Stage- 1. Also we establish convergent and discriminant validity of the reflective construct, alumni satisfaction (ASAT).

Findings: SPSS analysis of 584 responses of alumni provided a satisfactory value of KMO (.905) and Bartlett's test of Sphericity: $p < 0.05$. EFA helped in the identification of 2 factors comprising alumni satisfaction (ASAT) - Alma mater Experience (AE) and Career Assistance (CA). Alumni satisfaction (ASAT) has been established as a reflective - reflective second order construct with 2 dimensions - Alma mater Experience (AE) and Career Assistance (CA).

Research Implications: The findings of our research will help in assessing the level of satisfaction among alumni. Research will provide answer to the question- Why do ex-students of some selected Educational Institutes have a strong bond compared to those of others. Moreover, Educational Institutions will get benefitted by knowing the factors which lead to satisfaction of alumni with their alma mater.

Originality: This study attempts to develop and validate scale for assessing the level of alumni satisfaction in India. Though there has been many studies made in the western countries about the satisfaction of alumni but neither of the studies has given a standardized scale for measuring the alumni satisfaction nor any such study has taken place in India till now. Infact, this paper serves as founding stone for studying the concept of satisfaction with their alma mater in India among alumni of public, private and deemed Universities offering management and engineering education in Delhi/NCR.

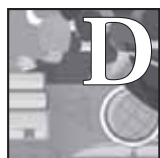


RESEARCH METHODOLOGY

The population frame of the study was alumni of Public, Private & Deemed Universities in Delhi-NCR. Multi- stage purposive sampling without any bias was used to collect data for the study. First of all, an exhaustive list of Universities were drawn from UGC list dated 05.02.2014. For further short-listing, Universities having both Management and

Engineering departments and also having alumni association were considered. Then in the second stage, purposive sampling was used to get the questionnaires filled and there was no deliberate bias in identifying the sample respondents. The questionnaire was personally administered during the annual alumni meet of the respective institutions. The target sample size for this study was 640 against which we collected 607 questionnaires out of which total usable questionnaires received were 584 for data analysis. Our work is an initiative to analyze the level of satisfaction among alumni. The demographic details of the respondents - age, gender, field of study, type of institution, education level, employment status etc. forms Part A of the questionnaire while satisfaction of alumni falls under Part B. A self-constructed questionnaire employing a five point Likert type agreement scale (1-strongly disagree and 5 – strongly agree) with 18 items was administered to respondents. The questionnaire was administered after incorporating the valuable review(s) of experts from academia and industry.

To ensure that the questionnaire was appropriate for achieving the objectives of the study and to ensure the comprehensiveness of the items included, the questionnaire was pilot tested on a sample of 200 respondents. Pilot study (Phase I study) was conducted between November, 2015-January, 2016. 200 usable responses were collected from the alumni of Engineering and Management Institution who attended alumni meets during the mentioned duration. The pilot study was conducted to establish the reliability and validity of the survey questionnaire. Exploratory factor analysis was applied to the data collected to determine the factorial structure of the constructs and the underlying dimensions. The results of pilot test were presented for review to the experts in that area. In addition, feedback and suggestions from these experts were also sought regarding the content, layout, wording and the ease of understanding of the measurement items. They were asked to offer suggestions for improving the proposed scale and to edit the items to enhance clarity, readability and content adequacy. The feedback was used for revising the instrument and then it has been incorporated in the questionnaire. The revised questionnaire was administered to 607 respondents in phase II study. Data collection for phase II study was conducted between October, 2017 to March, 2018.



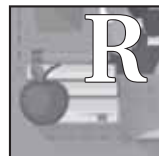
DATA ANALYSIS

The first section of the questionnaire was aimed at collecting the demographic information of the respondents such as gender, age, employment status, field of study, etc. followed by items relating to alumni satisfaction with their alma mater.

Demographics

Among the respondents around 37% respondents completed their degree from Public University, 45% from Private University and 17% from Deemed University where in 51% were management alumni and the rest were engineering alumni. The study consisted of 46% females and 53% of males with the educational background of 38% and 62% as graduate and postgraduate respectively. 41% of respondents were less

than 28 years, 31% of respondents were in the range of 29 to 34 years, 14% of respondents were in the range of 35 to 40 years and 6.5%, 4.8% and 2.2% in the range of 41 to 46, 47 to 52 and 53 year and above respectively. At the time of data collection, 87% respondents were working full-time (not self employed), 7% respondents were self employed, 1% respondents were unemployed and seeking employment, 0.17% respondents were working part-time (not self employed) as well as Unemployed, not seeking employment and around 4% respondents were Full-time student/not employed. The responses collected were analyzed using exploratory factor analysis technique to explore the dimensionality of alumni satisfaction.



RESULTS & DISCUSSION

In factor analysis, variability among observed, correlated variables is expressed through potentially lesser number of unobserved variables, referred as 'factors'. This statistical technique provides a more comprehensive, useful and feasible list of derived items. The appropriateness of using the technique of factor analysis was verified through Kaiser – Meyer – Olkin (KMO) test of sampling adequacy and Bartlett's Test of Sphericity. A satisfactory value of both testing statistical methods was attained (Bartlett's test of Sphericity: $p < 0.05$; value of .905 in KMO- Table 2). Thus, assumptions of exercising factor analysis were met (Table 1).

Table 1: KMO and Bartlett's Test of Sphericity for Alumni Satisfaction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.905
Approx. Chi-Square	1226.860
Bartlett's Test of Sphericity Df Sig.	55.000

Objective of the study is to explore and identify dimensions of alumni satisfaction (ASAT). Principal component analysis was applied on initial 18 items of alumni satisfaction (ASAT). On applying factor analysis, the initial 18 items were reduced to 6 with 12 items being discarded for having factor loading scores less than .6. Following the rotation of factors, each of the clusters of variables was thoroughly examined to determine the meaning of the construct as is explained by the factors. In other words, what are the common items in each cluster (Kim & Mueller, 1978). When the items were grouped, it was found that according to the scores only 2 dimensions could be taken for the study with 3 items in each factor (Table 2).

Table 2: Factor Loadings for Alumni Satisfaction

Statements	Component	
	1	2
My experience as a student at alma mater met my expectations	.793	
The faculty cared about my success	.846	
Problems I encountered throughout the education process were adequately addressed by the institution	.853	

Table 3: Factor Loadings for Alumni Satisfaction

Statements	Component	
	1	2
The institution prepared me to find a job after completion of degree		.867
My degree prepared me for success after completion of degree		.692
The institution provided adequate assistance to me in finding a job after completion of degree		.863

Table 4 below shows the items that of factor 1 of alumni satisfaction with its factor loadings, communalities, mean and standard deviation. Factor 1 signifies the undergraduate

experience of alumni at their alma mater. It includes items which gives insight of experience alumni had at their alma mater during their graduation and factors which may impact their undergraduate experience such as the care shown by faculty, proper resolution of problems encountered while doing graduation. Therefore, this dimension was labeled as *alma mater experience (AE)*. Zabatta (2017) found relationships with faculty and staff as one of the contributing factors in strengthening a graduates bond with their alma mater. "Concurrent to their employee role, some faculty and staff also have relationships with their employing institutions, and with other colleges and universities, as alumni or as parents of students or alumni" (Borden, Shaker, & Kienker, 2013). Cronbach's Alpha (A), which measures internal consistent reliability, was 0.846 for this dimension.

Table 4: Table showing Factor Loadings, Commonalities, Mean, Standard Deviation for Alma mater Experience (AE) of Alumni Satisfaction (ASAT)

Factor I	Alma mater Experience	Factor Loading	Commonalities	Mean	SD
AE1	My experience as a student at alma mater met my expectations	.793	.704	3.76	.990
AE2	The faculty cared about my success	.846	.786	3.61	1.041
AE3	Problems I encountered throughout the education process were adequately addressed by the institution	.853	.791	3.49	.996

Table 5 below shows the items of factor 2 of alumni satisfaction with its factor loadings, communalities, mean and standard deviation. Factor 2 signifies the career assistance received by alumni at their alma mater. An appropriate guidance/ assistance provided by alma mater prove to be instrumental in accomplishment of the career goals set by alumni. It is the prime responsibility of the alma mater to help alumni realize

their career aspiration by providing adequate education and assistance in finding job after completion of degree. This dimension has been labeled as *Career Assistance (CA)*. Barkley (1993) described alumni satisfaction as the function of career experiences, college experiences and personal characteristics. Internal consistent reliability i.e. Cronbach's Alpha (A) of this dimension was 0.826.

Table 5: Table showing Factor Loadings, Commonalities, Mean, Standard Deviation for Career Assistance (CA) of Alumni Satisfaction (ASAT)

Factor II	Career Assistance	Factor Loading	Commonalities	Mean	SD
CA1	The institution prepared me to find a job after completion of degree	.867	.840	3.73	1.116
CA2	My degree prepared me for success after completion of degree	.692	.663	3.86	.963
CA3	The institution provided adequate assistance to me in finding a job after completion of degree	.863	.775	3.54	1.185

Cronbach alpha values for the two factor solution were found to be more than the acceptable threshold level of 0.70 (Nunnally, 1978; Garson, 2012). Cronbach alpha is

0.846 for AE & 0.826 for CA and for complete scale; it is 0.868 which is above threshold level of 0.70, therefore acceptable (Table 6).

Table 6: Reliability Statistics

Variable	Cronbach's Alpha	Number of Items
Alma mater Experience ((AE) (Factor I))	.846	3
Career Assistance (CA) (Factor II)	.826	3
Alumni Satisfaction (ASAT)	.868	6

Total variance explained by two factors of alumni satisfaction (ASAT) - alma mater experience (AE) and career assistance (CA), is 75.97% (Table 7). Total variance percentage

is the variance accounted for by these two factors (AE & CA) to the total variance in alumni satisfaction (ASAT) construct.

Table 7: Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.641	60.679	60.679	3.641	60.679	60.679	2.374	39.573	39.573
2	.918	15.296	75.976	.918	15.296	75.976	2.184	36.403	75.976
3	.481	8.010	83.986						
4	.415	6.912	90.898						
5	.301	5.021	95.919						
6	.245	4.081	100.000						

In our study, we proposed alumni satisfaction (ASAT) as higher order reflective- reflective construct. We utilized PLS SEM to confirm the dimensions of alumni satisfaction (ASAT) and establish it as a higher order construct.

variance extracted (AVE) to estimate convergent validity. In addition, reflective measurement model's assessment also contains discriminant validity (Hair, Hult, Ringle&Sarstedt, 2016).

Prior to examining and confirming, and to establish reliability & validity of alumni satisfaction (ASAT) construct, we examined the skewness and kurtosis of data to determine if the data is not too far from normal to extremely non- normal data. Therefore, the data was checked for normality through skewness and kurtosis. The data distribution is considered symmetric if value of skewness lie between ± 1 (Hair et al., 2017). Since all the values were below the threshold limits, so no treatment of data was required in the present study and all indicators were retained for further analysis (Table 8).

In our study, Alumni Satisfaction (ASAT) is the reflective construct wherein we checked the reliability and validity of the measures used to represent alumni satisfaction (ASAT) construct. Here, we provide an evaluation of how accurate the measure is and also its convergent and discriminant validities.

Reliability & Convergent Validity of Reflective Constructs

As we can observe from the values given in Table 9, all composite reliability values and values of Cronbach are

Table 8 Indicators- Mean, Median, Standard Deviation, Kurtosis & Skewness

Indicator	Mean	Median	Standard Deviation	Kurtosis	Skewness
AE1	3.757	4	0.989	0.286	-0.785
AE2	3.608	4	1.04	-0.055	-0.637
AE3	3.493	4	0.995	-0.257	-0.494
CA1	3.733	4	1.115	-0.006	-0.796
CA2	3.86	4	0.962	0.5	-0.838
CA3	3.539	4	1.184	-0.571	-0.569

For the second stage, additional sample of 584 students was further collected. In this part of analysis, both the factors were retained with all the items, none of the items comprising them were dropped.

between 0.70 and 0.90; our condition of internal consistency is satisfied. For evaluating convergent validity of our constructs which are reflective in nature, we took the outer loadings of the indicators as well as Average Variance Extracted (AVE).

As we can see, both the factors, namely *Alma mater Experience (AE) and Career Assistance (CA)* are shown in the reflective measurement model, accounting for an explanation towards alumni satisfaction (ASAT). Robustness of reflective measurement model lies on internal consistency reliability and validity. Evaluation of reflective measurement model comprises of composite reliability to assess internal consistency, individual indicator reliability and average

With respect to outer loadings, we have a standard recommendation, that the reflective indicator must be reserved provided it's outer loading > 0.70. In case, the indicator's outer loading is < 0.70 but > than 0.40, the indicator should be deleted only if the composite reliability or AVE shows an improvement on deletion (Hair et al., 2016). In case the indicator's outer loading < 0.40 then we need to outwardly delete the indicator (Hair et al., 2016).

AVE values are also shown in Table 9. As we can observe, that all the outer loadings are greater than 0.70 and AVE values are also greater than 0.50; pointing to the establishment of the convergent validity of the constructs.

each construct is diverse from the other constructs in the model (Hulland, 1999). It can be assessed using three approaches- Cross-loadings, Fornell-Larcker Criterion and heterotrait-monotrait ratio (HTMT) of the correlations.

Table 9: Construct Reliability & Convergent Validity

Alumni Satisfaction (ASAT)		0.870	0.870	0.529
Alma mater Experience (AE)		0.846	0.847	0.648
AE1:My experience as a student at alma mater met my expectations	0.783			
AE2:The faculty and staff cared about my success	0.819			
AE3:Problems I encountered throughout the education process were adequately addressed by the institution	0.813			
Career Assistance (CA)		0.829	0.830	0.621
CA1:The institution prepared me to find a job after completion of degree	0.826			
CA2:My degree prepared me for success after completion of degree	0.807			
CA3:The institution provided adequate assistance to me in finding a job after completion of degree	0.727			

Discriminant Validity of Alumni Satisfaction (ASAT)

The degree to which the construct is empirically distinguishable from other constructs is known as its discriminant validity. Discriminant validity indicated that

(a) Cross Loadings

One of the ways to evaluate discriminant validity of reflective construct is to examine the cross loadings of the indicators. Indicators of alma mater experience (AE) - AE1, AE2, AE3 has

Table 10: Discriminant Validity- Cross Loadings

	ACB	AE	AG	ASAT	CA	CGB	FGB	PGB	SGB
AE1	0.294	0.783	0.300	0.822	0.573	0.060	0.248	0.259	0.265
AE1	0.294	0.919	0.300	0.710	0.573	0.060	0.248	0.259	0.265
AE2	0.362	0.819	0.363	0.860	0.591	0.069	0.292	0.351	0.291
AE2	0.362	0.966	0.363	0.760	0.591	0.069	0.292	0.351	0.291
AE3	0.380	0.813	0.337	0.854	0.581	0.092	0.297	0.299	0.245
AE3	0.380	0.965	0.337	0.753	0.581	0.092	0.297	0.299	0.245
CA1	0.262	0.589	0.289	0.863	0.826	0.056	0.193	0.254	0.322
CA1	0.262	0.589	0.289	0.739	1.002	0.056	0.193	0.254	0.322
CA2	0.355	0.621	0.355	0.843	0.807	0.090	0.246	0.329	0.350
CA2	0.355	0.621	0.355	0.748	0.923	0.090	0.246	0.329	0.350
CA3	0.234	0.493	0.232	0.760	0.727	0.004	0.164	0.227	0.239
CA3	0.234	0.493	0.232	0.648	0.911	0.004	0.164	0.227	0.239
	ACB	AE	AG	ASAT	CA	CGB	FGB	PGB	SGB
AE1	0.294	0.783	0.300	0.822	0.573	0.060	0.248	0.259	0.265
AE1	0.294	0.919	0.300	0.710	0.573	0.060	0.248	0.259	0.265
AE2	0.362	0.819	0.363	0.860	0.591	0.069	0.292	0.351	0.291
AE2	0.362	0.966	0.363	0.760	0.591	0.069	0.292	0.351	0.291
AE3	0.380	0.813	0.337	0.854	0.581	0.092	0.297	0.299	0.245
AE3	0.380	0.965	0.337	0.753	0.581	0.092	0.297	0.299	0.245
CA1	0.262	0.589	0.289	0.863	0.826	0.056	0.193	0.254	0.322
CA1	0.262	0.589	0.289	0.739	1.002	0.056	0.193	0.254	0.322
CA2	0.355	0.621	0.355	0.843	0.807	0.090	0.246	0.329	0.350
CA2	0.355	0.621	0.355	0.748	0.923	0.090	0.246	0.329	0.350
CA3	0.234	0.493	0.232	0.760	0.727	0.004	0.164	0.227	0.239
CA3	0.234	0.493	0.232	0.648	0.911	0.004	0.164	0.227	0.239

cross loading on AE as well as ASAT but it has highest loading on ASAT which is higher order construct (HOC). Alma mater experience (AE) has been established as lower order reflective construct with three indicators- AE1, AE2 and AE3. Indicators of career assistance (CA) - CA1, CA2 & CA3 also has loadings both on CA and ASAT, with highest outer loading on alumni satisfaction (ASAT) (Table 10). Career assistance (CA) has also been established as lower order reflective construct with indicators CA1, CA2 & CA3. Alumni satisfaction (ASAT) has been confirmed as second order reflective construct with two lower order reflective constructs- Alma Mater Experience (AE) and Career Assistance (CA) with three indicators in each construct.

(b) Fornell- Larcker Criterion

A more conservative way of determining discriminant validity is the Fornell-Larcker criterion. The rationale behind this approach is that a construct has more in common with its related measures than with other constructs. It involves a comparison of the square root of the AVE with the latent variable correlations such that the square root of AVE of any given construct should be larger than its highest correlation with any other construct. The values obtained during PLS Algorithm indicates that the diagonal line stands are greater than the values in their columns and rows as recommended by Fornell and Larcker (1981). In Table 11, square root of the AVE of AE & alumni satisfaction (ASAT) and also CA & alumni satisfaction (ASAT) is more than latent variable correlations. Therefore, Alumni Satisfaction (ASAT) is established as a Reflective- Reflective Second Order Construct.

Table 11: Discriminant Validity- Fornell- Larcker Criterion

	AE	ASAT	CA	CGB	FGB	PGB	SGB
AE	0.805						
ASAT	1.050	0.727					
CA	0.723	1.044	0.788				

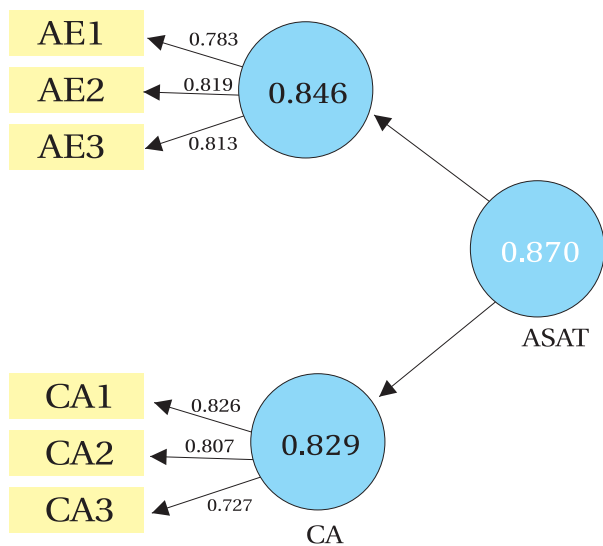


Figure 1- Alumni Satisfaction (ASAT) as Reflective- Reflective Second Order Construct

cross loading on AE as well as ASAT but it has highest loading on ASAT which is higher order construct (HOC). Alma mater experience (AE) has been established as lower order reflective construct with three indicators- AE1, AE2 and AE3. Indicators of career assistance (CA) - CA1, CA2 & CA3 also has loadings both on C

(c) Heterotrait-monotrait ratio (HTMT)

The last and latest method to evaluate discriminant validity of reflective constructs is Heterotrait-monotrait ratio (HTMT) which was proposed by Henseler et al. (2015). The HTMT approach estimates the true correlation between two constructs would be, if they were perfectly measured. The threshold HTMT value for establishing discriminant validity between two reflective is below 0.90. Alma mater experience (AE) and career assistance (CA) are individual reflective constructs but HTMT ratios with alumni satisfaction (ASAT) exceed 1 (Table 12). This implies alumni satisfaction (ASAT) is a second reflective- reflective Type I construct with two reflective sub- constructs- experience at Alma Mater (AE) and Career Assistance (CA).

Table 12: Discriminant Validity- Heterotrait-monotrait ratio (HTMT)

	AE	ASAT	CA	CGB	FGB	PGB	SGB
AE							
ASAT	1.046						
CA	0.723	1.053					

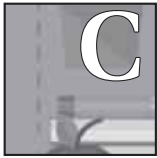
Bootstrapping procedure is done to derive a distribution of the HTMT statistic. While analyzing the Confidence Intervals (Table 12(i)) and Confidence Intervals Bias Corrected tables (Table 12(ii)) after bootstrapping, it is observed the confidence intervals include the value 1 for alumni satisfaction (ASAT)- alma mater experience (AE) and alumni satisfaction (ASAT)- career assistance (CA). Therefore, alumni satisfaction (ASAT) is established as a reflective- reflective second order construct with 2 dimensions- experience at alma mater experience (AE) and career assistance (CA).

Table 12(i) Discriminant Validity- Heterotrait-monotrait ratio (HTMT) Confidence Intervals after Bootstrapping

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
ASAT->AE	1.050	1.050	1.033	1.069
ASAT->CA	1.044	1.044	1.023	1.065

Table 12(ii) Discriminant Validity- Heterotrait-monotrait ratio (HTMT) Confidence Intervals Bias Corrected after Bootstrapping

	Original Sample (O)	Sample Mean (M)	Bias	2.5%	97.5%
ASAT->AE	1.050	1.050	0.000	1.033	1.069
ASAT->CA	1.044	1.044	0.000	1.023	1.066



CONCLUSION

Alumni relationship development can help the alma mater to enhance the reputation of their institution in an increasingly competitive market and by linking alumni engagement activities to this strategic aim, it will provide an important impetus in terms of resource allocation and sustainability. This study contributes to the alumni literature in India by evaluating the dimensions of alumni satisfaction in Indian Higher Education. The study led to conceptualization and validation of alumni satisfaction scale applicable to Indian culture. The exploratory factor analysis of alumni satisfaction has identified two dimensions- alma mater experience (AE) and career assistance (CA). The dimensions provide a basic framework to assess the level of satisfaction of alumni with their alma mater in India. Alumni satisfaction scale has been confirmed through PLS SEM and alumni satisfaction has been established as second order reflective-reflective construct.

Alma mater experience factor has been defined by the experience as a student, relationship with faculty and staff and adequate redressal of problem faced during graduation. Zabatta (2017) found faculty and staff played a critical role in

the student experience. "Administrators should encourage the participation of key relationship partners (e.g. faculty and advisors) at alumni functions and other venues where alumni who have formed bonds with individuals from the institution can interact with them again and reinvigorate those bonds" (McAlexander & Koenig, 2001). Clotfelter (2003) found that having had a mentor relationship with staff or faculty led to alumni feeling more satisfied with their student experience. Gaier (2005) and Sun, Hoffman, Grady (2007) found that relationships with faculty and staff were the critical part of the student experience that influenced alumni giving.

Career assistance factor has been described as a function of level of preparedness given by alma mater to find a job as well as success after completion of degree and the adequate assistance provided for searching job after completion of degree. Hansen (2015) conducted study among alumni who attended Carthage College, a small, private, liberal arts institution located in the Midwest and found that career preparation and undergraduate experiences along with life preparation, alumni experiences, alumni involvement, communication methods with alumni, perception of prestige, willingness to promote the institution, and level of financial support really contributed to the overall opinion of the college.

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Consumer Impulse Buying Behavior in Indian Hypermarkets

**Ms. Charu Sarin*



ABSTRACT:

The impulse buying behavior refers to making an immediate or on-the spot purchases which are without any pre-shopping objective. It is an unintended, non-reflective reaction which occurs after being exposed to some stimuli inside the store. Impulse buying behavior has been classified into four categories namely pure, reminder, suggestive and planned impulse buying. As organized retail is on a rise in India, there is a need to understand the impulse buying behavior of consumers in hypermarkets. The research has been reported in two sections. Section I aims to explore shopper's motivations for impulse buying in hypermarkets, to identify product categories mostly purchased on impulse, to determine the post- purchase feelings of impulse buyers and to explore the different types of impulse buying behaviors and their relative frequency of occurrence with respect to the demographics of the respondents. For conducting the research, three hypermarkets were selected from Delhi-NCR. 130 respondents participated in the survey. Content Analysis technique was used for data analysis of the open-ended questionnaires. Based on the findings of section I, data was collected from respondents in a survey in section II to develop a SEM based model of Impulse Buying Behavior in Hypermarkets. The model was tested using AMOS. The results of analysis in section II supports the content analysis technique-based findings of section I. The unique contribution of the research in the existing literature is identification of a new category of impulse purchase namely 'Referential impulse buying'. It takes place when shopper's reference group such as friends, family or other shoppers inside the store acts as stimuli for making the impulse purchases. Many new insights have been discussed which shows the influence of demographics like age, gender and occupation on the impulsive buying behavior.

Keywords: *Classification of Impulse Buying Behavior, Content Analysis, Hypermarkets, Impulse Buying Behavior, Referential Impulse Buying*

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INTRODUCTION

The impulse buying behavior has been defined as an unintended, non-reflective reaction, which occurs after being exposed to stimuli inside the store (Rook, 1987) and as an unplanned behavior which involves quick decision-making and tendency for immediate acquisition of the product (Rook & Gardner, 1993). Impulse buying refers to immediate purchases which is without any pre-shopping objective either to purchase the specific product or to satisfy a specific need (Beatty & Ferrell, 1998).

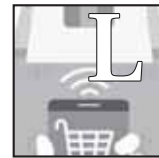
The identification of impulse buying in retail stores in the marketing literature began almost seven decades ago (Clover, 1950). Consumer is roused to impulse buying after they come into the store (Baum, 1951). Four distinct types of impulse purchases namely - pure, reminder, suggestion, and planned impulse buying was established earlier (Stern, 1962). Impulse buying was said to be depicted as an extraordinary, exciting, hedonically complex and compelled buyer action (Rook, 1987). Over the years, impulse buying has been made easier by several tools like credit cards, telemarketing, and home shopping networks (Rook, 1987). A lot of factors affecting the impulse buying has been identified over the years related to the shopping environment, shopper's personal traits, the product and various demographic and socio-cultural aspects. Two emotional shifts which affect the buying habits were identified- an increase in stress levels as consumers are out of their normal routine and an increase in levels of anticipation and excitement (Thomas, 1997). Situational variables like availability of time and money and individual difference variables influence a set of endogenous variables namely positive and negative affect (Beatty & Ferrell, 1998) and so on.

The retail industry in India is showing a promising future. It is one of the fastest growing in the world. In 2017, it was valued at US\$1,824 billion and it is projected to grow up by 60% to US\$1.1 trillion by the year 2020. It contributes 10% to Indian GDP and 8% to employment. Indian retail sector comprises of three components namely traditional retail, organized retail and e-commerce. As per projections for year 2021, their contribution to total retail sector will be 75%, 18% and 7% respectively. The organized retail market is growing at a CAGR of 20-25%. Indian modern retail is expected to double in size in next three years.

There are several drivers to boost the growth of retail sector in India. There is a high growth in demand due to good economic growth, increasing disposable incomes, changing demographic profiles, customer tastes and preferences. India is projected to become the world's third-largest consumer economy by reaching US\$ 400 billion in consumption by 2025. The investments in retail sector doubled in 2018 and reached US\$180 million. There are multiple formats within the retail environment of India. Departmental stores or general merchandisers carry a more selective product line. Examples are Pantaloon, Westside, Shoppers Stop, Reliance Retail etc. Hypermarkets are large retailers that offer all kind of groceries and general goods. They are a combination of supermarket and department store with examples like Big Bazaar stores, Aditya Birla Retail More Hypermarket, Hyper CITY, Trent, Spencer's and Reliance. Supermarkets/ convenience stores are grocery stores offering wide range of food and household products and self service. Products are usually reasonably

priced and are of medium to high quality. Some examples are Aditya Birla Retail More Supermarket, Spencer's Daily, Reliance Fresh, REI 6Ten and Big Bazaar. Speciality stores offer unique or differentiated product categories like Titan Industries with World of Titan, Tanishq and Titan Eye+ shops, Vijay Sales, Croma, E-Zone, Landmark and Crossword. Cash and carry stores allow buying goods in bulk by the membership card holders only like Metro and Reliance Market.

All these formats have their own unique attributes and importance to shoppers based on their situation, distance proximity, type and quantity of products required, mood, time availability and purpose of shopping- whether hedonic or utilitarian. The focus of this research is on study of consumer's impulse purchase behavior in hypermarkets.



LITERATURE REVIEW

Categorization of ideas and concepts is imperative for their complete understanding. The ideas can be recognized and differentiated into various groups by identifying their similar and dissimilar aspects. Stern (1962) provided the first classification of the impulse buying behavior as planned, unplanned, or impulse. Planned purchases involve rational decision making and information-searching while being time-consuming. Unplanned purchasing is done without any advance planning. Impulse buying is also unplanned and must involve experiencing a sudden, strong, and irresistible urge to buy. It was established that all impulse purchases are unplanned, but unplanned purchases are not always impulsively decided (Iyer, 1989). The initial classification of impulse buying (Stern, 1962) was modified in context of fashion products (Han et al., 1991) and developed as four types of impulse buying namely Planned impulse buying, Reminder impulse buying, Suggestion or Fashion-Oriented impulse buying and Pure impulse buying. Planned impulse buying is partially planned as which product categories to buy has been pre-decided but specific product brand or categories are not pre-decided by the shopper. The choices are determined instantly based on the different stimuli inside the store. Reminder impulse buying occurs when the buyer remembers that a product is needed after seeing it inside the store. Pure impulse buying is a novelty or escape purchase where a shopper breaks the trend of usual shopping. Suggestion impulse purchase refers to the purchase of a new product based on self-suggestion and when the shopper does not have any prior experience with the product. Suggestion impulse is mostly prevalent with fashion-oriented products (Han et al, 1991) In this case, shopper does not have any previous experience with the new and fashionable product and purchase is motivated by self-suggestion.

During the literature review it was found that these classifications have not been verified in further studies. The research paper builds on this gap identified and aims to identify the various types of impulse buying prevalent in the current context.

Determinants of Impulse Buying

External Stimuli are the external or environmental factors that influence the impulse buying behavior of shoppers. Impulse

purchasing may increase after consumer's exposure to astimulus while in the store (Applebaum, 1951). These marketing cues or stimuli are placed and controlled by the marketer to tempt the consumers (Youn and Faber, 2000). Environmental stimulus drives consumer's sensation and perception leading to impulses for shopping (Rook and Hoch, 1985). The in-store stimuli such as Point of Purchase posters can increase impulse buying behavior (Abratt and Goodey, 1990). Store Characteristics include the store size, its ambience, lighting, colours, sounds, odours etc. Visual Merchandising called as Store design or product layout in different retail formats also influence the consumer. Buying impulses are encouraged when a consumer encounters a relevant visual stimulus in the retail environment, or even some promotional stimuli in it (Piron, 1991).Product appearance is an important external influence on the customer (VerplankenandHerabadi, 2001).Stimuli inthe retail store environment affect consumer emotions (Donovan and Rossiter, 1982). Store Employees are also a crucial part of the retail store.Perceived employee friendliness positively influence impulse buying behavior (Mattila and Wirtz, 2008). Moreover, Reference Group in the store can also influence impulse buying.Presence of peers increases the urge to purchase (Luo, 2005).Praise from others, such as salesperson, friends during the shopping increases the chances of impulsepurchase (Yu and Bastin, 2010).

Internal Stimuli refers to the characteristics of a person or shopper that indulge them in impulse buying. Consumer's characteristics and demographics influence theimpulse purchases (Kollat and Willett, 1967). Impulsive Buying Tendencyis a personality trait and refers to consumer's tendency to buy spontaneously, non-reflectively, and kinetically (Rook and Fisher, 1995).Variety Seeking individuals are more prone to impulse purchases (Sharma et. al, 2010). The role of hedonism is also studied in the literature. Impulse buyers shows emotions of amusement, enthusiasm, joy and delight (Weinberg and Gottwald, 1982). Consumer impulsion can be linked to materialism and recreational aspects of shopping (Rook, 1987).

Hypermarket contains a large variety of products of different Product Types.Impulse buying varies across the range of product categories (Yu and Bastin, 2010). Different aspects of the product encountered in the store (Stern,1962) and functional benefits can trigger the impulse buying phenomenon (Schiffman et.al,2010).Impulse buying of new products is driven by product knowledge, consumer excitement and esteem (Harmancioglu et.al, 2009).Fashion - oriented products are a very popular impulsively purchased product category, consumers act on impulse for buying the new fashion products (Han et al., 1991).

Situational Effect is the consumer's response and the way they think and react in a different situation. Situational factors influencing impulse buying include actual or perceivedtime available for shopping and spending power or money availability at that moment (Beatty and Ferrell, 1998).Shopper's available time and impulse buying tendency will positively influence In-store browsing which in turn, has a positive impact on their positive feelings and impulse buying urge (Beatty and Ferrell, 1998).

Consequential Effect can be considered as a group of variables related to the post – purchase feelings of impulse buyers. In the heat of the moment they purchase a lot of products but later they have regret or negative feelings. When the Perceived Product Quality is low,consumers feel low value for money. The over-choices of productscreates confusion and it generally conflicts with the enjoyment part of the impulse purchases, shoppers tends to go over-budget and indulge in unnecessary purchases.

All these factors collectively influence the impulse buying behavior of shoppers. There is a lack of studies to ascertain this behavior with respect to a hypermarket in India. Mostly the previous researches are done outside India like US and Europe. There is a need to identify the factors relevant to the Indian context. The study will enable the market researchers to understand the thoughts and behaviors of Indian customers and develop context specific strategies to serve them better.

SECTION I



CONTENT ANALYSIS

Content Analysis is a research tool which can be used for the objective, systematic and quantitative description of the visible content of communication (Berelson, 1952). It is a research technique for making replicable and valid inferences from data to their context (Krippendorff, 1980). It can also be described as a research method that uses a set of procedures to make valid inferences from the text. It is regarded as a flexible method for analyzing the text data (Cavanagh, 1997) and its aim is to build a model that can be used to describe a phenomenon in a conceptual form.

The advantage of using a content analysis technique is to obtain direct information from respondents without imposing them with preconceived categories. Knowledge generated from content analysis is based on the respondents' unique perspectives and is grounded in the actual data.

Content analysis can be used with both qualitative and quantitative data and in an inductive or deductive way. This technique was primarily used as a quantitative research method, with text data coded into the explicit categories and then described by using statistics. This approach can be referred to as quantitative analysis of qualitative data (Morgan, 1993). Qualitative content analysis can be considered as an approach of empirical, methodological controlled analysis of texts within their context of communication by following content analytic rules and using step by step models, without rash quantification (Mayring, 2000).

There are two approaches to qualitative content analysis: Inductive Category Development and Deductive Category Application (Mayring, 2000). The inductive approach begins with formulation of criterion of definition and research question from a theoretical background. Coding categories are derived directly and inductively from the raw data. Data is used to generate ideas.

The deductive approach begins with a pre-existing idea and uses the data to confirm or reject the idea. Then, during data analysis, the researchers derive themes from the data. The aim

is to confirm or extend a theoretical framework or theory conceptually. It can also be used to test an already established theory in a different situation or to compare various categories at different time periods.

The earliest exploratory study of Consumer's impulse buying incidents was carried out to identify the impulse buying's behavioral components (Rook, 1987). An inductive content analysis technique was employed which uses data to generate ideas. Eight distinctive behavioral features emerged from the descriptions of the respondents namely 'spontaneous urges to buy', 'power and compulsion: Intensity and Force', 'Excitement and Stimulation', 'Synchronicity', 'Product Animation: Fantastic Forces', 'Hedonic Elements: Feeling Good and Bad', 'Conflict: Good versus Bad; Control versus Indulgence' and 'Disregard for Consequences'.

A content analysis of consumer images at retail stores (Zimmer & Golden, 1988) has explored the retail store images from the consumer's perspective to find that the image descriptions are consumer's affective or emotional evaluations.

The Content analysis technique has not yet been extensively used in the study of impulse buying behavior in consumer behavior studies. The research uses the Deductive approach for content analysis of the respondents' descriptions of their impulse buying experiences. The focus is on consumer's unprompted descriptions of impulse buying without directing the respondent towards any pre-conceived notions.

The Deductive Approach has been used in this Research Paper to analyze the open-ended questionnaires because the concept of impulse buying has been established previously. The analysis and results would contribute further to the description and understanding of the phenomenon.



RESEARCH OBJECTIVES

1. To find out the buyer's motivations for impulse buying in hypermarkets
2. To identify the main product categories on purchased impulse
3. To identify the various types of Impulse Buying and their relative frequency of occurrence
4. To determine the post purchase feelings of the impulse buyers



RESEARCH METHODOLOGY

The research is both exploratory and descriptive. It is based on obtaining detailed opinions of the consumers about their recent experiences of impulse buying, the product categories bought on impulse and their feelings about the impulse buying by recalling and describing their recent impulse buying situation.

Primary data was collected through use of a self-constructed open-ended questionnaire. The open-ended questionnaire is an effective means for gaining insights into the consumer's

understanding of the impulse buying concept without confining or moderating their thoughts.

The first part of the questionnaire established the demographic details of the consumers such as age, gender and occupation. In the second part, the term impulse buying was explained to the respondents as "It occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately" (Rook, 1987). Consumers were asked to recall and provide details of the situation (where, when, who, how, what and why etc.) that led to indulging in impulse buying and any thoughts, opinions, or feelings about impulse buying in about 250-300 words.



SAMPLING

The usable data was collected from shoppers of hypermarkets by using mall intercept method. Three shopping malls (Select Citywalk, Saket; The Great India Palace, Noida; TDI Mall, Rajouri Garden) were selected from Delhi-NCR by using Convenience Sampling. 150 questionnaires were filled by respondents, 50 from each shopping mall out of which only a total of 130 questionnaires were usable and completed in all respects. The shoppers were intercepted and requested to participate in the survey by self-completion of the questionnaire on the spot.



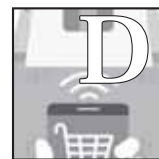
QUESTIONNAIRE

First part of the questionnaire obtained the demographic details of the respondents. It included their age, gender and occupation.

The second part of questionnaire had the following open-ended questions:

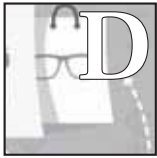
Please give a detailed description of your experiences or instances of impulse buying.

1. Describe your most recent sudden urge to buy something. What did you think? What did you buy?
2. What kind of feeling did you experience when you felt the sudden urge to buy something?
3. Did you encounter any negative consequences as a result of your impulse shopping? What were they?



DATA ANALYSIS: CONTENT ANALYSIS PROCEDURE

The goal of the research was to identify and classify all the instances of impulse buying into a particular category. Content analysis started with reading all the data repeatedly to immerse in it and obtain a sense of the whole (Tesch, 1990) Then, data was read word by word to derive codes (Miles & Huberman, 1994; Morgan, 1993; Morse & Field, 1995) or identify one or another type of impulse buying by first highlighting the exact words from the text that appear to capture the key thoughts or concepts. This process is continued and emergent categories are used to organize and group codes into meaningful groups or clusters (Coffey & Atkinson, 1996; Patton, 2002). Any text that could not be categorized with the initial coding scheme was given a new code.



DEFINING CATEGORIES

Categories denote the conceptual scheme of the research design (Kassarjian, 1977). Definitions are developed for each category, subcategory and code for reporting the

findings. Exemplars for each code and category are identified from the data.

Data analysis started with defining the categories describing the various types of impulse buying for analysing the respondents' descriptions of the impulse buying incidents reported by them. Four types of impulse buying identified previously (Stern, 1962) has been used as the initial coding categories. These types are Pure impulse purchase, Reminder impulse purchase, Suggestive impulse purchase and Planned impulse purchase.

The responses were read repeatedly to capture key thoughts or concepts. These were compared with the initial category definitions to classify each incident as one of the four types of impulse buying. Any text that could not be categorized with the initial coding scheme was given a new code. In this process a new category emerged namely 'Referential Impulse Purchase'.



CATEGORY RELIABILITY

The reliability of a content analysis refers to its stability or the tendency for coders to consistently re-code the same data in the same

way even after passage of some time; reproducibility, or the tendency for a group of coders to classify categories in the same way; and accuracy, or the extent to which the classification of a text corresponds to a standard or norm statistically.

The following categories and coding were pretested using a sample of 15 questionnaires by two trained judges (Professors). All the coding categories were retained after agreement of the judges.



INTERJUDGE RELIABILITY

The content analysis of the data involved a total of 130 judgments. There were only seven disagreements resulting into an overall interjudge reliability of over 94%. This is in confirmation with the conventional acceptance criteria of minimum 80% (Kassarjian, 1977). All the disagreements were discussed by the judges and resolved completely.



VALIDITY

Validity of a content analysis study refers to the correlation of the categories to the conclusions, and the generalizability of results to a theory. The validity of categories is achieved by utilizing multiple classifiers to define an agreed upon definition of the category. In this case the categories used were pre- defined in earlier research (Stern, 1962).

Table 1: Coding Scheme and Category Definitions

Category	Definition	Examples
Pure impulse purchase	A purchase that does not fit with an individual's normal buying pattern. This might mean buying an obscure item that a consumer would never normally consider.	I had gone to a cosmetic shop to take a cream, where I saw a kajal of a renowned brand at a reasonable price but I haven't tried it before, I am attracted towards that product and purchased it, although I don't need it
Reminder impulse purchase	Occurs when an individual is reminded that he or she needs a product once it is presented in front of him or her. This might mean that the individual is already at a store and sees an item he or she is running out of at home	As I was searching this kind of product for a long time so when I suddenly found it on a store I could not resist buying it
Suggestive impulse purchase	Happens when an individual sees a product and creates or imagines a need for it.	I saw a bag displayed in a store during window shopping. I had no requirement of a new bag, but it looked so lovely that I just thought of buying it at the moment and later think of what to do about it
Planned impulse purchase	Occurs when a shopper does not plan exactly what will be purchased, but actively looks for and takes advantage of promotions.	That sudden urge was because of offers given by the brand. I saw one shirt and I liked it. I might have not bought it if 30% discount would not have been there. Due to the offer I bought it.
Referential impulse purchase	When shopper's buying decision is based on the recommendations of reference group like friends, relatives or other shoppers.	My friend pointed out a new handbag in the store while we were shopping. I checked it out myself, liked it and bought it instantly.



FINDINGS & ANALYSIS

DEMOGRAPHICS:

Out of the 130 respondents, 11(8%) did not purchase anything on impulse. Out of these, 7 were males and 4 were female respondents across different age groups.

Table 2: Demographic Profile of Impulse Buyers:

Demographics	Categories	No. of Respondents	Percentage of Total
Age	18-29 years	57	48
	30-40 years	30	25
	Above 41 years	32	27
Gender	Male	59	50
	Female	60	50
Occupation	Students	53	45
	Service-class	38	32
	Business- class	28	23

Out of the remaining 119 impulse buyers, 57(48%) were in the age group 18-29 years, 30(25%) were in 30-40 years group and 32(27%) were above 41 years. In terms of gender, the sample was evenly distributed with 59(50%) males and 60(50%) females. Also in terms of Occupation, 53(45%) respondents were students, 38(32%) were service-class and remaining 28(24%) belonged to the business class.



OBJECTIVE 1: IDENTIFICATION OF BUYER'S MOTIVATIONS FOR IMPULSE BUYING

The responses were studied using the content analysis technique to find out the reasons or motivation stimuli for indulging in impulse buying. Impulse buyers described their feelings as 'feeling happy', 'excitement', 'feeling good about myself', 'impatient' etc. These are consistent with the features of impulse buying established in previous studies.

Table 3: Overall major motivators for impulse buying

Motivators For Impulse Buying	Respondents
Felt that the product would be useful	18%
Felt a need was present for the product	13%
Feel happy when buying	13%
Want to try a new or exclusive product	8%
Sale was going on	8%
Liked a product after seeing it inside the store	8%
On recommendations of friends	8%
Product was on discount or at low price	7%
Saw other shoppers trying the product inside the store	6%
Had money at disposal	5%
On recommendations of family	3%
To remain up to date with changing trends	3%

It is imperative for the marketers to understand the motivations of their customers for indulging in impulse purchasing and the kind of need it fulfilled. These attributes must be promoted in their products promotions and advertisements to appeal to the exact motivation of the customer so that they are highly influenced to buy impulsively.

Several unique findings were associated with the changing demographics of the shoppers. These are detailed as follows:

Table 4: Top Motivators vs Age

Age	Top Motivators	Respondents
18-29 years	Useful	21%
	New/exclusive product	14%
	Feel happy	12%
30-40 years	Useful	27%
	Need is present	27%
	Discount/ low price	17%
Above 41 years	Feel happy	16%
	Need is present	16%
	Friend's recommendation	13%

Age: In the age group of 18-29 years, 21% respondent buy on impulse if they feel that the product will be useful for them and 14% likes to buy a new/exclusive product while 12% feel happy when buying. In the age group of 30-40 years, most respondents purchase any product if they feel it will be useful for them (27%) or a need is present (27%). They also look out for discount/ low price (17%). In above 41 years age group, the respondents purchase on impulse as they feel happy (16%) or a need is present (16%) or based on friend's recommendation (13%).

It can be observed that youngsters are attracted towards new or exclusive products while middle age customers look out for discounts and the higher age bracket customers comply by the opinions of their friends.

Table 5: Top Motivators vs Gender

Gender	Top Motivators	Respondents
Male	Useful	14%
	Need is present	14%
	New/exclusive product	10%
Female	Useful	22%
	Feel happy	15%
	Need is present	13%

Gender: Males purchase on impulse when the product seems to be useful for them (14%) or a need is present (14%). These two motivators are same for females as well i.e useful for them (22%) and a need is present (13%).

The differentiating motivator for males is that they prefer to buy new or exclusive products. Retailers should target their

new or exclusive product range towards males rather than females for a higher sale. Also, females indulge in impulse buying as they feel happy after shopping (15%). Marketers should promote happiness in their promotional displays to attract females into buying more.

Table 6: Top Motivators vs Occupation

Occupation	Top Motivators	Respondents
Student	Useful	23%
	New/exclusive product	15%
	Feel happy	13%
Service-class	Need is present	24%
	Useful	18%
	Discount/ low price	13%
Business-class	Feel happy	21%
	Need is present	14%
	Up to date in trend	11%

Occupation: The different motivators with respect to occupation were found that Students are also attracted towards new or exclusive products (15%). Service class decision is based on discounts and low prices (13%), while for business-class the major motivation for impulse buying is that they want to remain up to date with the trends (11%).

Marketers need to identify their target segment specifically and promote the motivation factors for their target customers in their promotional schemes.



OBJECTIVE 2: IDENTIFICATION OF PRODUCT TYPES PURCHASED ON IMPULSE

This knowledge will help the retailers to understand which product categories are bought more by the customers on impulse. Hence, they can accordingly decide on the ratio of stocks to be carried and kept in their stores which will give them a higher sales and profits.

Table 7: Product Categories most purchased in impulse buying

Product Type	Respondents
Clothes	29%
Generic Items	28%
Electronics	17%
Accessories	11%
Car	9%
Shoes	6%

This can be studied in detail in terms of demographics also.

Table 8: Product Categories Most Purchased on Impulse vs Age

Age	Product Types	Respondents
18-29 Years	Clothes	33%
	Accessories	19%
	Electronics	19%
30-40 Years	Generic	60%
	Clothes	20%
	Shoes	10%
Above 41 Years	Clothes	31%
	Car	28%
	Electronics	25%

Age: In the age group of 18-29 years, mostly clothes (33%) were purchased on impulse as this age group is very fashion conscious. In the age group of 30-40 years mostly generic items (60%) are bought impulsively as they usually have responsibilities of managing the households. In above 41 years age group cars (28%) were purchased as they usually have a high income and disposable money.

Table 9: Product Categories Most Purchased on Impulse vs Gender

Gender	Product Types	Respondents
Male	Electronics	27%
	Generic	27%
	Clothes	20%
Female	Clothes	38%
	Generic	28%
	Accessories	18%

Gender: It was found that males purchase mostly Electronics (27%) and generic items (27%) on impulse followed by clothes (20%), car (15%), shoes (7%) and accessories (3%). Females purchase mostly clothes (38%) on impulse followed by generic (28%), accessories (18%), Electronics (7%), shoes (5%) and car (3%).

It can be observed that males purchasing habits are distinct from females. For female shoppers accessories like belts, purse, jewelry etc are an important part of their purchase basket. Retailers should place the accessories at strategic locations within the store to engage the females in impulse buying.

Occupation: Students mainly purchased clothes (36%), accessories (19%) and generic items (19%). They are generally more fashion conscious and trendy. They spend a lot on self-grooming by wearing latest clothes and accessories.

Service-class bought generic items (50%), clothes (24%) and Electronics items (11%). This segment usually looks after their

Table 10: Product Categories Most Purchased on Impulse vs Occupation

Occupation	Product Types	Respondents
Student	Clothes	36%
	Accessories	19%
	Generic	19%
Service-class	Generic	50%
	Clothes	24%
	Electronics	11%
Business-class	Car	29%
	Clothes	25%
	Electronics	25%

household shopping themselves. For office they need updated wardrobes and for home several electronics items like TV, Fridge, AC etc are required.

Business- class bought car (29%), electronics (25%) and clothes (25%) on impulse. Car is a status symbol. Customers in this segment may have several cars as a symbol of prestige or esteem.



OBJECTIVE 3: IDENTIFICATION OF TYPES OF IMPULSE BUYING

The following categories were identified during the data analysis:

- Pure impulse purchase:** A purchase that does not fit with an individual's normal buying pattern. This might mean buying an obscure item that a consumer would never normally consider.
- Reminder impulse purchase:** Occurs when an individual is reminded that he or she needs a product once it is presented in front of him or her. This might mean that the individual is already at a store and sees an item he or she is running out of at home
- Suggestive impulse purchase:** Happens when an individual sees a product and creates or imagines a need for it.
- Planned impulse purchase:** Occurs when a shopper does not plan exactly what will be purchased, but actively looks for and takes advantage of promotions.
- Referential impulse purchase:** When shopper's buying decision is based on the recommendations of their reference group like friends, relatives or other shoppers in the store.

Table 11: Frequencies of occurrence of types of impulse buying:

Type Of Impulse Buying	Respondents
Pure impulse purchase	38%
Planned impulse purchase	26%
Reminder impulse purchase	15%
Suggestive impulse purchase	13%
Referential impulse purchase	8%

The findings reveal that 'pure' impulse buying is most prevalent among the respondents. It is opted by 37% male and 40% female respondents. It is opted mostly across all age groups, for 18-29 years and 30-40 years age group it is 37% while for above 41 years it is opted by 44% of the respondents. In terms of occupation, the situation is same wherein it is opted by 36% students, 42% service class, and 39% business class.

Other findings:

Age: Respondents in age group 18-29 years and 30-40 years were indulge more in planned impulse purchase at 28% and 33% respectively. This is because they enjoy comparing different brands and products to take advantage of various discounts and promotional offers.

Respondents in age group of above 41 years, indulge more in Referential impulse purchase (22%). They give a lot of importance to the recommendations given by their spouse, family members and friends.

Gender: There is a difference in approach of the two genders. 22% males indulge in Referential impulse purchase. So, the marketers can design their advertising strategies to showcase brand ambassadors to which the male customers can relate to and make their purchase decisions.

Females indulge in planned impulse purchase (32%). In India females are considered as the home makers and they actively look for and takes advantage of promotions inside the store.

Occupation: Student and Service-class indulge in Planned impulse purchase with 32% and 24% respondents respectively while Business-class indulge more in Referential impulse purchase (21%). This shows their need for complying with the peer pressure and to maintain a standard of living expected by their friends and family.



OBJECTIVE 4: EVALUATION OF POST PURCHASE FEELINGS

Using open-ended questionnaires, the respondents described their feelings associated with their impulse purchase experience. 10% of the respondents did not have any regrets after impulse purchases and the remaining 90% respondents described their feelings to be negative after it. Respondents gave multiple reasons for regretting the impulse purchases made by them.

Table 12: Reasons for regretting the impulse purchases

Reasons For Regretting Impulse Purchases	Respondents
Overspending	47%
Product bought was not required	39%
Quality of the product purchased was not up to the mark	14%

Overspending (47%), the product bought was not required (39%) and quality of the product purchased was not up to the mark (14%). These results have been found to be true across all

the age groups, both genders and all the occupation types included in the study. The insights are very interesting and unique. The post purchase feelings and motivations of the impulse buying can be contrasted here.

18% impulse buyers bought a product thinking that it would be useful but later 39% realized that the product they bought was not required. This implies that shoppers are buying on impulse in the spur of the moment, without being concerned for the consequences. Similarly 15% buyers shopped on impulse to take advantage of ongoing sale(8%) and discounts or low prices (7%) but later felt that they have overspent by exceeding their monthly budget.

When shoppers indulge in impulse buying involving quick decision making and are very eager to buy a product they generally ignore the quality of the product and end up buying the poor quality products, which they regret later. If retailers want to take advantage of this psychology of the customers, they would be able to sell their mediocre products just by making it look appealing in the first impression.

SECTION II

STRUCTURAL EQUATION MODEL (SEM) OF FACTORS INFLUENCING IMPULSE BUYING BEHAVIOR IN HYPERMARKETS



RESEARCH OBJECTIVE

The research objective of section II is to develop and test a model of Consumer's Impulse buying behavior in a hypermarket. The model will be tested using AMOS.



RESEARCH MODEL

Hypermarkets have certain unique characteristics. It is a retail format combining features of a department store and a grocery supermarket. A wide variety of products are

offered such as appliances, clothing and groceries etc. It is a very large establishment where the products are displayed on shelves and aisles, stored category wise and in different sections. Shoppers navigate through the store and browse different products as per their choice. Employees of the hypermarket assist shoppers to find the products they are looking for or can suggest some other products. They can also describe various promotional schemes available to the shopper.

Many shoppers enjoy the whole process of visiting a hypermarket, browsing and selecting products or try new products either with their family and friends or by themselves. Shoppers receive several stimuli within the store called as External Stimuli (ES). It includes attributes of Store Characteristics, Sales Promotions, Store Employees, Reference Group- Friends, Family and Visual Merchandising. These stimuli are common for all the shoppers and they get influenced to do impulse purchasing. Internal Stimuli (IS) are the personal characteristics of the shopper. These characteristics includes Impulsive Buying Tendency, Variety Seeking Nature and Hedonism characteristics. Another important feature of the hypermarkets is the Product Type

(PT) that they store and sell. They can be New Products, Fashion -oriented Product or Daily Use Product. The impulse purchasing behavior may be a little different in all three cases. Situational Effect (SE) describes the situation in which a customer is while being present in the hypermarket, these situations can be described in terms of Crowd in Store, Time Available for shopping and Money Available for shopping. Lastly, Consequential Effect (CE) have been included in the model which is derived from the findings of section I above. They refer to the post purchase experience of the shoppers after they indulge in impulse buying. It acts as a feedback for the shopper when they go in for impulse buying next time. They will remember the past experience and may try to curb their future indulgences in impulse buying. CE includes Perceived Product Quality, Over-choice, Over-budget and Unnecessary purchases.

The research model is based on the factors identified in the literature review and in previous section I, which are relevant to the context of hypermarkets.

Table 13: Constructs considered for building and testing the model

Constructs	Items
External Stimuli (ES)	Store Characteristics
	Sales Promotions
	Store Employees
	Reference Group- Friends, Family
	Visual Merchandising
Internal Stimuli (IS)	Impulsive Buying Tendency
	Variety Seeking
	Hedonism
Product Type (PT)	New Product
	Fashion -oriented Product
	Daily Use Product
Situational Effect (SE)	Crowd in Store
	Time Available for shopping
	Money Available for shopping
Consequential Effect (CE)	Perceived Product Quality
	Over-choice
	Over-budget
	Unnecessary purchases

PROPOSED RESEARCH MODEL

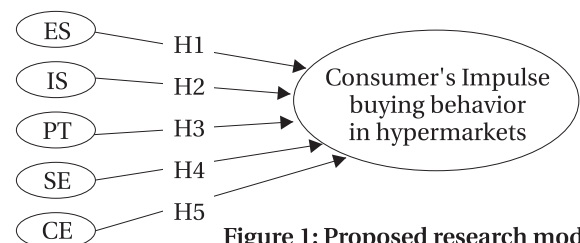


Figure 1: Proposed research model

The above figure depicts the proposed research model showing the influence of the five identified constructs on the Consumer's Impulse buying behavior in hypermarkets.



RESEARCH HYPOTHESIS

H1: External Stimuli (ES) positively influence Consumer's Impulse buying behavior in hypermarkets

H2: Internal Stimuli (IS) positively influence Consumer's Impulse buying behavior in hypermarkets

H3: Product Type (PT) positively influences Consumer's Impulse buying behavior in hypermarkets

H4: Situational Effect (SE) positively influences Consumer's Impulse buying behavior in hypermarkets

H5: Consequential Effect (CE) positively influences Consumer's Impulse buying behavior in hypermarkets



RELIABILITY TEST

Internal consistency was measured using Cronbach's alpha values (Straub, 1989). Constructs are considered as reliable when their Cronbach's alpha value is higher than 0.70 (Hair Jr, Black et al. 2010). As per the results in the table below, all the constructs have Cronbach's Alpha Value higher than the recommended value of 0.70. This indicates that there is a strong reliability and high internal consistency in measuring relationships in the proposed model.

Table 14: Reliability Test Results

Construct	No. of Items	Cronbach's Alpha Value
ES	5	0.947
IS	3	0.946
PT	3	0.779
SE	3	0.975
CE	4	0.850



VALIDITY TEST

Composite reliability of all the constructs is greater than the threshold level of 0.60 and their Average Variance Extracted (AVE) is also greater than the threshold level of 0.50 as per table 15 below.

Table 15: Convergent Validity Results

Construct	CR	AVE
ES	0.948	0.859
IS	0.947	0.783
PT	0.824	0.621
SE	0.976	0.932
CE	0.921	0.797
IBB	0.927	0.762

As per data in the table 16 below, all the indicators or factors have significant loadings greater than 0.50 ($p < 0.001$) on their respective constructs. Thus, they are retained in the model.

Table 16: Constructs Factor Loading

Factors	Items	Estimate
IS	IS_3	0.981
	IS_2	0.897
	IS_1	0.899
ES	ES_5	0.855
	ES_1	0.94
	ES_3	0.874
	ES_2	0.871
	ES_4	0.882
PT	PT3	0.644
	PT_2	0.678
	PT_1	0.992
SE	SE_3	0.984
	SE_2	0.915
	SE_1	0.996
CE	CE_1	0.979
	CE_2	0.816
	CE_3	0.86
	CE_4	0.83
IBB	IBB_1	0.934
	IBB_2	0.821
	IBB_3	0.917

As per data in table 17 below, Average Variance Extracted (AVE) is greater than the squared correlation of constructs. Hence, all the results indicate that the measurement model possess substantial convergent validity and uni-dimensionality.

Table 17: Discriminant Validity: Average Variance Extracted (AVE) with Squared Correlation of Construct

IS	ES	PT	SE	IBB	CE	
IS	0.927					
ES	0.511	0.885				
PT	0.175	0.11	0.788			
SE	0.404	0.257	0.138	0.966		
IBB	0.26	0.025	0.033	0.247	0.893	
CE	0.045	0.012	0.168	-0.061	0.053	0.873



HYPOTHESIS TESTING

Hypotheses were tested using AMOS 22.0. It is used to infer the results of individual hypothesis and establish relationship between the dependent and independent

variables statistically. The statistics of the model based on the SEM output are RMSEA 0.053, Chi-square/df 1.61, CFI 0.975, TLI 0.971. These values are within the prescribed threshold limits (Hair et al., 2010).

Table 18 below denotes the results of testing the hypotheses. The 'Result' column specifies whether a hypothesis was supported or not supported depending on p value.

Table 18: Hypothesis Testing Results

Hypotheses	Path coefficient	C. R.	p value	Result
IBB←ES	0.15	2.151	0.03*	Supported
IBB←IS	0.25	3.753	***	Supported
IBB←SE	0.19	2.866	0.004*	Supported
IBB←PT	0.03	0.514	N.S	Not Supported
IBB←CE	0.06	0.955	N.S	Not Supported

*p<0.05; **p<0.01, ***p<0.001

Based on these results, the tested research model is described below in figure 2.

ESTESTED RESEARCH MODEL

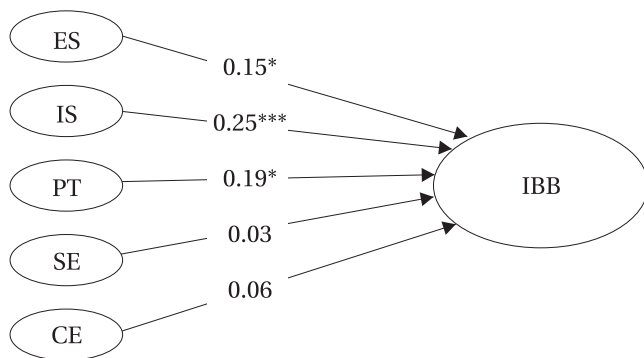


Figure 2: Path Coefficients for the Proposed Structural Model



RESULTS

Results of the SEM analysis are summarized as follows:

H1: External Stimuli (ES) positively influence Consumer's Impulse buying behavior in hypermarkets

H1 is supported. This implies that External Stimuli (ES) positively influence Consumer's Impulse buying behavior in hypermarkets. The Store Characteristics of being large and self service generates appeals to shoppers and they like to explore things leading to impulse purchases. Sales Promotions allows shoppers to take advantage of the discounts or offers to buy more impulsively. Store Employees help the shoppers to locate products, navigate through the hypermarket and suggest products. This results in higher impulse purchasing. Other Reference Group like friends and family can provide their suggestions, based on which impulse purchase would increase. Visual Merchandising provides the visual stimuli to shoppers in terms of display of products highlighting their

features, benefits and recommended usage. Eye-catching product displays, store layouts and designs will attract shoppers and encourage them to instantly buy the items.

H2: Internal Stimuli (IS) positively influence Consumer's Impulse buying behavior in hypermarkets

H2 is supported. This implies that Internal Stimuli (IS) positively influence Consumer's Impulse buying behavior in hypermarkets. If shoppers have higher Impulsive Buying Tendency, they will shop more on impulse. If shoppers have a Variety- Seeking characteristic, then hypermarket is an apt place for them. There is a huge variety of products available and they will be interested in buying more. The hypermarket ambience is very inviting with music in background, well-lit and free. Shoppers with high Hedonism characteristic will enjoy a lot in hypermarket and would like to visit it again.

H3: Product Type (PT) positively influences Consumer's Impulse buying behavior in hypermarkets

H3 is supported. This implies that Product Type (PT) positively influences Consumer's Impulse buying behavior in hypermarkets. A new Product attracts a lot of attention of the shoppers and is bought on impulse. Fashion-oriented products are the most frequently purchased items on impulse. They are bought by shoppers both as suggestive or referential impulse. Daily Use products are necessity and are usually based on reminder impulse which means shoppers look at these products or offers and remember that there is a need to buy such products.

H4: Situational Effect (SE) does not positively influence Consumer's Impulse buying behavior in hypermarkets

H4 is not supported. This implies that Situational Effect (SE) does not positively influence Consumer's Impulse buying behavior in hypermarkets. Crowd in Store makes shoppers uncomfortable and they are not able to enjoy their shopping experience. They want to quickly finish the task of purchasing goods and move out of the store. Hence, if there is crowd in the hypermarket, it will reduce the impulsive purchasing. Similarly, if the time available for shopping is less or money available for shopping is less, then shoppers will try to stick to the shopping list they have and will not indulge in impulse buying. It is essential for the managers in hypermarkets to take care of these situations to encourage impulse buying. They can offer free home delivery to save time and to take care of money shortage- credit facility, coupons, EMI options or loyalty pre-paid cards etc can be offered to shoppers.

H5: Consequential Effect (CE) positively influences Consumer's Impulse buying behavior in hypermarkets

H5 is not supported. This implies that Consequential Effect (CE) does not positively influence Consumer's Impulse buying behavior in hypermarkets. If shoppers Perceived Product Quality in hypermarkets is low, they would not like to buy. Shoppers also face problem of Over-choice due to availability of a large variety of products. This can confuse them and put a burden on their thinking process. Many impulse shoppers feel that they can go over-budget due to their impulse purchases and end up making unnecessary purchases. All these negative consequences can reduce their

impulse buying in future. The Hypermarket managers must develop strategies to take care of these negative feelings of the shoppers as it may lead to reduced impulse purchases.



CONCLUSION

The study of impulse buying behavior of the consumers is very crucial in the current scenario. There is a need for the retailers to be able to identify correctly the motivations of the consumers for indulging in the impulse purchases and comply with their thought process. The research has identified the

types of impulse buying prevalent in the current context and their relative frequency of occurrence to guide the retailers to design their marketing strategies appropriately to target the desired customer segments. The choice of product categories purchased impulsively by customers of different age, gender and occupation will provide good inputs for retailers to decide their most profitable product assortment. When shoppers indulge in impulse buying involving quick decision making and are very eager to buy a product, they generally ignore the quality of the product and end up buying poor quality products, which they regret later on.

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Understanding Impulsive and Compulsive Buying Behavior of Online Consumers

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ABSTRACT:

Abstract: In today's time, the usage of internet and smart phones has been rapidly growing resulting in to quick sharing of information and enabling consumers to access and share information on the go. Consumers are preferring to use online mode over the traditional method of buying goods and services. The buying patterns of the online consumers in the Fastmoving Consumer Goods sector is generally governed by personal, psychological and social factors. It can have both the traits of compulsive and impulsive buying. The aim of this paper is to identify the factors formulating compulsive and impulsive buying behavior of online buyers and to identify relationship between compulsive and impulsive buying. For this purpose, data from 516 consumers who prefer to purchase online was collected. The tools used include Exploratory Factor Analysis, Confirmatory Factor Analysis and Structured Equation Modeling. Analysis of data reveals that deal is a confounding variable for both impulsive and compulsive buying behavior. Further there exists a positive impact of impulsive buying behavior on compulsive buying behavior.

Keywords: Compulsive buying, Impulsive buying, online consumers, Deal.

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INTRODUCTION

Technology is the e-commerce industry's backbone. It not only helps connect sellers and customers on mobile and web platforms, but also enables to effectively manage customer orders, deliveries, returns purchased goods etc. E-commerce has thus indeed been growing in popularity for the last one decade –especially under certain demographics such as millennial's and in the FMCG sector i.e. Fast-moving consumer goods sector.

According to the report published by IBEF (Indian Brand Equity Foundation) on E-Commerce in December 2018, the Indian E-Commerce market is expected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion as of 2017. Much growth of the industry has been triggered by increasing internet and smartphone penetration. For the current generation of young people ordigital natives as they are called, technology is a normal part of their daily life. Consumers and their preference for technology, allows the E-commerce industry to reach the masses like never before. Consumers are opting to buy fast moving consumer goods like Processed Foods, Beverages, Dry Goods, Prepared Meals, Cosmetics, Toiletries, Over-the-counter Medications, Candy, Fresh Food, Consumer Electronics, Clothing etc. more from E-Commerce websites than from physical stores due to ease of access to E-Commerce websites, launch of 4G networks, 24 x 7 availability, wider variety of goods and services to choose from, easy digital payment options available and effective customer care services on the website. With a shift in the buying behaviour of the consumers from traditional method to online method, it becomes necessary for the companies to study the buying behaviour of the online consumers.

Consumer buying behavior can be broadly categorized in to two forms impulsive and compulsive buying behavior which mainly consists of Problem Recognition, Information Search, Evaluation of Alternatives, Purchase Decision, Purchase and Post Purchase Evaluation. Nowadays, the irrational buying patterns have become common due the widespread increase in the usage of smart phones and expansion in the usage of internet by the consumers. They are becoming more of online consumers.

While studying irrational consumer behaviour, one needs to understand the psychology of human beings. A person's behaviour varies according to the situation that one faces. Especially during shopping, there are times when a consumer ends up buying what is not required and there are times when he buys impulsively without any intention. Both buying patterns can be differentiated based on the factors that have an impact on the buying behavior. This paper tries to identify variables formulating compulsive and impulsive buying behavior of online buyers and relationship between the two.



LITERATURE REVIEW

Many authors have attempted to define the syndrome of compulsive shopping and impulsive shopping. McElroy (1994) claimed that it is repetitive behavior that arises due to unhappy events, while Faber and O'Guinn (1992) defined Compulsive buying disorder as a “type of consumer behaviour

which is inappropriate, typically excessive, and clearly disruptive to the lives of individuals who appear impulsively driven to consume”. Impulsive buying on the other hand is the purchase determined by outside stimuli and is largely unplanned. According to Rook & Gardner (1993), Impulsive buying is an unintentional behavior that involves prompt decision making and propensity of acquiring the product immediately. Among the causes that determine compulsive buying and impulsive buying, we can count feelings whether positive or negative that people discover through the shopping experience. Materialism is another factor that affects the buying behavior of consumers. It is encouraged through advertising determining people to evaluate themselves in terms of what they have and how they look instead of their own abilities and values. Existing body of knowledge suggests various variables such as positive feelings, negative feelings, image management, pressure of society, affiliation, attractive deals and offers for compulsive buying behavior whereas memory management, affiliation, elevation, brand consciousness, safety and security for impulsive buying behavior were studied by different researchers. Some of them are given/ referred below:



NEGATIVE FEELINGS

According to Faber & Christenson (1996), compulsive buyers experience more of negative mood states more frequently prior to going to shopping. The moods of boredom, depression and anxiousness were reported as often occurring before shopping. Compulsive buying is the buying behavior that is repetitive and happens as a result of some negative feelings (Faber & O' Guinn, 1992). Compulsive buyers get temporary relief from negative thoughts which is a common factor of compulsive buying (Miltenberger et al., 2003). Compulsive purchasing leads to buying of goods or services that is either not affordable or not required. (Hoyer & MacInn is, 2007). Compulsive buying behavior counters the negative feelings like depression, stress or anxiety but this counter behavior in the long run turns into an unfavorable behavior for the society and consumers. (Edwards,1993). Negative feelings like stress and boredom in the life of people causes anxiety. Compulsive buying becomes one of the ways in which people counter anxiety. People give meaning to their life through compulsive buying (Kukar-Kinney et al., 2009). Compulsive buying is persistent and repetitive behavior that is developed due to unhappy events (McElroy 1994). Compulsive behaviors can occur due to low level of arousal like boredom, and high level of excitement like stress and anxiety (Miller 1980; Zuckerman 1979). According to Roberts (1998), the long-term effect of compulsive buying is negative as compulsive consumers deal with psychological and economic consequences including debt, interpersonal conflict, low savings, frustration, depression, anxiety and low self-esteem.



IMAGE CONSCIOUSNESS

There are consumers who get very conscious about their purchases. They compare it with the society. (Attiq& Azam et al. 2015). Consumers get pressurized by family, peer groups and friends. In societal and consumer psychology, social influence is the phenomenon of pressure adaptation

from such groups. (Goldsmith & Clark, 2008). Compulsive buyers believe that for happiness and success, expensive material is essential (Dittmar and Drury 2000). Many researchers state that high compulsive buying behavior is developed from peer communication, materialism, media exposure and television advertisements (Halliwell et al. 2005). According to Roberts (1998), the long-term effect of compulsive buying is negative as compulsive consumers deal with psychological and economic consequences including debt, interpersonal conflict, low savings, frustration, depression, anxiety and low self-esteem. Compulsive buyers frequently purchase appearance-related items as an attempt to improve their self-esteem (Krueger et al. 1988).

Positive feelings

Research on self-gifting explains that compulsive purchases are common when people experience positive moods as well as negative moods. Positive moods tend to lead to compulsive buying. For self-gifts, the common types of occurrences are to be nice to oneself, to reward oneself, to cheer oneself and to gift oneself on birthday (Mick & DeMoss, 1990). Research also suggests that self-gifts are purchased to mark and prolong positive mood states and that may be linked with such feelings. Consumers while reusing the gift, will re-experience the positive mood states (Mick et al. 1992). According to Moore 2009, people sometimes buy products that reminds them of their childhood days. Feelings of nostalgia then becomes a motivating factor for buying irrationally. A consumer when sees something that reminds him of his childhood, becomes emotional and might buy the product without any intention to buy it.

Debt burden (not affordable still making the purchase)

According to Edwards (1993), individuals exercise abnormal buying wherein they get addicted and spend to such an extent that leads to financial debt. There is an uncontrollable urge in the mind of the consumer to shop and purchase. This is recognized by therapists and financial counselors, who felt that uncontrollable shopping leads to financial debts. The result explains that there are five factors or dimensions that comprise compulsive buying. These factors were Dysfunctional Spending, Feelings about Shopping and Spending, Compulsion/Drive to Spend, Post Purchase Guilt and Tendency to Spend. This scale is used to understand why people become compulsive buyers that eventually land them into a financial debt. According to Gwin (2005), compulsive buying is a burden on the society. It not only harms the consumer but also the society in the form of dysfunctional families, debt and bankruptcies. According to Roberts (1998), the long-term effect of compulsive buying is negative as compulsive consumers deal with psychological and economic consequences including debt, interpersonal conflict, low savings, frustration, depression, anxiety and low self-esteem.

Brand consciousness

According to Sheth (1975), there can be five motives to buy a product that are functional motives, emotional motives, social motives, situational motives and curiosity motives. Functional motives focus on the performance of a product. Emotional motives focus on the comfort, style, design and

luxury of the product to satisfy emotional feelings. Social motives focus on status and self-esteem. Situational motives arise due to situational sources such as accessibility, price discounts and availability. Curiosity motives focus on innovative and new products. However, motives of the consumer may differ when buying an unbranded product or a branded product. Consumers attach meaning and personal value with the branded product (Keller, 2012). Brands play a role in searching for a consumer's self-identity i.e. it helps to reach one's ideal identity (Elliott & Wattanasuwan, 1998). Horváth & van Birgelen (2015) concluded that the compulsive buyers prefer branded products due to social and emotional motives. The motivation for compulsive buyers is that the brands make them feel good, it gives them status or make them feel fashionable.

Social Management

According to Moore (2009), social management includes feelings of affiliation, rebellion and social compensation. Affiliation means belonging to a certain group. So, a consumer at times in order to not feel alienated from a certain group ends up buying what is often purchased by the members of that group. Feelings of belongingness to one's community, society or a particular group become a factor of irrational buying behaviour of consumer. Rebellion becomes a reason of compulsive buying when a person buys or shops excessively without any intention, but just to take revenge. That is feelings of rebellion become a motive of buying irrationally. A consumer exercises irrational buying behaviour when he wants to make up for the feeling deprived of things others had while growing up. People therefore sometimes plan to buy things irrationally just on the basis that they want to own something that others owned in their growing up years. People shop and end up spending more than their earning capacity when they feel the need to reward them with something that justifies their hard work at workplace. Rewarding oneself becomes an important emotion while buying irrationally in the market. People feel that since they work with so much dedication and put in so much of effort that it becomes necessary to present themselves with something that makes them feel satisfied about their job. Self-identity formation includes elevation, crisis and immortality. Feelings of belonging to a group of higher status or thinking that buying things will certainly give an impression that a person is of higher stature, compels a buyer to behave irrationally while buying goods from the market. A consumer tends to buy in excess when he is in a frame of mind where he is trying to discover a new self of himself. He is facing a crisis or some upheaval, where he decides to buy more than what is required with a view to come out of that crisis. A consumer's outlook of how he will be remembered after death becomes a motivating factor for him to spend in excess, probably more than his spending capacity. A person therefore, might plan a purchase and shop just for the feeling of being remembered after he dies.

Safety

According to Moore 2009, people buy in excess quantity just for the sake of feeling safe. Sense of feeling secured and safe compels a person to spend more than their financial strength. People out of concern for their near and dear ones, tend to buy

a product more than once just for the sake of making them feel secured and safe. The sense of belongingness and affinity towards ones family makes a person buy more than the required quantity of the product. This feeling of security that lands an individual in a debt burden, thus becomes a factor of irrational consumer buying behavior.

Deal

According to Pandey (2016), attractive deals and offers like the ones offered on seasonal and festival sales, play a significant role in compulsive buying. Many researchers state that high compulsive buying behavior is developed from peer communication, materialism, media exposure and television advertisements (Halliwell, Dittmar, & Howe, 2005). Compulsive buying can be triggered by inducing anxiety through emphasizing deals in sales promotion and advertising. (McBride, 1980; Valence et al., 1988). People buy

compulsively due to attractive online sales promotion offers (Vicdan, Chapa & de Los Santos, 2007).

According to Weerathunga & Pathmini (2015), attractive deals like price discount, free sample, buy one get one free offer, loyalty programs do have a significant impact on the buying pattern of the consumer. A consumer tends to buy without planning a purchase in advance making him an impulsive buyer, thus claiming that deal does have a significant impact on impulsive buying.

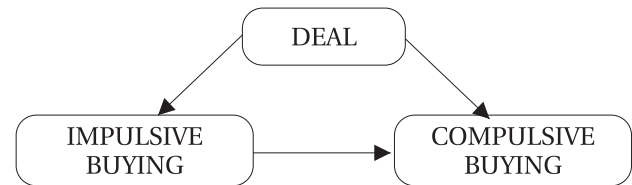


Figure 1: Proposed Model

Table 1: Variables formulating compulsive and impulsive buying

Variable	Authors
Q10 I usually spend all of my money left after paying bills each month	Hoyer & MacInnis (2007) Elizabeth A. Edwards (1993)
Q11 I feel driven to shop and spend, even when I don't have time or money	Gwin, C. F (2005)
Q12 People often think I earn more than I actually do.	Roberts (1998)
Q13 I always visit shops whenever there is an attractive display or offers	Halliwell, Dittmar, & Howe (2005) McBride (1980)
Q14 I have difficulty in controlling my urge to buy when I see a good offer.	Valence et al. (1988)
Q15 When I see a good deal, I tend to buy more than what I intended to buy.	Vicdan, Chapa & de Los Santos (2007) Weerathunga, Pathmini (2015)
Q16 I go for shopping whenever I'm upset, disappointed, depressed, or angry.	Faber & O' Guinn (1992) Edwards (1993)
Q17 I temporarily escape having to think about problems when I shop.	Kukar-Kinney et al. (2009) McElroy (1994) Miltenberger et al (2003)
Q18 I buy things even though I cannot afford them.	Miller 1980; Zuckerman (1979)
Q19 My purchases make me feel better about how others see me.	Hoyer & MacInnis (2007) Roberts (1998)
Q20 I never buy things that make me seem more successful.	Krueger (1988)
Q21 I am never jealous when friends own things I don't have.	O'Guinn and Faber (1989)
Q22 I feel more "classy" when I buy items owned by upper class individuals.	Scherhorn, Reisch and Raab (1990) Attiq & Azam (2015) Moon, Attiq & Rasool (2015) Dittmar and Drury (2000) Roberts (1998) Goldsmith & Clark (2008) Halliwell, Dittmar, & Howe (2005)

Variable	Authors
Q23 I get pleasure when I purchase during shopping.	Mick, DeMOss, & Faber (1992) Radner (2012)
Q24 I like it when people compliment my purchases.	
Q25 I feel more comfortable in public when I'm wearing something new.	
Q26 I enjoy going shopping to reward myself for hard work.	
Q27 Shopping is the one thing that I do to pamper myself.	
Q28 I buy things that remind me of my favorite role model.	Keller (2012) Elliott & Wattanasuwan (1998) Horváth & van Birgelen (2015) Hoyer & MacInnis (2007)
Q29 I buy things that reflect the person I want to be.	
Q30 A unique sense of style is important to me.	
Q31 Rather than shop for name brands, I prefer unique items.	
Q32 I am usually the first to start wearing items that later becomes fashionable.	
Q33 I cannot control myself when I start purchasing.	
Q34 Many of the things I buy, are never worn or used by me.	
Q35 When I see something I like, I buy one for someone else.	Moore (2009) Roberts (1998) Prus & Dawson (1991)
Q36 My purchases do not impact how connected I feel to people I care about.	
Q37 I feel peer pressured into buying things.	
Q38 I live by the phrase, "don't get mad, go shopping."	
Q39 I never had many possessions growing-up, and I don't need many now.	
Q40 I do not believe in working primarily to buy nice things	Moore (2009) El Hedhli, Chebat, & Sirgy, 2013 Gupta, S. (2013) Kellett, S., & Bolton, J. V. (2009).
Q41 When I find something I really like, I feel the need to buy two, just to be safe.	
Q42 My purchases somehow help me to feel safe.	
Q43 New things make me feel like a new person.	Moore (2009) Raab, G., Elger, C. E., Neuner, M., & Weber, B. (2011)
Q44 Shopping gives me hope that the future will be better than the past.	
Q45 I buy things that remind me of childhood.	
Q46 I do not shop any more than usual when my "sense of self" has been rattled.	
Q47 I think about how my possessions will be preserved after I die.	
Q48 I never think about who will care for my things after I am gone.	



OBJECTIVES

The objectives of the paper are mentioned below-

- To identify the factors of compulsive and impulsive buying for online consumers.
- To identify relationship between compulsive and impulsive buying for online consumers.
- To identify the effect of deal on impulsive and compulsive buying for online consumers.

Hypothesis for the study is stated below-

- Hypothesis(H1): There is a positive impact of Deal on Impulsive Buying Behavior of online consumers.
- Hypothesis(H2): There is a positive impact of Deal on Compulsive Buying Behavior of online consumers.
- Hypothesis(H3): There is a positive impact of Impulsive Buying Behavior on Compulsive Buying Behavior of online consumers.



RESEARCH METHODOLOGY

The study was exploratory and descriptive in nature as it tries to establish relationship between the identified factors and compulsive and impulsive buying. The study is based on both primary and secondary data. The area of present study was National Capital Region and the respondents were the ones who buy primarily through the internet. Nowadays people are buying more over the internet. Just with a click of mouse or in seconds through a smartphone, orders can be placed from various E-Commerce websites. Thus, a buyer whether compulsive or impulsive, tends to buy more because of the availability of online stores. A structured questionnaire was formulated on Google forms and its link was circulated amongst respondents through Email and data was collected on the same. Data was collected from 537 respondents after data cleaning, 516 was the final sample used for analysis. 5-point Likert scale was used for the questions (Q10 to Q48) that focused on analyzing the factors of compulsive and impulsive buying. For checking engagement of respondents Q33, Q34, Q36, Q39, Q40 and Q21 were negatively framed and reverse coding was applied to these questions for analysis purpose. The collected data was classified, tabulated and grouped under various heads for the purpose of interpretation. For analysis of data, Exploratory Factor Analysis, Confirmatory Factor Analysis and Structured Equation Modeling were employed through SPSS and Amos.



DATA ANALYSIS & RESULTS

Demographic profile of the respondents

Effective 516 respondents in the study comprises of 45.2% male and 54.8%

female. 48.6% of the respondents were between 18 and 25 years, 32.9% were between 25 and 35 years, 8.1% were between 35 and 45 years, 6.8% were between 45 and 55 years and the rest 3.3% were 55 years and above. For occupation, 29.4% were self-employed, 40.5% were doing service, 26.1% were professionals and 4.1% belonged to the others category. 22.1% of all the respondents were married, 57.6% were unmarried and 20.3% were married with kids. As far as income is concerned, 43.8% were earning between 2 lakhs and 5 lakhs, 30.4% were earning between 5 lakhs and 8 lakhs, 13.7% were earning between 8 lakhs and 11 lakhs, 8.3% were earning between 11 lakhs and 15 lakhs and the rest 3.8% were earning 15 lakhs and above. For education, 39% respondents were graduates and less, 51% were postgraduates or hold PG Diploma and the rest 7.2% belonged to the others category. As far as residential area is concerned, 28.9% belonged to North Delhi, 10.7% belonged to South Delhi, 20.5% belonged to East Delhi, 16.1% belonged to West Delhi, 23.8% belonged to NCR.

Exploratory Factor Analysis

The Kaiser-Meyer -Olkin measure of sampling adequacy came out to be 0.912 which are above 0.65 (the acceptable level) for the factors of compulsive and impulsive buying. This shows that the items selected for the questionnaire are appropriate. The chi-square value of Bartlett's Test of Sphericity was found significant with $\chi^2 = 10079.518$, $p = 0.000$, for all the factors being studied. This means that the factor analysis is acceptable. The factor analysis generated six factors for compulsive and impulsive buying with eigenvalues above 1. Total variance explained for six factors is 63.413%. The Varimax rotation clubbed the items on six factors for Compulsive and Impulsive buying. They were named as Social Management, Brand consciousness, Safety & Security, Deal, Positive and Negative feelings and Image consciousness. Cronbach's Alpha values for all identified factors are shown in Table 2:

Table 2: Rotated Component Matrix for Factors of Compulsive and Impulsive Buying

Measurement Constructs for Compulsive & Impulsive Buying	Variables	Factor Loadings	Cronbach's Alpha
Social Management (S_M)	Q34 Many of the things I buy, are never worn or used by me.	.768	.887
	Q39 I never had many possessions growing-up, and I don't need many now.	.728	
	Q35 When I see something I like, I buy one for someone else.	.721	
	Q38 I live by the phrase, "don't get mad, go shopping."	.719	
	Q33 I cannot control myself when I start purchasing.	.672	
	Q36 My purchases do not impact how connected I feel to people I care about.	.641	
	Q37 I feel peer pressured into buying things.	.635	
Brand Consciousness (B_C)	Q29 I buy things that reflect the person I want to be.	.763	.879
	Q30 A unique sense of style is important to me.	.759	
	Q28 I buy things that remind me of my favorite role model.	.734	
	Q32 I am usually the first to start wearing items that later becomes fashionable.	.670	
	Q31 Rather than shop for name brands, I prefer unique items.	.659	

Measurement Constructs for Compulsive & Impulsive Buying	Variables	Factor Loadings	Cronbach's Alpha
Deal	Q11 I feel driven to shop and spend, even when I don't	.778	.867
	Q14 have difficulty in controlling my urge to buy when I see a good offer.	.773	
	Q15 When I see a good deal, I tend to buy more than what I intended to buy.	.687	
	Q12 People often think I earn more than I actually do.	.664	
	Q16 go for shopping whenever I'm upset, disappointed, depressed, or angry.	.639	
	Q10 I usually spend all of my money left after paying bills each month	.625	
	Q13 I always visit shops whenever there is an attractive display or offers	.566	
Safety & Security (S_S)	Q43 New things make me feel like a new person.	.734	.865
	Q42 My purchases somehow help me to feel safe.	.730	
	Q40 I do not believe in working primarily to buy nice things.	.691	
	Q41 When I find something I really like, I feel the need to buy two, just to be safe.	.686	
	Q45 I buy things that remind me of childhood.	.657	
	Q44 Shopping gives me hope that the future will be better than the past.	.654	
	Q46 I do not shop any more than usual when my "sense of self" has been rattled.	.416	
Positive and Negative Feelings (F_P_N)	Q22 I feel more "classy" when I buy items owned by upper class individuals.	.798	.821
	Q23 I get pleasure when I purchase during shopping.	.737	
	Q21 I am never jealous when friends own things I don't have.	.737	
	Q25 I feel more comfortable in public when I'm wearing something new.	.736	
	Q24 I like it when people compliment my purchases	.736	
Image Consciousness (I_C)	Q19 My purchases make me feel better about how others see me.	.754	.705
	Q20 I never buy things that make me seem more successful.	.690	
	Q18 I buy things even though I cannot afford them.	.576	
	Q17 I temporarily escape having to think about problems when I shop.	.530	

Confirmatory Factor Analysis

Factor structure of compulsive and impulsive buying: A CFA was conducted for the construct of compulsive and impulsive buying. The overall fit of the measurement models were assessed through fit indices such as CMIN/Df, the root means squared error of approximation (RMSEA), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Normed Fit Index (NFI), GFI(Goodness of Fit Index) and IF I(Incremental Fit Index). The six factors model including Social Management, Brand consciousness, Safety & Security, Deal, Positive and Negative feelings and Image consciousness, demonstrated good fit with the data, based on the Chi Square statistics is 1300.312, Df= 386, CMIN/Df=3.369, CFI=0.891, TLI=0.877, NFI=0.852, RMSEA=0.068, GFI=0.850 and IFI=0.891. The final alternative model has been tested, the fit indices support the proposed six factor model, providing evidence for the construct distinctiveness in validity table 5.

In Table 4, average variance extracted (AVE) for Positive feelings, deal and image consciousness is less than 0.50 and construct reliability (CR) for Deal is less than 0.50, thereby not establishing convergent validity and reliability. So, after modifications final CFA model was constructed.

As given in Table 5, average variance extracted (AVE) for all constructs is higher than the acceptable limit of 0.5(Hair et al.2015). Construct reliability is as higher than the acceptable limit of lying between 0.6 and 0.7 (Hair et al.2015) Discriminant Validity is established by comparing AVE for any two constructs with the square of the correlation estimate between these constructs (Fornell & Larcker, 1981). The average variance extracted should be greater than the squared correlation estimates. Thus, CFA model establishes convergent and discriminant validity along with construct reliability.

Table 3: Comparison of Measurement Models

Model	Factors	CMIN/Df	CFI	TLI	NFI	RMSEA	GFI	IFI
Initial Model	Six Factors (Correlated Model)	3.873	.841	.826	.798	.075	.796	.842
Final Model	Six Factors (Correlated Model)	3.369	.891	.877	.852	.068	.850	.891

Table 4: Validity of Initial CFA

	CR	AVE	MSV	ASV
Image Consciousness (I_C)	0.621	0.355	0.234	0.206
Social Management (S_M)	0.888	0.533	0.424	0.278
Brand Consciousness (B_C)	0.882	0.560	0.496	0.273
Safety & Security (S_S)	0.867	0.522	0.496	0.281
Deal	0.868	0.491	0.384	0.248
Positive and Negative feelings (F_P_N)	0.823	0.483	0.199	0.064

Table 5: Validity Table of Final CFA

	CR	AVE	MSV	ASV
Image Consciousness (I_C)	0.729	0.577	0.304	0.201
Social Management (S_M)	0.888	0.533	0.425	0.277
Brand Consciousness (B_C)	0.882	0.560	0.496	0.289
Safety & Security (S_S)	0.867	0.523	0.496	0.278
Deal	0.865	0.567	0.379	0.265
Positive and Negative Feelings (F_P_N)	0.804	0.508	0.088	0.045

Table 6: Confirmatory Factor Analysis: Items and Standardized Loadings

Construct & Scale Items	Standardized Loadings
Social Management (S_M)	
Q34 Many of the things I buy, are never worn or used by me.	0.77
Q39 I never had many possessions growing-up, and I don't need many now.	0.69
Q35 When I see something I like, I buy one for someone else.	0.76
Q38 I live by the phrase, "don't get mad, go shopping."	0.82
Q33 I cannot control myself when I start purchasing.	0.72
Q36 My purchases do not impact how connected I feel to people I care about.	0.56
Q37 I feel peer pressured into buying things.	0.76
Brand Consciousness (B_C)	
Q30 A unique sense of style is important to me.	0.81
Q29 I buy things that reflect the person I want to be.	0.87
Q28 I buy things that remind me of my favorite role model.	0.84
Q31 Rather than shop for name brands, I prefer unique items.	0.61
Q26 I enjoy going shopping to reward myself for hard work.	0.59
Q32 I am usually the first to start wearing items that later becomes fashionable.	0.71
Deal	
Q14 I have difficulty in controlling my urge to buy when I see a good offer.	0.84
Q11 I feel driven to shop and spend, even when I don't have time or money.	0.76
Q15 When I see a good deal, I tend to buy more than what I intended to buy.	0.82
Q16 I go for shopping whenever I'm upset, disappointed, depressed, or angry.	0.75
Q12 People often think I earn more than I actually do.	0.56
Safety & Security (S_S)	
Q42 My purchases somehow help me to feel safe.	0.78
Q43 New things make me feel like a new person.	0.62
Q40 I do not believe in working primarily to buy nice things.	0.77
Q41 When I find something I really like, I feel the need to buy two, just to be safe.	0.80
Q44 Shopping gives me hope that the future will be better than the past.	0.67
Q45 I buy things that remind me of childhood.	0.68
Positive and Negative Feelings (F_P_N)	
Q22 I feel more "classy" when I buy items owned by upper class individuals.	0.79
Q24 I like it when people compliment my purchases.	0.70
Q25 I feel more comfortable in public when I'm wearing something new.	0.73
Q21 I am never jealous when friends own things I don't have.	0.62
Image Consciousness(I_C)	
Q17 I temporarily escape having to think about problems when I shop.	0.66
Q18 I buy things even though I cannot afford them.	0.65

All factor loadings (standardized regression coefficients in Table 6) ranging from 0.56 for Q36 and Q12 to 0.87 for Q29 were highly significant and exceeded 0.5 level which is meaningful in factor analysis approach. The R² Statistic for Q38 (I live by the phrase, “don't get mad, go shopping.”) was found to be the highest (0.6724) for **Social Management**, R² Statistic for Q29 (I buy things that reflect the person I want to be.) was found to be the highest (0.7569) for **Brand Consciousness**, R² Statistics for Q41 (When I find something I really like, I feel the need to buy two, just to be safe.) was found to be highest (0.64) for **Safety & Security**, R² Statistic for Q14 (I have difficulty in controlling my urge to buy when I see a good offer.) was found to be the highest (0.7056) for **Deal**, R² Statistic for Q22 (I feel more “classy” when I buy items owned by upper class individuals.) was found to be the highest (0.6241) for **Positive and Negative Feelings**, R² Statistic for Q18 (I buy things even though I cannot afford them) was found to be the highest (0.4225) for **Image consciousness**.

Structured Equation Modelling

Hypothesis(H1): There is a positive impact of Deal on Impulsive Buying Behavior (IMPB) of online consumers.

Hypothesis(H2): There is a positive impact of Deal on Compulsive Buying Behavior (CBB) of online consumers.

Hypothesis(H3): There is a positive impact of Impulsive Buying Behavior on Compulsive Buying Behavior of online consumers.

Hypothesis testing is based on estimating the proposed relationships using structured equation modeling. Output of the SEM Model is given in Figure 2. Overall fit indices for the model presented good fit with the data (CMIN/Df= 2.861, CFI=0.882, TLI=0.869, NFI=0.831, RMSEA=0.043, GFI=0.859 and IFI=0.883). Clearly fit indices lie within the limits of moderate to good fit. The results indicate that the identified factors of impulsive buying are: Social Management, Safety & Security and the identified factors of compulsive buying are: Brand Consciousness, Deal, Image Consciousness and Positive and Negative feelings.

To analyze the factors affecting compulsive and impulsive buying: Social Management, Brand consciousness, Safety & Security, Deal, Positive and Negative feelings and Image consciousness, output of regression path coefficients given in the following Table 7 needs to be examined. At 5% level of significance P values in the table indicate that all the factors are significant for compulsive and impulsive buying. Also, Deal has a significant impact on both the impulsive and compulsive buying behavior and impulsive buying behavior has also a significant impact on compulsive buying behavior. Thus, hypothesis (H1) is accepted indicating a positive impact of deal on impulsive buying, Hypothesis (H2) is accepted indicating a positive impact of deal on compulsive buying behavior and Hypothesis (H3) is also accepted indicating a positive impact of impulsive buying on compulsive buying. We can therefore say, that people buying without planning the purchase in advance i.e. the ones buying impulsively do ultimately become compulsive buyers.

Table 7: Unstandardized Regression Weights

		Estimate	Estimate	S.E.	C.R.	P	Result(5% Level of significance)
IMPB	<---	Deal	.493	.063	7.831	***	Significant
CBB	<---	Deal	.104	.050	2.068	.039	Significant
CBB	<---	IMPB	.509	.113	4.489	***	Significant
I_C	<---	CBB	1.000				
F_P_N	<---	CBB	.593	.175	3.385	***	Significant
B_C	<---	CBB	1.942	.342	5.678	***	Significant
S_M	<---	IMPB	1.000				
S_S	<---	IMPB	.835	.093	9.016	***	Significant
Q34	<---	S_M	1.000				
Q39	<---	S_M	.877	.079	11.058	***	Significant
Q35	<---	S_M	.958	.085	11.232	***	Significant
Q38	<---	S_M	1.202	.086	13.906	***	Significant
Q33	<---	S_M	.941	.081	11.550	***	Significant
Q37	<---	S_M	1.250	.098	12.798	***	Significant

		Estimate	Estimate	S.E.	C.R.	P	Result(5% Level of significance)
Q30	<---	B_C	1.000				
Q29	<---	B_C	.927	.051	18.014	***	Significant

		Estimate	Estimate	S.E.	C.R.	P	Result(5% Level of significance)
Q28	<---	B_C	.908	.057	16.016	***	Significant
Q31	<---	B_C	.656	.062	10.616	***	Significant
Q26	<---	B_C	.625	.063	9.949	***	Significant
Q32	<---	B_C	.644	.053	12.257	***	Significant
Q14	<---	Deal	1.000				
Q11	<---	Deal	.897	.077	11.603	***	Significant
Q15	<---	Deal	1.021	.084	12.134	***	Significant
Q16	<---	Deal	1.033	.081	12.802	***	Significant
Q42	<---	S_S	1.000				
Q43	<---	S_S	.857	.077	11.067	***	Significant
Q40	<---	S_S	1.037	.086	12.095	***	Significant
Q41	<---	S_S	1.271	.092	13.825	***	Significant
Q44	<---	S_S	1.203	.098	12.236	***	Significant
Q45	<---	S_S	1.002	.088	11.425	***	Significant
Q22	<---	F_P_N	1.000				
Q24	<---	F_P_N	.816	.074	11.096	***	Significant
Q25	<---	F_P_N	.807	.075	10.823	***	Significant

		Estimate	Estimate	S.E.	C.R.	P	Result(5% Level of significance)
Q21	<---	F_P_N	.763	.077	9.856	***	Significant
Q17	<---	I_C	1.000				
Q18	<---	I_C	1.551	.234	6.617	***	Significant

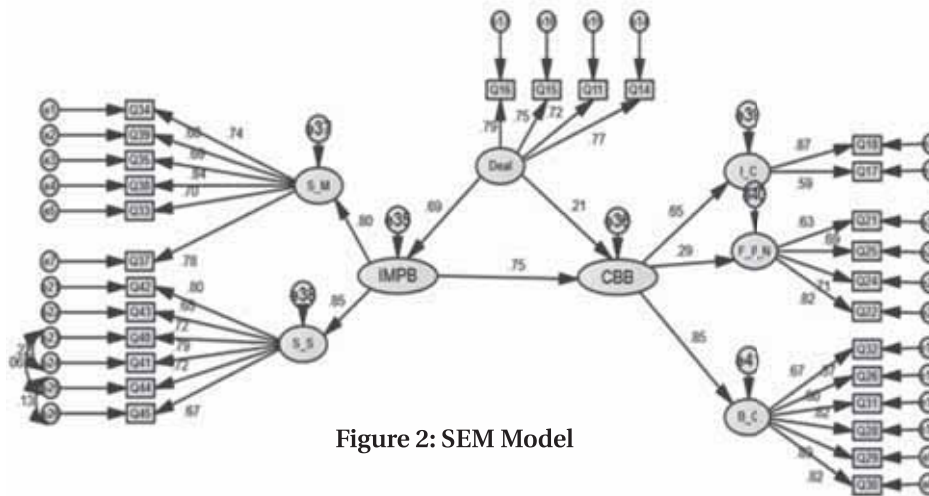


Figure 2: SEM Model



CONCLUSION

The expansion of E-Commerce industry due to increase in the bandwidth offered, affordable data charge by internet companies, cheap smart phones being manufactured in the market, has brought a shift in the buying pattern of the consumers. People are moving from traditional method to the online method of buying goods and services. From soaps,

apparels, cosmetics, books, jewellery to software, smartphones, hardware, accessories etc., individuals are buying almost everything on the internet. Thus, the irrational buying behavior of consumer i.e. Compulsive buying and Impulsive buying is being exercised even on the internet.

The paper focused on analyzing the reasons that affect the irrational buying behavior of online buyers of goods and

services. Through literature review, various factors affecting compulsive and impulsive buying like negative feelings, positive feelings, deal, emotion management, brand consciousness etc., were identified. But after analyzing the responses collected through a structured questionnaire, it was found that the factors namely, social management, deal and safety & security highly impacted impulsive buying and factors namely image consciousness, brand consciousness, deal and positive feelings highly impacted compulsive buying behavior online buyer. Deal is a confounding variable for both compulsive and impulsive buying, thereby helping in establishing the fact that there exists a positive relationship between impulsive and compulsive buying. Impulsive buying which is largely unplanned does get affected by attractive

deals, offers and discounts offered to the online consumers. Since the country is experiencing a boom in the E-Commerce sector therefore, many attractive offers, discounts and deals are being offered on E-Commerce websites thereby compelling buyers to shop in an unplanned way. When a buyer starts buying impulsively, they tend to develop a habit of irrational buying whenever an attractive offer is displayed on any shopping platform or website. Thus, an impulsive buyer starts to plan his purchases based on the deals and offers. They ultimately become a compulsive buyer who plans irrational purchases. Hence, it can be said that deal has largely become one of the reasons why an impulsive buyer becomes a compulsive buyer and starts to behave more irrationally when it comes to buying goods through E-Commerce websites.

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Impact of Celebrity Endorsements on Consumer Buying Behavior: An Empirical Analysis of Millennials

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ABSTRACT:

In today's age of digital innovations, information explosion and media power, the advertisements play a prominent role in shaping the attitude and perceptions of the consumers about brands. In this context, the study of celebrity branding and celebrity endorsements is of vital importance. Several attempts have been made in the past to study the impact of celebrity endorsements on consumers' purchase intention; however no study has so far emerged which specifically focussed on millennials' purchase intention as a result of being stimulated through celebrity endorsements. Thus, through this paper the researchers intend to appraise and understand the impact of celebrity endorsements on the purchase intention of the millennials in a developing economy of India and the various factors associated with the celebrity endorsements that affect the attitude and perceptions of the millennials' and stimulate them to buy a particular product or avail a service. The research paper begins with the review of the existing literature available on the influence of celebrity endorsements which further acts as a stimulus to the researchers to delve deeper into the topic. The researchers through a survey of millennials who are exposed to the advertisements of various brands tried to get an insight about their purchase intention as a result of being stimulated through celebrity endorsements. The reliability of the research instrument was empirically tested using Cronbach alpha. Primary data had been collected from 300 respondents through questionnaire and statistical tools like Factor Analysis and Multiple Regression Analysis have been adopted as tools for the present study. Factor Analysis decomposed the variables into factors like attractiveness, trustworthiness and expertise of endorsers, consumers' perception of quality of the products, the value of money for including celebrities in endorsements and brand attractiveness. Through multiple regressions, the extent of association of independent variables to the dependent variables and their impact has been calculated. It was found that celebrity attractiveness, consumers' perception of quality of the products and value of money are the main important factors which stimulate the purchase intention of today's youth. The results reveal that celebrity endorsements have a positive impact upon the purchase intention of the millennials.

Keywords: Celebrity Endorsements, Buying Behaviour, Advertisements, Consumer Purchase Intention, Millennials

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INTRODUCTION

Everyday consumers come across lakhs of voices and images in various advertising mediums such as direct mail advertising, newspapers, outdoor advertising, internet advertising, radio advertising and television advertising, etc. Every brand tries to capture at least a fragment of people's imagination and time to acquaint them of the fascinating and different attributes of the products at hand. The challenge of the marketer is to search out a hook that might hold people's attention. So, in a market where advertising plays a vital role in coordinating the purchases, it becomes relevant for companies to include all possible measures to influence, motivate and inculcate a desire to purchase in the customer through an effective advertising campaign. In hoping to achieve this, the use of celebrity endorsement is a widely used marketing strategy for inculcating intent to purchase within the millennial consumer group.

Millennials are defined as Generation Y or Gen Y, the demographic cohort following Generation X and preceding Generation Z. The American Psychological Association describes millennials as those born between the years 1981 and 1996. Nielsen Media Research has defined millennials as between 21 and 37 years old in 2018.

Celebrity endorsement is “a form of advertising campaign or marketing strategy used by brands, companies, or non-profit organizations which involves celebrities or some widely-acclaimed people using their social status or popularity or persona or expertise in their field to advertise products and services and even embrace social causes” (McCracken, 1989). Marketers often rope in celebrities with an aspiration that the positive images as projected by the celebrity ambassadors of the brand will also be transferred on to the products they endorse, or the brand image associated with the celebrities. Celebrity endorsement is ordinarily employed as a technique by FMCG industry or fashion and beauty brands, but now-a-days even a non-profit organization rely on celebrities as well; this is because celebrity endorsers have mass communication skills which can capture people's attention and is helpful in reaching a broad audience base to enhance their awareness towards a certain organization or an issue. Thus, making celebrities effective fundraisers.

Celebrity endorsement is a form of endorsement whereby a company portrays some renowned sportsmen filmstars to be the brand spokesperson for a company or firm and uses their social positioning and standing in order to advertise and promote various products or services. It has been regarded as one of the prominent and widely used tool of endorsements in recent times. Overtime, it has been considered as a trend and perceived formula for product marketing mix (Gupta, et al, 2015).

A celebrity endorser is defined as “any person who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an endorsement.” (McCracken, 1989) The stronger the endorser the higher is the impact of the advertisement and celebrity endorsement in the mind of the consumers. “Celebrity is a widespread feature of society, blazing lasting impressions in the mind and memories of all who cross its path” (Kurzman, et al., 2007). According to

Silvera, “Celebrities are people who enjoy public recognition and who often have different characteristics such as attractiveness and expertise.” (Silvera and Austad, 2004). A celebrity is “a person who is recognized by the public, such as actors, sportspersons, politicians and others for their accomplishments in their respective domains other than the product endorsed by them” (Friedman and Friedman, 1979).

Purchase intentions are an individual's conscious plan to make an effort to purchase a brand. (Spears and Singh, 2004).

Erdogan (1999) suggested the various potential advantages of celebrity endorsements that can be highlighted as increasing the attention towards the product, image polishing of the brand, brand introduction, and brand repositioning and underpinning massive global campaigns.

Celebrity endorsements generally lead to a more prominent and lucrative image of the product and thus stimulating positive purchase intention on the part of consumers.

In today's day and age, people tend not to pay heed to all the commercials and endorsements while flipping through various magazines and newspapers or viewing ads on television. Even then, the charisma of the celebrities' catapults people to watch advertisements as their presence rarely goes unnoticed. Celebrity endorsers engage consumers in not only capturing their imagination but also translating this in increasing recognition and recall rates of the consumers' to break through today's cluttered environment. Marketers believe that celebrity branding has several benefits some of the prominent ones that can be highlighted are building credibility, enhancing trust and attention or any or all of which can translate into a high turnover. Thus, there is tremendous impact of celebrity endorsements on the overall brand acceptance.

Publicity and attention are garnered by advertisements when there is an active engagement of celebrities in ads. Companies invest whopping amount of money to make celebrities congruent with their brand. Such celebrity endorsers are seen as magnetic with enticing and alluring qualities and companies plan that the qualities projected by the celebs should be effectively matched and passed onto the products via various marketing activities.

Companies believe that by hiring celebrities to endorse their product they can associate their product with the target customers and that is why, the use of celebrity advertisements to promote products or services is on a steady rise. As long as people around the world continue to be star-struck, companies will continue to hire celebrities to capitalize on their brands and monetize through their fan base.



LITERATURE REVIEW

Widarto Rachbini (2018) in his study revealed that celebrity endorsement has a positive and significant impact on purchase intention, and the three dimensions (attractiveness, expertise, and trustworthiness) plays an important role in influencing consumers. The results of this study revealed that attractiveness, expertise, and trustworthiness play an important role in positively influencing buying behavior to buy Vivo V7 products.

Nagdev, Kritika & Singh, Dr. Raman. (2016) in their study revealed that student's find their celebrity endorsements lucrative. Also, further, on the basis of attractiveness people find filmstars from Bollywood more influential as celebrity spokesperson. Results also revealed that using celebrities in endorsements increases the recognition and recall rate of the brands. Overall people are of the opinion that celebrity endorsements are far more attractive as well as effective at influencing the buying behaviour of the students.

Weerasiri, S., & Wanninayaka, W. M. C. B. (2016) founded that trustworthiness is the most important attribute of celebrities which can influence the consumer behaviour. Therefore, by the use of trustworthy celebrity in advertising higher results can be obtained. They also revealed that an expert celebrity is more effective for high involvement goods.

Gupta, R., Kishore, N., Verma, D. P. S. (2015) studied the influence of celebrity endorsements on buying behaviour exhibited by the consumers and the study revealed that celebrity endorsements positively impact consumers' buying behaviour; although in the study it has also been revealed by the beta coefficient (r) that there is a low degree of correlation between both of them. The outcomes obtained are in alignment with the key findings obtained by various earlier researchers like McGuire (1985), Hovland and Weiss (1951), Atkin and Block (1983), Petty et al. (1983), Cooper (1984), Dean and Biswas (2001), Pornpitakpan (2003) and Chan, Leung Ng, Luk (2013). It was also proven that attractiveness, expertise and trustworthiness of celebrities have a huge influence on buying behaviour exhibited by the consumers; though expertise of the celebrities does not significantly impact the consumers' buying behaviour.

Raheem, Ahmed and Seedani, Sumeet and Ahuja, Manoj and Paryani, Sagar, (2015) in their study explored that physical attractiveness, trustworthiness, expertise and match-up of the celebrity with the reference to endorsed brand, each one of these factors have an impact on consumer attitude about the advertised brand. It was stated in the study that celebrity endorsements lead to hike in the demand of the products and people are inclined to the products more if they are endorsed by the celebrities and it highlights the fact that consumer's today become both aware as well as influenced by the media.

Sheth Bhagyashree and Solanki Sandip (2015) revealed that an advertisement endorsed by celebrity has a significant impact in creating positive attitude towards advertisement. This information suggests that if advertisers of products make use of celebrity endorsement for advertising their products, then they are likely to get their desired impact and appropriate reach for the money spent. This information suggests that if advertisers of products make use of celebrity for endorsing the products then they would be able to increase the sales of the endorsed products and thereby increasing the profits. Thus, the study shows that the advertisement with celebrity endorsement has more positive impact in influencing the purchase intention of consumers.

Dr. Gupta Kusum (2015) in her study concluded that companies associate their product with celebrities to enhance the image of the product for brand awareness, recall retention and credibility.

Nyarko Kofi Israel, Asimah Vincent, Agbemava Edinam and Teste Kafui Ernest (2015) stated that consumers find celebrity endorsements as more lucrative and persuasive when compared with non-celebrity endorsements. The results of the study have shown that celebrity branding positively impact the buying behaviour exhibited by the youth belonging to the Ghanaian region. The study suggested that celebrity endorsements involve huge cost outlay and thus it must be carefully planned by the firms that are willing to adopt it to gain profitability. It has been pointed out that a greater understanding of consumer's reactions on the part of marketers can be beneficial to use this tool more effectively. It is quite essential to note that firms that want to establish a good image resort to this sort of promotion because celebrity endorsements help in effectively breaking through the clutter.

Sridevi, J. (2014) concluded that celebrity advertisement really creates an impact on the fast-moving consumer goods related to shampoo, soap, hair oil, and tooth paste. The consumer's shows positive impact towards the products which are endorsed by a well-established celebrity with a positive image and which are in harmony with a product being advertised.

Kasana, Jyoti & Chaudhary, Naveen (2014) have concluded that in India people love to fantasize; they hold celebrities in high regard and marketers use this stance by hiring celebrities and offering them a whopping amount of money so that they can associate their products with potential customers and persuade them to buy their products.

Chan, K., Ng, Y., & Luk, E. (2013) found that interviewees were best able to recall celebrity endorsers whom they considered attractive, funny and expressive. They identified popularity, a good image, and congruence between the celebrity's image and that of the brand as important factors for marketers to consider in selecting celebrity endorsers. A majority of the interviewees perceived that the engagement of a celebrity in an ad would enhance brand awareness, attract the celebrity's fans, encourage trial, and enhance purchase confidence.

Kumar, Amit (2011) had proven in this research that teenagers find advertisements featuring celebrity endorsements as lucrative and effective as compared to those without celebrities. The validated characteristics of celebrity branding highlight the positive relationship with buying behaviour of the consumers.

Silvera, D.H. and Austad, B. (2004) suggested that celeb endorsements can be made more effective by strongly influencing the consumers' perception concerned with the fact that the endorser truly likes the product and adopts its use. Advertisers, on the other hand, usually seem to be satisfied with simply making an association between a well-liked endorser and their product with the hope that the endorser's positive image can somehow "rub off" on the merchandise. The analysis suggested that advertisers ought to place additional efforts not solely into selecting the endorsers who are congruent with products advertised, but also conjointly into creating sturdy arguments and presumptive explanations for why endorsers really do just like the merchandise they endorse.

The table below highlights the various research studies conducted in the past with the celebrity attributes taken into consideration in our paper. The variables taken into consideration in our paper find support in the following research studies: -

Variables/Attributes Explaining Celebrity Endorsement	Authors
Attractiveness, Trustworthiness, and Expertise.	<ul style="list-style-type: none"> • Hovland and Weiss (1951) • Atkin and Block (1983) • Ohanian (1991) • Dholakia and Sternthal (1977) • Pornpitakpan (2003) • Liu et al. (2007) • Kumar, Amit (2011). • GuptaR., Kishore, Nawal, Verma, D. P. S. (2015) • Nagdev, Kritika & Singh, Dr. Raman. (2016) • WidartoRachbini (2018)
Attractiveness	<ul style="list-style-type: none"> • Kahle and Homer (1985)
Trustworthiness and Expertise	<ul style="list-style-type: none"> • Lafferty and Goldsmith (1999) • Goldsmith, Lafferty and Newell (2000)
Trustworthiness	<ul style="list-style-type: none"> • Hakimi, Abedniya and Zaeim (2011)
Meaning-Transfer	<ul style="list-style-type: none"> • McCracken in (1989)
Attractiveness and Expertise in Match-up Hypothesis and Celebrity-Brand -Product Fit	<ul style="list-style-type: none"> • Till and Busler (2000) • Kamins(1990)
Fit between the celebrity and the brand	<ul style="list-style-type: none"> • Kanungo and Pang (1973) • Pughazhendi and Ravhindran (2012) • Nyarko et al (2015).
Brand Attractiveness	<ul style="list-style-type: none"> • Atkin and Block (1983) • Petty et al (1983) • Cooper (1984) • Dean and Biswas (2001) • Kumar, Amit (2011). • Chan, Leung Ng, Luk (2013) • Nyarko et al (2015) • Khan et al (2016) • Jadhav and Walvekar (2017)

Models explaining Celebrity Endorsements (Source: Biswas et al. 2009)

Models explaining Celebrity Endorsements	Basic Tenet	Source of influence on Consumers	Consumer Perceptions
Source Attractiveness Model (Suggested by McGuire 1985)	Familiarity, Similarity and Likeability of celebrity	Identification process (Kelman)	There is positive perception of ad, celebrity and brand when a celebrity is familiar and likeable.
Source Credibility Model (Suggested by Hovl and Weiss 1951)	Expertise, Trustworthiness of celebrity	Internalization process (Kelman) Balance theory (Heider)	There is positive perception of celebrity and brand in an endorsement when expertise and trustworthiness factors are high.
Match-up hypothesis-Brand-Product-Celebrity Fit (Suggested by Kamins and Gupta 1994)	Celebrity image matches Product image	Social adaptation theory, attributional theory, correspondence theory	There is positive perception of an ad when celebrity chosen is in alignment with the brand.
Meaning Transfer Model (Suggested by McCracken 1986)	Process of transfer of meaning from celebrity to associated brand and then to consumer	Transfer process of meaning from celebrity to associated brand to consumer	The higher the perceived match between symbolic properties of the product and celebrities' meanings drawn from his/her assumed roles, the higher the likelihood of consumer's consumption and appropriation of product's meanings.



RESEARCH OBJECTIVES

The objective of this study is to explore the link between celebrity endorsements and consumer's purchase intentions. Based on the review of literature and gaps identified, the major objectives of the study are as follows:

- To study the perception of millennials towards celebrity endorsements by analyzing various attributes of celebrity endorsements considered during purchase decision.
- To study the importance of celebrity endorsements in variable to the other factors affecting the purchase intention of the millennials.

Taking the objectives of the study into account, data was collected and analyzed using various statistical tools. A structured questionnaire was framed for this purpose and relevant information was retrieved for ensuring that data is properly analyzed so that research objectives are met.



RESEARCH METHODOLOGY

Type of Research-

The research study is empirical in nature.

Research Design-

The research design used for this study is exploratory and descriptive.

Data Collection-

Primary data has been collected for the purpose of this research study. The primary research was conducted among the postgraduate students of various business schools and also among Businessmen and Professionals in service residing in the vicinity of New Delhi all falling between the age group of 21-37 years (defined as the age groups of millennials) through a self-administered questionnaire.

Sampling Technique-

The researcher used probabilistic convenient sampling to select the respondents.

Sample Size-

As suggested by Kerlinger (1978), Hair et al. (1998, 2006), the sample size should be at least 10 times the number of items/variables for factor analysis. Accordingly, 240 respondents would fulfil the criteria for questionnaire consisting of 24 items/variables.

350 respondents from Delhi/NCR area of India which falls in the category of mill enials were intended to be surveyed for the present research study. Out of the 350 questionnaires distributed to the respondents about 300 questionnaires were received and found to be completely filled on further filtering. Therefore, in the present study a sample of valid 300 respondents fulfil the criteria for the structured questionnaire.

Design of survey instrument-

The study employed twenty-four items under the various constructs which have been explored through factor analysis. The questionnaire was administered, and the items were evaluated with a five-point Likert's scale, with 'strongly agree' rated as 5 and 'strongly disagree' rated as 1. These intended to measure the purchase intention of the millennials in response to celebrity endorsements.

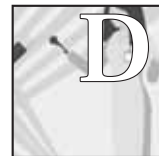
Demographic Profiling-

The first section of the questionnaire covers the demographic characteristics focused on obtaining the information on gender as well as occupation of the respondents.

The gender distribution of the respondents was as follows: - It was observed that the number of female respondents was slightly more than the number of males. The total respondents consisted of 135 males who represented 45% of the target population and there were 165 females representing 55% of the population.

The occupational distribution of the respondents was as follows:-

The majority of the millennial respondents comprised of post-graduate students. The total number of student respondents was 180 and represented 60% of the respondents. This was followed by the service class which consisted of 75 students representing 25% of the respondents. Lastly, the group of business class has been included with 45 respondents representing 15% of the total respondent group.



DATA ANALYSIS AND INTERPRETATION

Factor analysis and multiple regression analysis have been adopted as tools to calculate the impact of factors of celebrity endorsements on buying behaviour of the millennials.

Exploratory Factor Analysis has been adopted as a tool for decomposition of variables into limited factors while multiple regression analysis has been adopted as a tool for signifying the impact of these individual factors on the purchase intention of the millennials.

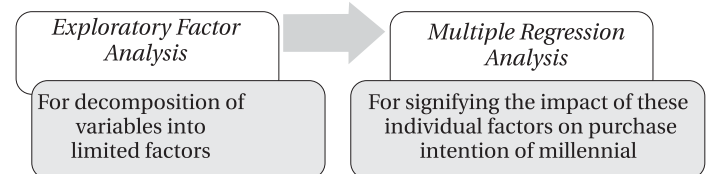


Table 1

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.808
Bartlett's Test of Sphericity	Approx, Chi-Square	3235.327
	Df	496
	Sig.	.000

Notes:- KMO = 0.90-marvelous, in the 0.80's-meritorious, in the 0.70's-middling, in the 0.60's-mediocre, in the 0.50's-miserable, and below 0.50-unacceptable (Kaiser, 1974)

To access the reliability of the sample, Cronbach's Alpha measure has been adopted. Cronbach alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. The reliability coefficient is 0.825, which indicates high internal consistency. Further, the reliability coefficients for each of the attributes: attractiveness, value for money, consumer perception of quality, trustworthiness, expertise and brand attractiveness were 0.846, 0.823, 0.844, 0.856, 0.789 and 0.841 respectively.

Bartlett's test of sphericity indicates the strength of the relationship among variables. The observed significance level is .000. Thus, Bartlett test provides support for validity of data for exploratory factor analysis. . To determine the appropriateness of the data and model in the present study, Kaiser-Meyer-Olkin (KMO) measure has been adopted which determines the adequacy of sample data. High values of KMO value between 0.5 and 1.0 indicate that factor analysis is suitable or appropriate while values below 0.5 imply that factor analysis may not be appropriate (Malhotra & Dash, 2012, p.592). The overall significance of correlation matrices is tested with Bartlett's test of sphericity. KMO is computed as 0.808 that indicates adequacy of sample to evaluate the perception of the millennials toward celebrity endorsed product. The questionnaire used has been verified with the help of content validity.

In order to evaluate the psyche of the millennials and measure the perception of the millennials towards celebrity endorsed product, an exploratory factor analysis has been used as shown in Table-1 to test the construct validity as well as to find out whether to proceed with regression analysis with regard to multi- collinearity in data to evaluate the purchase intention of the millennials on celebrity endorsed products. The result shows that students prefer celebrity endorsed product due to certain factors as discussed below:

Factor 1- Celebrity Attractiveness: This factor explains 17.658 percent of the total variance. This factor includes the variables i.e. classy and Elegance, physically Attractive, similarity with celebrity, familiarity with celebrity, like ability of the celebrity which are loaded heavily on factor 1 with factor loadings .796, .764, .645, .483 and .671 respectively. It suggests that how the attractiveness of the celebrity impacts the purchase intentions of consumers.

Factor 2- Value for Money: This factor explains 10.523 percent of the total variance. This factor includes the variables -quality of the product, price of the product, endorsed products enhance acceptance of product even at high prices and quality assurance which are loaded heavily on factor 2 with factor loadings .744, .850, .754, .713 respectively. The purchase

intention is induced by the value a customer derives from the product, by equating quality & benefits derived to the cost they are sacrificing for the product.

Factor 3- Consumer Perception of Quality: This factor explains celebrities' 10.463 percent of the total variance. This factor includes the variables –celebs confirm for high quality of products, celebrities confirm for consistent quality of products, celebrities endorsed products offer excellent features and celeb endorsed products are very reliable which are loaded heavily on factor 3 with factor loadings .834, .785, .666, .624 respectively. This explains how consumer perception of celebrity endorsed products impacts the purchase intentions of consumers.

Factor 4- Celebrity Trustworthiness: This factor explains 9.988 percent of the total variance. This factor includes the variables-Endorsed products must be of good quality, honesty and sincerity and reliability, celeb endorsements create awareness and confidence in mind about brands and products which are heavily loaded on the factor 4 with loadings .868, .762, .735 and .687. This explains how trustworthiness of the celebrity endorsed products impacts the purchase intentions of consumers.

Factor 5- Celebrity Expertise: This factor explains 7.031 percent of the total variance. This factor includes the variables- skills and Expertise, knowledge of the celebrity and experience of the celebrity which are heavily loaded on the factor 5 with loadings .757, .623 and .570.

Factor 6-Brand Attractiveness: This factor explains 8.774 percent of the total variance. This factor includes the variables i.e. celeb endorsed products help to recognize and recall the brand more promptly, reputation of the celeb creates a lasting impression in mind about the brand, celebrity endorsements increase visibility of new products and new brands and celebrity endorsed brands enhances charisma of the brand which are loaded highly on factor 5 with factor loadings .841, .787, .781 and .588 which explains the importance of a established brand in formulating the perception for the product.

After running the factor analysis, the next step has been to find out Eigen values for each dimension and factor loadings indicated that it's quite appropriate to proceed with the regression analysis that examined the relationship between the purchase intention of the consumers and celebrity endorsed products (Table 1). To determine the adequacy of the data, KMO measure of sampling adequacy is used. KMO is 0.850 which explains the data used is sufficient with factor analysis.

Table 2: Factor Analysis

Factors	Variable Labels	Name of the Dimension Factors	Factor Loadings	Variance %
F1-celebrity Attractiveness	V1	Classy and Elegance	.796	17.658
	V6	Elegance Physically	.764	
	V11	Similarity with celebrity	.645	
	V12	Familiarity with celebrity	.483	
	V15	Like ability of the celebrity	.671	

Factors	Variable Labels	Name of the Dimension Factors	Factor Loadings	Variance %
F2- Value for Money	V6	Quality of the Product	.744	10.523
	V19	Price of the Product		
	V20	Endorsed products enhance acceptance of product even at high prices	.754	
	V17	Quality Assurance	.713	
F3- Consumer Perception of Celebrity Endorsed Products	V21	Celebrities confirm for high quality of products	.834	10.523
	V22	Celebrities confirm for consistent quality of products	.785	
	V23	Celebrities endorsed products offer excellent features	.666	
	V24	Celeb endorsed products are very reliable	.624	
F4-celebrity Trustworthiness	V13	Endorsed products must be of good quality	.868	9.988
	V2	Honesty	.762	
	V3	Sincerity and Reliability	.735	
	V4	Celeb endorsements create awareness and confidence in mind about brands and products	.687	
F5- Celebrity Expertise	V5	Skills and Expertise	.757	7.031
	V8	Knowledge of the celebrity	.623	
	V7	Experience of the celebrity	.570	
F6- Brand Attractiveness	V18	Celeb endorsed products help to recognize and recall the brand more promptly	.841	8.774
	V10	Reputation of the celeb create a lasting impression in mind about the brand	.787	
	V14	Celebrity endorsements increase visibility of new products and new brands	.781	
	V9	Celebrity endorsed brands enhance charisma of the brand	.588	
			TOTAL	64.347

Source: Authors own calculation

As explained above, six factors have been identified through exploratory factor analysis which represents what factors influence the purchase intention of the millennials. On the basis of six factors, six null hypotheses have been framed. It has been investigated that whether these dimensions have significant impact on the purchase intention of the millennials or not.

H0₁: Attractiveness of the celebrities does not have significant impact on purchase intention of the millennials.

H0₂: Value for money does not have significant impact on purchase intention of the millennials.

H0₃: Consumer Perception of celebrity endorsed products does not have significant impact on purchase intention of the millennials.

H0₄: Trustworthiness of the celebrities does not have significant impact on purchase intention of the millennials.

H0₅: Expertise of the celebrities does not have significant impact on purchase intention of the millennials.

H0₆: Brand Attractiveness of the celebrity endorsed products does not have significant impact on purchase intention of the millennials.



REGRESSION ANALYSIS

The researcher employed linear regression model analysis to determine the extent of degree of association between celebrity endorsement and purchase intention of the millennials. The results for the same are depicted as follows:

The regression is as follows:-Where the dependent variable is “purchase intention of the millennials” denoted by Y and the independent variables are: Celebrity Attractiveness (β_1), Value for money (β_2), Consumer Perception of celebrity endorsed products (β_3), Trustworthiness of the celebrities (β_4), Expertise of the celebrities and Brand attractiveness (β_6). The error term (e) contains the extraneous variables aside from independent variables that determine the value of the dependent variable (Y) for a specific observation. Step wise regression method was used to evaluate the data. Regression was employed using factor weighted average scores. Weighted average scores were calculated on regressor and regressand.

The results for the regression are depicted as follows:

Table 3: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.747	.558	.547	.60653	1.787

Source: Authors own calculation

Table 2 shows that $R^2 = 74.7$ percent and Adjusted R^2 (adjusted for d.f.) = 55.8 percent which means existing model has explained 55.8 percent variance in dependent variable which has been caused by independent variables. The R square depicts that proportionately 55.8% of the purchase intention of the millennials' is predicted by celebrity attractiveness, value for money, consumer perception of celebrity endorsed products, celebrity trustworthiness, celebrity expertise and brand attractiveness.

The table highlights that the responses to celebrity endorsement obtained through study are significant to millennials' purchase intention and 74.7% of millennial consumer's purchase intention can be explained through celebrity endorsements. A rule of thumb for Durbin-Watson Test is that test statistic values in the range of 1.5 to 2.5 are

relatively normal. Any value outside this range could be a cause for concern. In our case the value is 1.787 which lies within the range of 1.5-2.5 so it is considered normal.

Major finding: The overall responses to celebrity endorsement are significant to purchase intention of the millennials.

Table 4: Anova

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	90.156	5	18.031	49.014	
Residual	71.369	295	.368		.000 ^b
Total	161.525	300			

Source: Authors own calculation

- a. Predictors: (Constant), QCA, VFM, CPQ, CT, CE, BA
- b. Dependent Variable: QBB Source: Authors own calculation

The above table shows that our model positively, significantly and statistically predicts the outcome between celebrity endorsements and millennial's purchase intention. This is reflected through the significance level of 0.000 in the table which is less than 0.005. F-value of the model has been found to be significant showing that model is best fit to use, and the model is significant in explaining variation in the dependent variables. Thus it can be inferred that celebrity endorsement explain 36.8% of purchase intention of the millennials.

Key Finding: Celebrity endorsements explains the percentage of purchase intention of the millennials. Purchase intention can be predicted by celebrity endorsement through celebrity attractiveness, value for money, consumer perception of celebrity endorsed products, celebrity trustworthiness, celebrity expertise, brand recognition and brand attractiveness.

Table 5: Coefficients And Collinearity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.242	.936	.418	9.877	.000
	CE	.496 ^a	.056		10.277	.000
1	(Constant)	6.913	.908		7.610	
	CE	.587 ^b	.047	.489	12.524	.000
1	(Constant)	11.301	.822		13.742	
	CE	0.382 ^c	.042	.375	9.020	.000
1	(Constant)	14.130	.906		5.602	
	CE	0.231 ^d	.047	.216	4.905	.000
1	(Constant)	16.143	.978		6.502	
	CE	0.143 ^e	.050	.216	2.831	.000
1	(Constant)	12.360	.843		4.662	
	CE	0.328 ^f	.043	.320	7.539	.000

a-Attractiveness, b-Value for money, c-Consumer Perception of Quality, d-Celebrity Trustworthiness, e-Celebrity Expertise and f-Brand Attractiveness.

Source: Authors own calculation

The above table represents the result of coefficient of this research model. The above table validated that Beta is .418, .489, .375, .216, .216 and .320 for various attributes of celebrity endorsements i.e. attractiveness, value for money, consumer perception of quality, trustworthiness, expertise and brand attractiveness respectively and T value is 9.877, 7.610, 13.742, 5.602, 6.502, 4.662 which is significant and also $p < 0.05$, therefore null hypotheses in various cases is rejected and alternative hypotheses are accepted in each of these cases which reveals that celebrity attributes such as attractiveness, trustworthiness, expertise, consumer perception of quality, value for money and brand attractiveness have a significant impact on the millennials' buying behaviour. Hence it can be concluded that celebrity endorsement has a significant impact on purchase intention of the millennials. Hence, Null Hypothesis of each of these attributes that these attributes do not have any significant impact upon the purchase intention is rejected, and it can be concluded that there is positive impact of celebrity endorsement on the purchase intention of the millennials. Thus, it can be concluded that attractiveness, trustworthiness, expertise, consumer perception of quality, value for money and brand attractiveness have a significant impact on the purchase intention of the millennials. Variance Inflation Factor (VIF) had also been used to check the condition of multi collinearity and it showed that multi collinearity is under tolerance level or no multi collinearity has been observed.

Table 6: Regression Results

Hypotheses	Result
H ₀ , Attractiveness of the celebrities does not have significant impact on purchase intention of the millennials.	Rejected
H ₀ ₂ , Value for money does not have significant impact on purchase intention of the millennials.	Rejected
H ₀ ₃ , Consumer Perception of celebrity endorsed products does not have significant impact on purchase intention of the millennials.	Rejected
H ₀ ₄ , Trustworthiness of the celebrities does not have significant impact on the purchase intention of the millennials.	Rejected
H ₀ ₅ , Expertise of the celebrities does not have significant impact on the purchase intention of the millennials.	Rejected
H ₀ ₆ , Brand Attractiveness of the celebrity endorsed products does not have significant impact on purchase intention of the millennials	Rejected



DISCUSSION AND KEY FINDINGS OF THE STUDY

- The present study employed exploratory factor analysis and linear regression analysis to find out the impact of celebrity

endorsements on purchase intention of the millennials. For assessing the impact of celebrity endorsements on consumers' purchase intention, various attributes of celebrity endorsers are taken into consideration while forming a purchase decision which are then explored through Exploratory Factor Analysis. The survey instrument contained 24 questions in totality. The instrument demonstrated high reliability as well as validity.

- The outcomes of the study reveal that celebrity endorsements have a significant impact on purchase intention exhibited by the millennials'. It can be observed from the study that there is a relation between endorsements containing celebrities and attitudes and perceptions of the consumers towards the ad and product.
- The present study provides directions to the executives of the corporates as to which dimension and factor is given more priority by the millennials while making a purchase decision. Since millennials form a significant chunk of our country and further by 2020, India is touted to be the one of the youngest nation so the attributes that affect millennials have to be studied very carefully and given due consideration while marketing any product or brand.
- The findings of the present study indicate that among the various attributes of celebrity endorser, attractiveness of the celebrity along with value for money and consumers' perception of celebrity endorsed products are considered to be the most important factors in making choice of a celebrity endorser followed by celebrity trustworthiness, brand attractiveness and expertise that impact the purchase intention of millennials. Marketers should give due consideration to this finding in our country.
- Respondents do agree with the idea that when any endorsement contains a celebrity it becomes more popular, easier to recall and remember and that it can be stuck in their attention for a prolonged period of time.
- The research reinforced the idea that the inclusion of a well-known person promoting the product leads to the transfer of perceived quality into the product as suggested by McCracken (1989) who had stated that the celebrity endorsers have the potential to deliver meanings of extra depth, power, subtlety and also, they offer a range of lifestyle and personality which cannot be matched by anonymous people.
- Interestingly, people know and they also agree that celebrities don't usually adopt the use of the products that have been endorsed by them but there are other aspects that are associated with celebrity endorsements, which are celebrity attractiveness, value for money, consumer perception of quality, trustworthiness, expertise and brand attractiveness and that significantly impact consumers. It has been stated in the various research studies that attractiveness lies in physical appearance, intellectual capabilities, athletic competence, and lifestyle of celebrity & Celebrity expertise lies in the extent the celebrity makes sound assurances.

- These findings are in consensus with the outcomes obtained by previous research studies conducted by researchers like Hovland and Weiss (1951), Hovland et al (1953), Dholakia and Sternthal (1977), Atkin and Block (1983), McGuire (1985), Petty et al. (1983), Pornpitakpan (2003) and Chan, Leung Ng, Luk (2013), Nagdev, Kritika & Singh, Dr. Raman. (2016), WidartoRachbini (2018) in different demography's that were of the view that celebrity endorsements do have an impact on consumers' purchase intentions.
- Further, it can be observed from the study that attractiveness, trustworthiness and expertise of a celebrity endorser have a significant impact on millennials' buying behaviour. It will intriguing to take note of the fact that these outcomes are inverse to those acquired by Ohanian (1991) wherein she had discovered that attractiveness and expertise of a celebrity endorser don't significantly affect purchasing conduct, while, expertise was found to have a critical effect. In our research study, which specially focussed upon millennials as a target group of study, attractiveness along with expertise and trustworthiness has been observed to have a significant impact on the purchase intention of the millennials.
- Till and Busler (2000) presumed that 'expertise' does not lead to an expansion in buying expectation; notwithstanding it, our research shows inverse outcomes; wherein expertise has demonstrated to have a positive effect.
- Hakimi, Abedniya and Zaeim (2011) reasoned that trustworthiness isn't a factor in affecting consumers' buying behaviour to buy a product or try a brand; yet in our exploration it has a positive relationship.
- The key findings of the current study are in accordance with those of some prior studies like those of Atkin and Block (1983); Petty et al (1983); Cooper (1984); Dean and Biswas (2001); Dholakia and Sternthal (1977), McGuire (1985), Hovland and Weiss (1951), Kamins and Gupta (1994), McCracken (1986), Atkin and Block (1983), Kanungo and Pang (1973) and Pornpitakpan (2003). Kumar, Amit (2011), Chan, Leung Ng, Luk (2013), Jadhav and Walvekar (2017), Khan et al (2016) and Nyarko et al (2015).



CONCLUSION

This research project explored the present state of perception of the millennials about celebrity endorsements. It empirically identified and tested the dimension and factors of the celebrities that build up the intent to purchase a specific product or brand and it thus examined the impact of celebrity endorsements on the purchase intention of the millennials.

Previous researches on impact of celebrity endorsement reveal that celebrities produced more positive attitudes and perceptions towards advertisements. Advertisements featuring celebrities displayed greater purchase intentions as compared to advertisements including non-celebrity

endorser as brand spokesperson (Atkin and Block 1983; Petty et al. 1983; Ohanian 1991). Many researchers also believe that endorsements featuring celebrities deliver a higher degree of appeal, awareness, attention, recall and brand recognition and lead to higher purchase intention as compared to those without celebrity ambassadors (Cooper, 1984; Dean and Biswas, 2001). Diverse research studies conducted prior to this study have used different attributes of a celebrity spokesperson to determine the impact on the consumer behaviour.

The current study was designed to investigate and explore how a set of endorser's characteristics (i.e., attractiveness, trustworthiness, expertise, their perception on consumers', the value of money for including them in endorsements and brand attractiveness) would influence millennial consumers' purchase intent to induce them to actually purchase a product. This research project explored the current state of millennial's perception about celebrity endorsements. It empirically identified and tested the celebrity attributes specific to influence buying behaviour and finally examined the impact of celebrity advertisements on millennial's buying behaviour. The present study employed exploratory factor analysis and regression analysis to find out the impact of celebrity endorsements on millennials' buying behaviour. For studying the effect, exploratory factor analysis was employed to reconfirm the factor structure as suggested by Ohanian - attractiveness, trustworthiness and expertise in our demography along with the other significant factors that were explored i.e. value for money, consumer perception of quality and brand attractiveness that impact the individual's intent to purchase something. The study attempts to find out the individual impact of these dimensions on consumers' purchase intention. The study instrument comprised of a total of 24 Likert scale questions. The survey instrument exhibited high unwavering legitimacy, reliability and validity as assessed by the values of Cronbach Alpha.

The findings of the present study revealed that inclusion of celebrities in advertisements can prove to an effective marketing strategy available to the marketers as companies believe that by hiring celebrities to endorse their product they can associate their product with the target customers and that is why the use of celebrity advertisements to promote products or services is on a steady rise as it is expected to have a significant positive impact on millennials' purchase intentions. This positively stimulated buying behaviour can influence the millennials to purchase a product if all other factors in the marketing mix are blended cautiously. Thus, the strategy of engaging celebrities in endorsements may contribute towards positive monetary return for the companies as also suggested by Farrell, et al. and Erdogan.



IMITATIONS OF THE STUDY AND DIRECTIONS FOR FUTURE RESEARCH

While several key findings are obtained from the study, there are certain inherent limitations to it that can provide direction for future research and exploration. Some of the limitations and key areas for future research include the following: -

- The research study instrument is developed and

validated by collecting the data from various millennials in Delhi/NCR. A study may be conducted to accumulate the views of consumers living in different parts of the country to have an all-inclusive view and understanding of the research study.

- Future studies may explore these research results for various other developing and developed countries, as there is scope for cultural differences to play an important part in the key findings of the study. This can provide a full understanding of the impact of celebrities as brand spokespersons and brand ambassadors on millennials in different cultures.
- Future research may search the impact of celebrity endorsements on different products with different levels of consumer involvement such as variety seeking

behaviour or dissonance reducing behaviour.

- The study could have been more elaborate if the sample size would have been large.
- The present study takes only celebrity attractiveness, value for money, consumer perception of quality, trustworthiness, expertise and brand attractiveness attributes of celebrities into consideration, other attributes have not taken into consideration in the present study and may be explored by the researchers in the future.
- The study covers only millennials thereby limiting the generalizability of the findings. The future studies can deal with some other age groups to broaden the scope of the study.

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ANNEXURE QUESTIONNAIRE

Dear Respondent

The following questionnaire is designed to elicit information for research study “Impact of Celebrity Endorsements on Consumer Buying Behaviour”. Kindly provide the necessary information by filling up the questionnaire. Your contribution will be treated with the utmost confidentiality and used for academic purposes only. Your views and opinions are indispensable for the research endeavour. Thank you.

Section I Personal details

Tick as you see appropriate (✓)

A) Respondent Profile

1. Name:

2. Gender: Male Female

3. Occupation: Student Business Service

Section II Please tick (✓) as you see appropriate

Celebrity – a famous person; Celebrity endorsement- marketing strategy of using a well-known person to promote company products or brands.

As a consumer, how would you rate the following attributes of celebrity endorsements, please indicate your level of agreement with the statement by marking symbol tick (✓):-

S. No.	Factors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I am willing to buy a product if I find the celebrity to be classy and elegant.					
2.	I trust and buy the products endorsed by celebs because I perceive the celebrity to be honest about the message he/she is giving in the ad.					
3.	I think the celebrity endorser influences my purchase intention when he/she is sincere and reliable about the endorsed product.					
4.	Celebrity endorsements create awareness and confidence in my mind about brands and products and thus trigger my purchase.					
5.	I consider the expertise of the celebrity as an attribute that can influence my purchase intention.					
6.	I am willing to make a purchase if I perceive the celebrity to be physically attractive.					
7.	I am more interested in buying from those brands that rope in celebrities who have acquired an incredible amount of experience in their field.					
8.	I think the celebrity endorser influences my buying decision when he/she appears to have good knowledge about the product and brand.					
9.	I can easily recognize the celebrity endorsed brands from competitor's brands due to the charisma of the celebrity.					
10.	Reputation of the celebrity endorser creates a lasting impression in my mind about the brand and thus leads to increase in intent to purchase that particular brand.					
11.	I find myself similar to celebrities in terms of personality when I use products endorsed by the celebrities.					
12.	I consider purchasing a new product because of the presence of a celebrity I am familiar with.					
13.	I feel that if a celebrity endorses a product it must be of good quality and thus I can consider buying it.					
14.	Celebrity endorsement increase visibility of new products and new brands and trigger my purchase to try new products.					
15.	I am more likely to purchase a new product because of the presence of a celebrity I like (physically or behaviourally).					
16.	I associate the celebrity endorsers directly with the quality and performance of the product.					
17.	Celebrity endorsed products are valuable because they lead to assurance to the consumers' about the quality of the products.					
18.	The presence of celebrities helps me to recognize and recall the brand more promptly.					
19.	The cost of using celebrity in the endorsements is reflected in the price of the product.					
20.	Popularity of the endorser helps me in the acceptance of certain products even though the price of those products may be very high.					
21.	Brands endorsed by celebrities are of very high quality.					
22.	Brands endorsed by celebrities are of very consistent quality.					
23.	Brands endorsed by celebrities offer excellent features.					
24.	Brands endorsed by celebrities are very reliable.					



Coherence of Growth & Inflation in BRICS: ARDL Bound Test Approach

*Dr. Kirti Khanna

ABSTRACT:

Purpose: The present study deals with the link between economic growth and inflation for BRICS nations.

Methodology: The study applied autoregressive distributed lag model (ARDL) for long term relationship and granger causality test to check the direction of short term and long-term causal relationship.

Findings: After employing different statistical and econometric measures, the findings reveal that BRICS has significant relationship in terms of inflation (CPI) and economic growth (GDP). The study found different types of causal relationships in long run and short run as well. The ARDL cointegration approach also revealed the long run bond between these two variables for BRICS nations. It is also suggested that being a regional grouping BRICS must work for economic development and cooperation in Trade and Tariff with effective policies. Cumulative sum of squares (CUSUMSQ) also organized the stability and goodness of the model for short run and long run as well.

Value: The study offers long term equipoise relationships of selected variables in the context of BRICS nations for 28 years (1991-2018). The study is an effort to identify short run and long run causal effects along with ARDL testing of cointegration.

Keywords: ARDL, BRICS, Economic growth, GDP, Inflation, Time series.

JEL Classification: E00, E3, E6, E31, E56

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INTRODUCTION

The second half of the twentieth century has witnessed the spread of turbulent literature about the relationship between inflation and economic growth. The BRICS economy is expected to transform the global economy in the future. The BRICS is a grouping acronym that refers to the countries of Brazil, Russia, India, China and South Africa. All BRICS members have their own strengths and characteristics, high growth rates, economic potential and demographic developments were going to put BRICS further in a lead position. (BRICS Report, 2012). While the developed economies have confronted different downturns in recent past, the major players India and China have incessant evolution even in times of financial instability. Achieving high and sustainable growth in production with low and stable inflation rates is the main goal of macroeconomic policy (Kan and Omay, 2010).

Inflation is one of the key economic structures, dazzling constant rise in wide-ranging price level of goods and services. Every country practices it during the process of its growth and development. In an era of globalization, inflation is irrefutable, and one of the prominent and vibrant macroeconomic problems which plague almost every developing economy of the world (Basu, 2011). Economic growth is a prerequisite for improving the living standards and life opportunities of the "average" citizen of the developing world (Rodrik, 2013).

Theoretical Framework

Inflation is measured as the percentage rate of change in the price index of a country. There are several measures of inflation that depend on various sectors of the economy. The well-known measure of inflation, used in almost all countries and for which inflation indices are reported, is the consumer price index (CPI). CPI measures prices of selected goods and services that affect consumers (Economy watch, 2010). There is an excessive amount of economic prose concerning with the question of what causes inflation and what type of effects it has. Adam Smith and David Hume proposed a quantity theory of inflation for money (Smith, 1776). Economic growth is an increase in the market value of goods and services adjusted for inflation over time. Conventionally, it is measured as a percentage of real gross domestic product growth or real GDP (IME, 2012). Over the time, many theories and empirical studies have generated different investigative aspects of economic growth [Solow (1956), Barro (1991), Mankiw et al. (1992), Romer (1990); Aghion and Howitt (1997) and Barro and Sala-i-Martin (2004)].

With the view of those theories this study inspects the inflation - growth bond in the BRICS countries. The importance of studying the connection between inflation and economic growth in this province stems from the belief that the member countries have common goals and close relationships.

These are the two motivational factors to conduct this study. First, there are many recent developments taking place in the growing economies to meet the standards of globalization.

For this, the developing economies must employ few important strategies to control inflation and boost their GDPs. Second, effects of Inflation on an economy are numerous and can be concurrently positive and negative. The relationship may differ from country to country. This study is an effort to find out those relationships and their impact.

The study adds insights into the economy, reinforcing the perception of the relationship of inflation and growth in the BRICS countries. Hereinafter, the rest of the paper is divided in different sections; (i) Literature Review, (ii) Research Methodology, (iii) Analysis and Findings; (iv) Conclusion.



LITERATURE REVIEW

There are some of the reviews of the studies which have been previously undertaken in the related area of research and enlightened the thought of prospective researchers. Mishra, A. et.al. (2016) assessed the relationship of growth and inflation for short run using lag distribution model. Behera, J. (2014) explored the relationship of rising inflation in seven countries in South Asia, using advanced panel integration technology. The study displayed that there is a negative relationship between inflation and economic growth for all countries. The findings suggested the existence of long-term relationship between inflation and economic growth for all countries, and unidirectional causality for inflation for economic growth for all countries. Keskek and Orhan (2010) investigated the power of monetary policy regarding the relationship between inflation and inflation uncertainty, using data from Turkish inflation. The results of the GARCH-M models showed that high rates of inflation are directly related to higher inflation. The impact of inflation on growth was considered negative mainly due to stabilization motives controlling the opportunistic incentives of the financial authorities. Researchers established strong evidence to counter the prospects that inflationary monetary policy has the power to reduce inflation persistence and eliminate ambiguity. Patra and Ray (2010) assessed that the prospect of inflation plays a significant role in setting and implementing monetary policy in modern India. The researchers also showed that incorrect information about the intentions of the central bank was one of the sources of apathy in the formation of inflation expectations. Patnaik (2010) has tried to recognize the determinants of inflation in India, made an empirical conclusion in a single integrated system VAR. The researcher also used an error correction mechanism for cointegrated variables. The impulse response function of the co-integrated VAR system indicates that the inflation response is lagging behind changes in other variables in the VAR system. Decomposition with a fixed error showed that inflation in India is a combination of supply and demand factors. Dua and Gaur (2009) inspected fortitude of inflation in the framework of an open economy activist as well as predictable retrospective Phillips curve for eight Asian countries - Japan, Hong Kong, Korea, Singapore, Philippines, Thailand, China Mainland and India. They found that the output gap, and at least one measure of global competitiveness to be significant in explaining the inflation rate in almost all the countries.

Additionally, agriculture related supply distresses were created to be major in determining inflation in developing countries. For all countries, the avant-garde Phillips curve provides an enhanced fit compared to the backward looking variant. Erbaykal and Okuyan (2008) examined the cointegration association between the inflation and the economic growth in Turkey. The results indicated that there was no statistically significant long-term relationship, but a negative and statistically significant short-term relationship between inflation and economic growth. Stilianos et. al (2006) scrutinized the contributory connection among nominal insecurity, real indecision and macroeconomic performance measured by the inflation and growth rates and using a bivariate comprehensive autoregressive conditionally heteroskedastic (GARCH) model of inflation and growth. The study found that, inflation cause negative interests' effects, both directly and indirectly. In some countries, more inflation uncertainty provides an incentive to Central Banks to shock the public by raising inflation suddenly; and more inconsistency in the business cycle leads to more output growth. John (2003) has used post-liberalization data to study causality between monetary aggregates and exchange rates. The researcher used Vector Autoregressive (VAR) to find out which monetary aggregate best explained inflation. However, the study could not provide a clear rationale for which monetary aggregates explained inflation in a best manner. The result of the VAR model showed sufficient reasons to believe that broad money (M3) is the best measure to explain changes in inflation. Nachane and Lakshmi (2002) attempted a P - Star model for India by using both annual and quarterly data for the period 1955–1995. To build up a model for measuring inflationary pressures in the economy, the researchers have used co- integration techniques, as the velocity in India was found to be trend stationary. The model was found to be best fitted to the data, and in the out-of-sample forecasts, it significantly outperformed a seasonal ARMA benchmark model. Canetti and Greene (1991) used Granger's causality tests to test the role of matrimonial money on inflation changes for six African countries. They found that the expansion of the money supply and the alleged exchange rate had a significant effect on inflation.

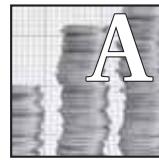
Keeping in mind existing literature, the present study is an effort to focus on principal macroeconomic determinant and impact of inflation in BRICS countries.



RESEARCH METHODOLOGY

The study aims to explore nexus between Growth and Inflation in BRICS nations. The study considered Consumer Price Index (CPI) as indicator of inflation (Behera 2014; Mishra 2016) and Gross Domestic Product (GDP) as indicator of growth (Faridul et al. 2012; Koondhar et al. 2018). Both variables are converted in natural logarithms (Mishra 2016). Data for selected variables has been taken for the time of 1991 to 2018 as per the availability of data. For study, required secondary data has been collected from Reports, Working papers, Newspapers and Statistical data base of IMF and World Bank. Some information has also been gathered from official websites Government/ Central Banks of BRICS

countries. Different statistical and econometrical measures; descriptive analysis, unit root test (ADF), Granger Causality, ARDL Bound Test and Cumulative Sum Squares Test (CUSUMQ) were applied.



ANALYSIS AND FINDINGS

The pragmatic data used in present study included annual time series of inflation and growth for Brazil, Russia, India, China and South Africa. The summary of basic descriptive of selected variables for BRICS presented in Table 1 (Annexure).

Descriptive statistics include the Mean, Median, Maximum, Minimum, Standard Deviation (Std. Dev.), Skewness and Kurtosis of all variables for BRICS. The result of St. Deviation shows that about 68% of scores fall within 1S.D. for both variables of BRICS. Further, Skewness is a measure of asymmetry of the distribution of the series around its mean. Positive skewness means that the distribution has a long right tail and negative skewness implies that the distribution has a long-left tail (Levin, 2000). The findings of skewness reveal that CPI and GDP are positively skewed and have long right tail as per the distribution in different countries. In case of Brazil, India and South Africa both variables are negatively skewed.

After descriptive statistics, researcher employed Unit Root test to judge the null hypothesis (Ho) that the variable contains a unit root (non-stationary). Augmented Dickey-Fuller (ADF) test is the most popular unit root test to test the stationarity. Augmented Dickey Fuller (ADF) test for unit root for checking the favor of stationarity was developed by Dickey and Fuller (1979), ADF model is:

$$\Delta y_t = \alpha + \beta_{y_{t-1}} + \delta t + C_1 \Delta y_{t-1} + C_2 \Delta y_{t-2} + \dots + C_k \Delta y_{t-k} + \epsilon_t$$

Where, k is the number of lags, y_t is the time series data under consideration. The test is based on the null hypothesis (Ho) that the variable contains a unit root or non-stationary, and alternative hypothesis (H1) is that the variables are generated by a stationary process. This test requires a negative sign and significant test statistic, for rejecting the null hypothesis. (Dougherty, 2007). The tests for integration of order (1) and I (0) are carried out. The findings of ADF test are depicted in Table 2 (Annexure). According to the results of ADF test, it is apparent that all series are first difference stationary I (1). Hence, researcher has rejected the null hypothesis of unit root at 5% level of significance for all countries.

The next stage of analysis includes the testing of long run relationship between economic growth and inflation within a bivariate framework. As per the available literature, the recent popular methodology to find out long run relationship is single cointegration approach by using Auto Regressive Distributed Lag Model (ARDL) also known as ARDL Bound Testing (Pesaran et al. 2001). Model can be expressed as follows

$$\Delta y_t = \beta_0 + \sum \beta_i \Delta y_{t-i} + \sum \gamma_j \Delta x_{1t-j} + \sum \delta_k \Delta x_{2t-k} + \theta_0 y_{t-1} + \theta_1 x_{1t-1} + \theta_2 x_{2t-1} + \epsilon_t$$

This model can be applied in both conditions when series are I(0) and I(1). The unrestricted error correction model is used for both variables. In Bound test for exploring the long run relationship F statistic is used. The test offers two critical values; I(0) and I(1). These bounds need to be compared with F

statistics and when F statistics is more than upper bound $I(1)$ then null hypothesis can be rejected. The possible selection of lag order is based on the Akaike's information criteria (AIC). Table 3 portrays the results of ARDL Bound Test for BRICS. The results of Bound test shows that long run relationship exist in case of Brazil and India when both the variables (CPI and GDP) have been taken as dependent variable. F statistics are 9.808131, 10.29324 for Brazil which are higher than the lower bound value $I(0)$ and upper bound value $I(1)$ 4.94, 5.73 at 5% level of significance respectively. Hence, researcher reject the null hypothesis of no long run relationship. In the data considered for India, F statistics are 12.99404 and 6.795143. These are higher than the critical values of lower and upper bound. So that, the null hypothesis of no long run relationship is rejected. In case of Russia, F statistics (3.588601, 2.334718) are less than $I(0)$ and $I(1)$ critical values. Researcher accepted the null hypothesis of no long run relationship for both cases when CPI and GDP are taken as dependent variable. For China, the null hypothesis of ARDL bound test is accepted when CPI is taken as a dependent variable. As the F statistic (2.962912) for this case is less than critical bound of $I(0)$ 4.94. In case of South Africa, the test revealed that there is no long run relationship when GDP is taken as dependent variable. Whereas when CPI taken as the dependent variable the null hypothesis of bound test is rejected at 5% level of significance.

The final stage of analysis includes the formation of standard Granger-type causality tests with auto regressive lag distribution. For this approach of Granger Causality there must be existence of co-integration relationship between the variables. After establishing a long-term relationship, ECM (error correction model) can be estimated (Engle-Granger, 1987). Table 4 depicts the results of causality tests with ARDL approach. The short term causality can be judged on the basis of F statistics and for long run ECM t statistics to be used (Islam, 2012). The results shows that there is no causality between the two selected variables in short run for Brazil, where as in long run a bidirectional causality exists between CPI and GDP, ECM t values are -2.443, -3.211 and these are significant at 5% level of significance. In case of Russia, unidirectional causality exist from CPI to GDP in long run but in short run there is no causal relationship exist. For India, direction of this causal relationship is bidirectional for long run but in short run this is unidirectional from GDP to CPI as F statistics is 4.17192 significant at 5% level of significance. Results for China depicts that there is unidirectional causality present in long run and short run as well. ECM t statistics is -3.357 (significant at 5% level) for CPI to GDP in long run and F statistics is 3.14175 for short run. In case of last country of this block, researcher found unidirectional causality in short run whereas researcher accept the null hypothesis of no causality in long run. With this Granger causality & ARDL approach the study revealed the directions of causal relationships.

Further, researcher applied CUSUMQ test for stability and goodness of model. The CUSUM test (Brown, Durbin, and Evans, 1975) is based on the cumulative sum of the recursive residuals. This option plots the cumulative sum together with

the 5% critical lines. The test finds parameter instability if the cumulative sum goes outside the area between the two critical lines (EViews User guide). CUSUMSQ charts fall into two critical lines at a 5% significance level for all countries. Which means that the long run and short run coefficients are stable and model applied for results are best fit. (See annexures)



CONCLUSION

For the steady development of trade and industry, a certain amount of inflation is important for wheel lubrication (Temple, 2000). The study investigated the connection

between inflation and economic growth in BRICS. The ADF test results of both variables were integrated of order one $I(1)$. The results of ARDL Bound Test to co-integration for long run relationship and modified Causality test with ECM suggested significant relationship between GDP and CPI. ECM t statistics with 5% level of significance revealed long term causality of unidirectional, bidirectional and exogeneity for different countries. These results are in line with the suggested findings given by Behera 2014; Mishra 2016; Faridul et al. 2012. The researcher employed CUSUMQ test to check stability and goodness of model. The results found that long run and short run coefficients are stable and model applied for results are best fit. The study further suggested that for regional development, this trade bloc should work to grow together with innovations, technological advances, and political relations that will develop in the economies of the world.



IMPLICATIONS

The current study has certain implications for theory as well as for practice. The study adds to the existing literature on economic growth and inflation. The results obtained from the estimation of the ARDL short run and long run test revealed that both short run and long run relationships exist among the variables of the study. These results have important implications for those responsible for national policies; policymakers and for development partners. Results implies that controlling inflation is a necessary condition to promote economic growth. Therefore, government should focus on keeping inflation low. This study has some practical implications for investors also. For stock market investors, inflation is the driver to take the greatest risk of investing in the stock market with the hope of obtaining the highest real rates of return. While inflation is moderate, the stock market offers the best opportunities for high returns. As BRICS is a trade block having common trade goals. Hence, GDP is one of the main factors which influence the trade percentage. Generally, trade growth is much more volatile than GDP growth at the global level although both tend to rise and fall together. (WTO, Review Report, 2017)

In this regard, this study will be an addition to the existing body of literature which will help to boost the economic development by drawing a picture of selected economic block.

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ANNEXURE

Table 1: Descriptive Statistics (BRICS)

Countries	Variables	Mean	Median	St. Deviation	Skewness	Kurtosis	Minimum	Maximum
BRAZIL	GDP	.5269	.1618	0.80583	-.049	-1.029	-1.07	1.78
	CPI	2.6833	1.9077	1.97839	1.822	1.989	1.17	7.99
RUSSIA	GDP	.8854	.5353	0.89807	.204	-1.746	-.30	2.31
	CPI	2.3937	2.3283	1.60501	.867	1.538	0.00	6.77
INDIA	GDP	1.6069	1.8961	0.84492	-.990	.312	0.00	3.17
	CPI	1.8345	1.8532	0.57062	-1.231	2.511	0.00	2.63
CHINA	GDP	2.0645	2.2178	0.62214	-2.784	7.978	0.00	2.66
	CPI	1.0143	.9555	0.96767	.419	.077	-.92	3.18
SOUTH AFRICA	GDP	.7845	.9898	0.69059	-.620	-.638	-.66	1.72
	CPI	1.7529	1.7840	0.66253	-1.247	2.074	0.00	2.73

Source: Empirical data calculated by IBM SPSS 20.

Table 2: Augmented Dickey Fuller Unit Root Test

Countries	Variables	I (0)		I (1)	
		Constant	Constant & Trend	Constant	Constant & Trend
BRAZIL	LNGDP	-4.431831* (0.0017)	-4.388079* (0.0090)	-6.163481* (0.0000)	-5.214405* (0.0017)
	LNCPI	-2.747169 (0.0799)	-3.152267 (0.1166)	-3.459851* (0.0178)	-3.577683* (0.0051)
RUSSIA	LNGDP	-2.078668 (0.2541)	-1.967599 (0.5920)	-5.605315* (0.0001)	-5.617675* (0.0006)
	LNCPI	-2.721731 (0.0835)	-2.836062 (0.1975)	-5.362939* (0.0002)	-5.463953* (0.0008)
INDIA	LNGDP	-3.144088* (0.0351)	-3.617258* (0.0471)	-8.185100* (0.0000)	-8.218221* (0.0000)
	LNCPI	-5.899272* (0.0001)	-5.809228* (0.0007)	-7.115898* (0.0000)	-6.411245* (0.0001)
CHINA	LNGDP	-4.493838* (0.0015)	-4.082253* (0.0177)	-5.069084* (0.0004)	-5.561056* (0.0006)
	LNCPI	-2.482234 (0.1307)	-2.784578 (0.2144)	-4.987903* (0.0005)	-4.852207* (0.0033)
SOUTH AFRICA	LNGDP	-2.768269 (0.0762)	-2.837356 (0.1971)	-4.966720* (0.0005)	-5.427751* (0.0009)
	LNCPI	-4.322462* (0.0022)	-5.027234* (0.0021)	-7.027733* (0.0000)	-6.714023* (0.0000)

Notes: (i) [*] denotes rejection of null hypothesis at 5% significance level respectively.

(ii) Akaike Information Criterion (AIC) & SIC used for lag order selection.

(iii) Parentheses “()” shows related P values.

Source: Data calculated by STATA SE 12.

Table 3:Auto Regressive Distributed Lag Model (ARDL)

Countries	Null Hypothesis	F statistics		Critical Value Bound ^c		Conclusion (H ₀)
		GDP ^a	GDP ^b	I (0)	I (1)	
Brazil	No long-run relationships exist	—	9.808131	4.94	5.73	Rejected
	No long-run relationships exist	10.29324	—	4.94	5.73	Rejected
Russia	No long-run relationships exist	—	3.588601	4.94	5.73	Accepted
	No long-run relationships exist	2.334718	—	4.94	5.73	Accepted
India	No long-run relationships exist	—	12.99404	4.94	5.73	Rejected
	No long-run relationships exist	6.795143	—	4.94	5.73	Rejected
China	No long-run relationships exist	—	2.962912	4.94	5.73	Accepted
	No long-run relationships exist	9.812761	—	4.94	5.73	Rejected
South Africa	No long-run relationships exist	—	9.913584	4.94	5.73	Rejected
	No long-run relationships exist	3.701909	—	4.94	5.73	Accepted

Note: (i) “a” denotes when GDP taken as dependent variable.
 (ii) “b” denotes when CPI taken as dependent variable.
 (iii) Critical value bound [I (0) and I (1)] given for 5% level of significance.
 Source: Data calculated by EViews 10.

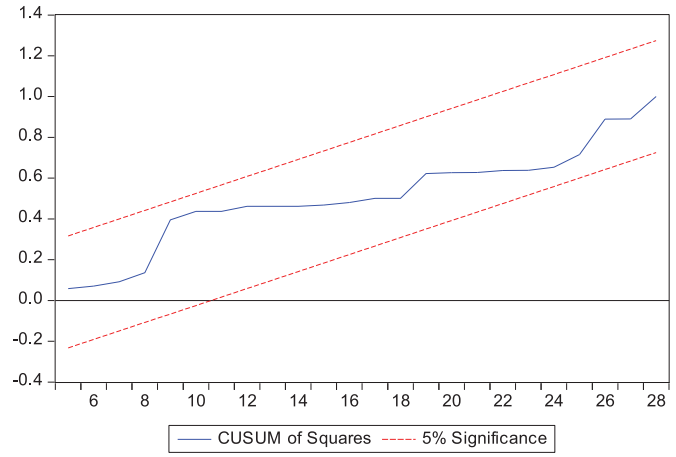
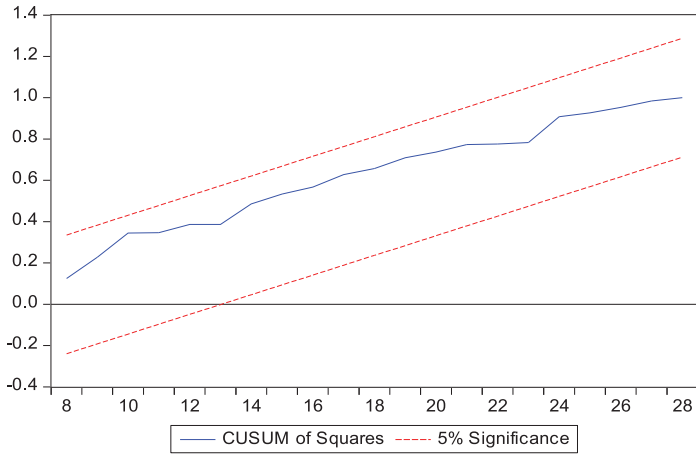
Table 4:Result Specification of Granger Causality Test

Countries	Short Run Causality - F statistics		Long Run Causality - ECM t statistics		Short run decision	Long run decision
	H ₀ : GDP does not granger cause CPI	H ₀ : CPI does not granger cause GDP	H ₀ : GDP does not granger cause CPI	H ₀ : CPI does not granger cause GDP		
Brazil	0.40525	0.45123	-2.443*	-3.211*	Exogeneity	Bidirectional
	(0.6719)	(0.6429)	(0.0201)	(0.008)		
Russia	0.14774	3.80433*	-1.198	-1.211	CPI–GDP	Exogeneity
	(0.8635)	(0.0089)	(0.1062)	(0.8330)		
India	4.17192*	2.74146	-2.119*	-3.421*	GDP –CPI	Bidirectional
	(0.0032)	(0.0875)	(0.006)	(0.0130)		
China	3.14175*	1.75328	-3.552	-3.357*	GDP–CPI	Unidirectional
	(0.0018)	(0.4831)	(0.7140)	(0.005)		
South Africa	0.02045	6.33919*	-1.118	-1.225	CPI – GDP	Exogeneity
	(0.9798)	(0.0162)	(0.4062)	(0.7430)		

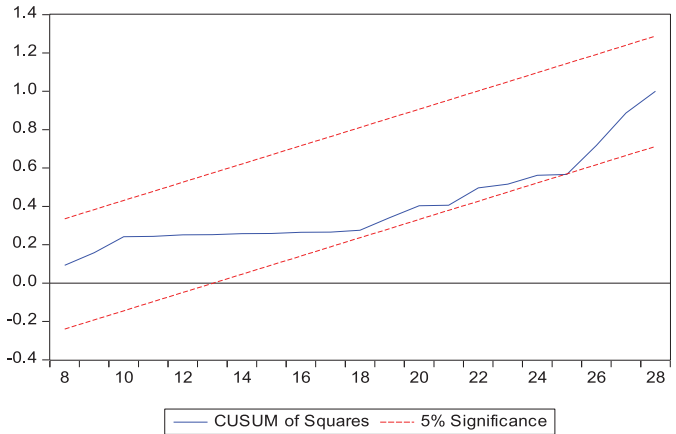
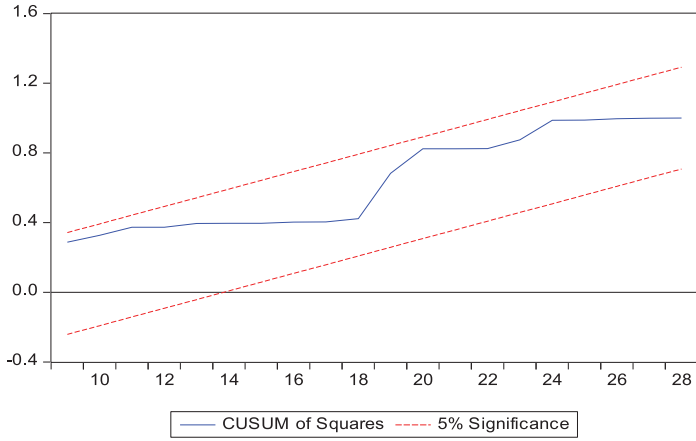
Notes: (i) [*] denotes rejection of null hypothesis at 5% significance level respectively.
 (ii) Parentheses “()” shows related P values.
 (iii) ECM stands for Error Correction Model.
 Source: Data calculated by EView10.

CUMULATIVE SUM SQUARES (Goodness of Model Fit)

1. Brazil (GDP & CPI)

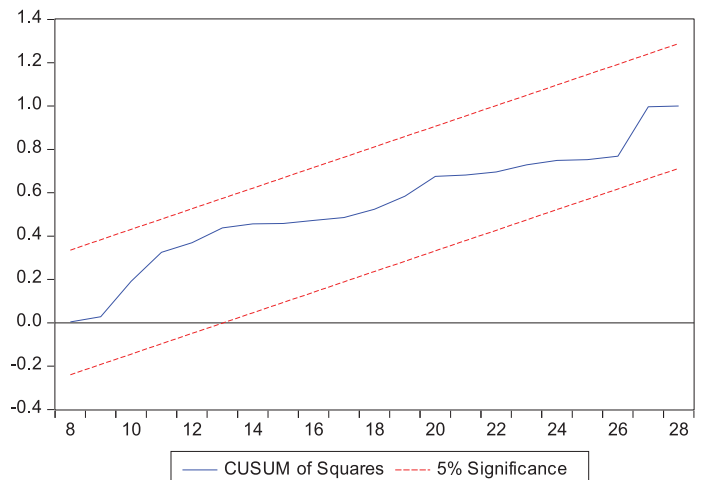
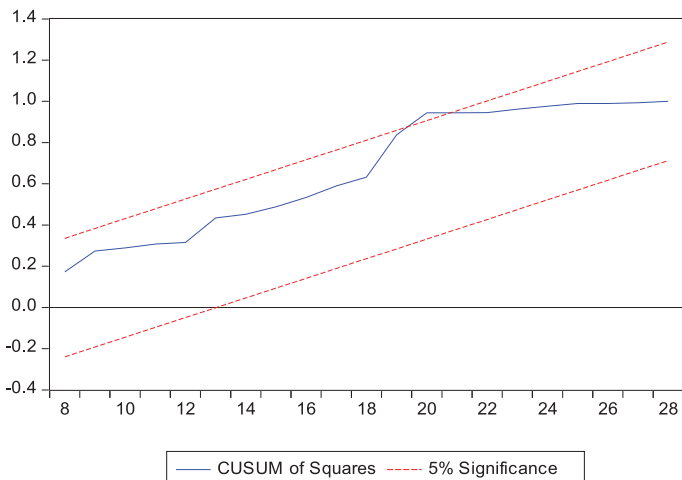


3. Russia (GDP & CPI)

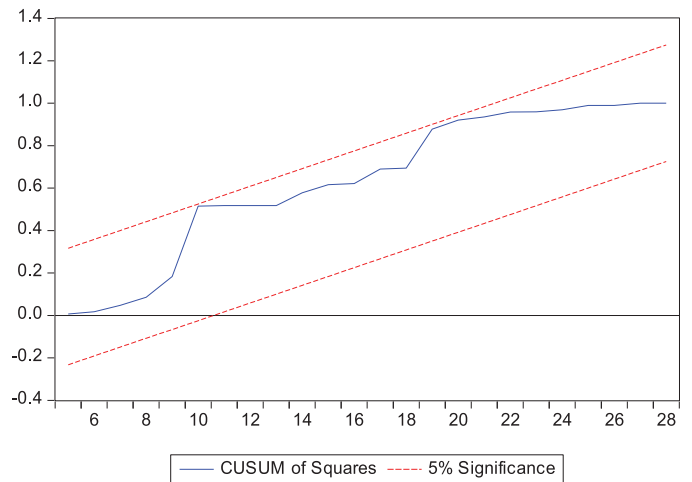
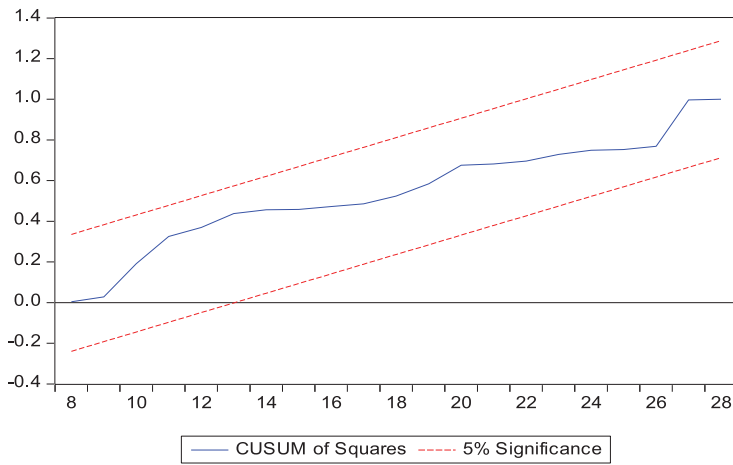


Source: Author's Calculation; EViews

3. India (GDP & CPI)

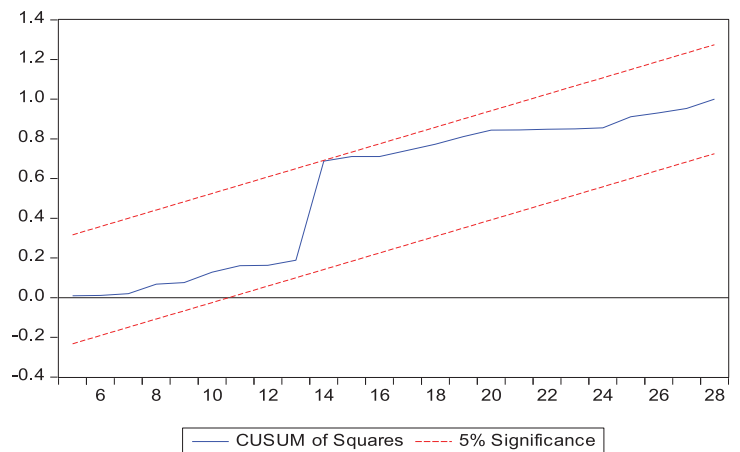
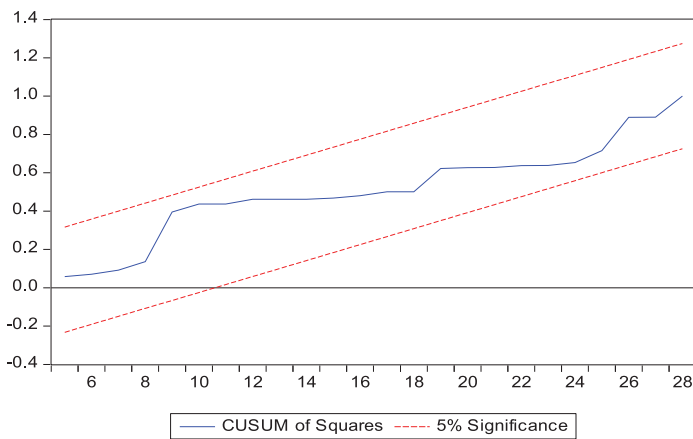


4. China (GDP & CPI)



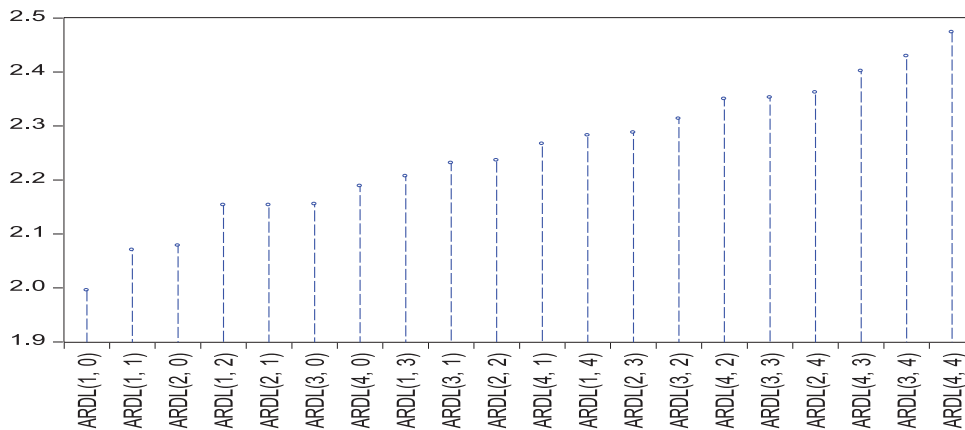
Source: Author's Calculation; EViews

5. South Africa (GDP & CPI)



LAG SELECTION CRITERIA

Akaike Information Criteria



Analysis of Health Record Management System in Private Hospitals

*Ms. Sheetal Johar

**Dr. Basanna Patagundi



ABSTRACT

The National Health Policy of India, 2017 emphasizes that at district level there should be electronic database at all health care systems by 2020. Health record of any patient is the most important document which gives information about the patient's health in past and present which helps doctors to give better and faster treatment to the patients. The study was conducted at selected private hospitals in Karnataka to assess the usage and challenges in implementing electronic health management system. Karnataka is the eight largest state in area, geographically in India. It was found that it is easier to use EHR in health centres with lesser number of patients when compared to health centres where large number of patients had to be examined every day. In a few private hospitals EHR was not implemented and manual record system was in use. Majority of them looked forward to moving to using EHRs, although a small number of them were reluctant to shift from manual system as they were at ease at using the manual system for many years. It was found that some of the respondents who do not use computers often found it difficult to make entries on the system.

Keywords – EHR, NHP, health record, health centre.

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INTRODUCTION

Health Record of any individual is clinically very meaningful when maintained from the conception or birth till death of an individual. Throughout one's life there will be various encounters with doctors, health check-ups, vaccination and now with the devices people even use to do regular check-up at home. The details maintained in one single record becomes helpful for any kind of examination by physicians. It cuts down the costs for unnecessary repetitive diagnosis and also helps in better and faster diagnosis of the health issue¹.

An Electronic Health Record is collection of various medical records during one's life span². These life time records need to be maintained with some standards else it would be very difficult to bring together the records from different hospitals or health care centres together. Hence, to achieve all this there has to be pre-defined standards for information capture, retrieval, storage, analytics, exchange and it includes text, images and clinical codes which are used globally.

The importance of electronic health record is to provide people with the ease to access their health record anywhere anytime at any hospital or health centre so that the doctor can have the complete history of the patient and can give proper medication or treatment required faster. Hence, the need for interoperability. This will interconnect all health care centres across the country and with the appropriate authorisation the health records could be accessed. HIMSS defines interoperability (2013)³ as the ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged. Data exchange schema and standards should permit data to be shared across clinician, lab, hospital, pharmacy, and patient regardless of the application or application vendor. In a country like India with huge population demographics play a lot of importance. In remote and hilly regions accessibility to networks is less and very difficult. It will be important to have interoperability at different levels as it cannot be the same in all regions.

In the areas where interoperability is possible, same or similar structures can be used and the vocabulary or codes could be common and understood (example SOMED CT(Systematized Nomenclature of Medicine Clinical Terms) or ICD 10(International Code for Diseases, Version 10)). If the vocabulary can be matched it becomes easier to understand. To achieve complete inter-operability, it will require multiple layers of network transfer protocol, data information, description, vocabulary and code sets to be standardised and represent all the requirements. Even after implementing the model there will always be continuous up gradation of the software, rules and regulations, codes, certification and continuous guidance from the authorities.

1. Circular on Electronic Health Record by Ministry of Health and Family Welfare <http://mohfw.nic.in/showfile.php?lid=1671> as extracted on 25th August 2018
2. Electronic Health Record Standards for India , NHP, <http://www.nhp.gov.in/ehr-standards>, extracted on 26th August 2018.
3. <https://www.himss.org/library/interoperability-standards/what-is-interoperability1> , extracted on 26th August 2018.

Health Record Systems requires to be secured by all means. They cannot be accessed by anybody without proper authorisation. The healthcare providers will have to consider the following security measures⁴:

- Ensure complete confidentiality, integrity and availability of the electronic health records that are created, transmitted, received or maintained.
- Protect against any anticipated threat to the security of EHRs.
- Provide protection against inappropriate use and disclosures of electronic health record that are not permitted under Privacy standards.
- Ensure that their workforce will follow the rules and regulations set for security policies and to follow the procedures.

After the NHP 2002, the next NHP was in 2017⁵. The primary aim of this policy is to inform, clarify, strengthen and make the role of Government as a priority in shaping health systems. There is a need for organisation of healthcare services, to prevent diseases, promote good health, access to the technology, have better human resources, knowledge base, financial strategies, have more stronger regulations and health assurance. The policy emphasises that at district level there should be electronic database at all health care systems by 2020.

Current health status and policy in Karnataka

Karnataka is the Eight largest state in area (191791 sq kms), geographically, in India. The population of this state is 6.6 crore as per Census 2016. Karnataka has made a lot of progress in improving health care services over the past few years.

A systematic analysis was done to study HIS and it was found that there was:

- (a) Very less use of data for decision making. HIS (Health Information System) ensures proper data capture, analysis and dissemination of information in a reliable and timely manner so that correct decision can be taken. The current status of HIS in Karnataka needs a lot of improvement. There is a lot of discrepancy in the kind of data available for public health managers, policy makers and researchers. The HMIS (Health Management Information System) currently, which is being used, captures only routine monthly reporting from peripheral centres to district and national levels. Most of the data is just available on one HMIS portal and several other new programmes are not integrated to this
4. Electronic Health Record Standards for India , NHP, <http://www.nhp.gov.in/ehr-standards>, extracted on 26th August 2018.
 5. https://www.nhp.gov.in/health-policies_pg extracted on 28th August 2018
 6. https://www.karnataka.gov.in/hfw/kannada/Documents/Karnataka_Integrated_Public_Health_Policy_2017.PDF

- (b) Outmoded Information Systems: The existing staff in most of the public health sector are over burdened by maintaining multiple registers. They lack training in data collection, reporting and submission of reports for many programmes. There is lot of data redundancy.
- (c) Private sector Information is unavailable, although the Government has regulations and policies in place to be followed by private health care services, there is still difficulty to ascertain the number of Practitioners in private health services in the state.

National Informatics Centre (NIC) has developed an open source HMIS⁷ (Health Management Information System) which is configurable and easily customizable. This is mainly for the hospitals in the Government sector. As of August 2018, about 71 hospitals and health education institutions have started using this system.



LITERATURE REVIEW

Various studies have shown advantages of using electronic health records. EHR helps in timely decision making as patient records can be easily found electronically. The benefits came in as reduction in transcription staff as physicians moved from dictation to typing records themselves. The integration of billing with electronic medical records software and electronic documentation with the coding system will reduce the data entry staff and bring in financial benefits along with reduced timing in doing the work by maintaining quality (Miller & Sim, 2004).

It is time for information to be fed only once into the system electronically and this should be available at all times during the care. The reports should not have any redundant information in them. (Arya, 2015). Although there were many benefits of EHRs in comparison to paper records, like paper records would get old, soiled or spoiled with water, termites or fire, but still there was only partial adoption of EHRs. The goal was to have EMRs accessible across the country and for this there was a great need of interoperability and technical and policy conformance among various networks (Burrows & Ashley, 2014). It was found that there were many problems faced during the process of using the electronic health record systems (EHRs), but the benefits outweigh them and hence justifying their use. The benefits were standardization of processes, ease and agility in recovery of information, the control over prescriptions, materials and procedures were better (Cortes et al, 2011). It was found that EHRs empower the patients and support care between their visits (Ralston et.al, 2010).

Despite the advantages of EMR, the adoption rate is still low, there is less acceptance by the physicians. There is a need to accelerate the use of EMRs and for this it needed educational campaigns to demonstrate the advantages of EMRs and further improve the physicians' perceptions of EMRs (Parvin et.al, 2014). Resistance to change is a common thing. Moving on from paper-based record system to EHR also faced

resistance. It is important to involve the staff, give them proper training and educate them and support them to practice using it (Callan et.al, 2007).

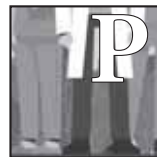
Communication. Kathrin M. Cresswell (2012), studied about the consequences faced by users of new technology involving electronic health record. Due to the complex processes involved in implementing and adopting new technology there were changes in organisational functioning and work practices. This study was taken up in English health care setting about national implementation of electronic health records and one of the procured systems was Lorenzo. It was found that most importantly, national implementations need to build on a solid basis of local technology adoption by allocating sufficient time for individual users and organisations to adjust to the complex changes that often accompany such service redesign initiatives. Usage of IT in healthcare sector in India was very less and to expand it, several actions had to be taken. There was a need to formulate policies, standards or guidelines to maintain and control the quality. Government funding need to be improved in areas which can result in availability and improvement in current infrastructure, purchasing and installing technology, recruiting the competent staff or train existing health staff. Government should arrange training programs to enhance computer skills for health staff which can be done in partnership with private sector (Sharma Kalpa, 2012). Lack of funds, shortage of suitable governance health policies and interoperability standard issues are major barriers in adoption of EHR in India. EHR should be made mandatory in large and medium sized hospitals (Meenakshi, Himanshu, 2016).



STATEMENT OF PROBLEM

Electronic Health Records (EHR) have been proposed by Ministry of Health Affairs, standards are being set, and both public and private hospitals have to implement the standards. The purpose of EHR is to have complete record of the patient from conception to death. This helps the doctor to treat the patient faster and more precisely. But we still find that patients have to physically carry all the records of test reports and the history of health while visiting the doctors. If the patient visits another doctor there is completely no access to his/her previous Electronic Health Records (EHRs). There is no interoperability in place.

This study makes an attempt to assess the issues and challenges in implementing electronic health records.



PURPOSE OF STUDY

The purpose of this study is to find the prevailing health record system in private hospitals in Karnataka. Further, to study the implementation of electronic health record system, its implications and barriers in implementation. The aim of the research is to find out the actual status of EHRs. The assessment of EHRs and possibilities of implementing it is being done by various stakeholders which include the vendors, hospitals and physicians, but to ascertain the right scenario by using various techniques of research led to this study.

1. <https://ehospital.gov.in/ehospitalso>



SIGNIFICANCE OF THE STUDY

The present health policies by the Government of Karnataka is aiming to have complete EHRs at all health centres through the state. This study is covering a few private hospitals from different administrative sections of Karnataka which can be representative of the population. The study aims to bring out the experiences of the people using EHR to maintain health records, the problems if any, in using EHRs and the problems faced for implementing EHRs. This study will help various stakeholders involved in implementing EHRs to understand the problems faced in implementing and using EHRs.



PRIMARY RESEARCH QUESTIONS

To understand and find answers for following questions with reference to private hospitals in Karnataka.

1. What is the current system followed to maintain health records?
2. Are EHRs implemented in hospitals?
3. Is Electronic Health Record System helpful for physicians?
4. Is there enough technical support available at hospitals to use EHR?
5. What are the barriers in implementing EHRs?



OBJECTIVES OF THE STUDY

- v To study EHRs being currently used by private hospitals in Karnataka
- v To assess the usage of Electronic Health Record System for physicians
- v To find the barriers in implementing EHRs
- v To understand the usage pattern of Health Record Systems by doctors, nurses and clinical technicians



METHODOLOGY

The study is descriptive in nature. Questionnaire was developed to collect responses from doctors/ nurses/ technicians. Data was collected and analysed using statistical tools. Observation method is also used to assess the use and usability of EHRs.



VARIABLES CONSIDERED FOR STUDY

The study comprises of identifying if the hospital under study is using manual health record system or electronic health record system.

If the hospital under study is following manual system, then the functionality of the manual system, the convenience of use, intentions to move to EHR and barriers in implementing EHR are studied.

If the hospitals under study are using EHR, then following characteristics are studied.

- Technology characteristics- Considering if the end users have prior knowledge of using computers.
- Use and usefulness – The ease of using EHR and its usefulness
- Documentation – To understand as to what extent it is helpful in documentation
- EHR support – The kind of IT support they get for using EHR.

The various characteristics would be helpful in understanding the implementation status, barriers and problems faced after implementation. These will further help in improving the software if needed to make it more user friendly, to find solutions based on what the study brings out.

Target Group

The target group is doctors, nurses and clinical staff. The software used is expensive and hence big hospitals with more than 500 beds are considered.

Sample Size:

Method of convenient sampling is used for selecting samples and sample size. Since the study has the target group as doctors, nurses and lab technicians, time is very important and crucial for them and hence difficult to target too many of them. Considering these reasons, the sample size decided in each hospital is: 20 doctors, 20 nurses, 10 lab technicians. Questionnaire to be filled by 200 respondents from private hospitals (50(20 doctors+ 20 nurses + 10 clinicians) from each hospital). In this study five hospitals were considered from Karnataka and hence total 228 respondents answered the questionnaire.

Sample selection Process:

Since the study comprised of private hospitals in Karnataka. The state of Karnataka is divided into four administrative divisions, a private hospital is selected from each division. Hence cluster stratified judge mental sampling was used. Since there is only one such large public hospital in some divisions of Karnataka, a uniformity is maintained and one private hospital from each division is considered for the study. In case, such big hospital is not available in any particular division then the next highest bedded hospital is considered for the study. If in any division the hospital selected does not permit to conduct the study there, then an equivalent hospital is selected in Bangalore for the study.

The four administrative divisions of Karnataka are:

Source: <https://www.karnataka.com/districts/about-districts/>

1. Bangalore Division
2. Belgaum Division
3. Kalaburagi Division
4. Mysore Division



LIMITATIONS

Geographical location: The study is conducted only for the state of Karnataka and in the state only four places were selected, one from each administrative region based on highest number of bedded hospitals. In absence of getting permission from any one of these chosen hospitals similar hospital was chosen from Bangalore and not any other hospital in that region.



DATA ANALYSIS

Respondents Using EHR

Descriptive Analysis of the responses is summarised as follows:

- A total of 228 respondents from 5 private hospitals in Karnataka formed the sample for this study. From the respondents 41% were doctors, 39% were nurses and remaining 20% were clinical staff.

2 years but less than 3 years and remaining 31% have been using EHRs for more than 3 years.

- 4% of the respondents used EHRs for only out-patients whereas 5% of the respondents used EHRs only to prepare discharge summaries and 91% of the respondents used EHRs for both out-patient and for discharge summaries.

Technology Characteristics

The response on technology Characteristics which includes their experience on use of computers and EHRs were studied and analysed as below.

The above table shows the response of 156 respondents who are using EHR at their respective hospitals. The table clearly shows that majority of the respondents are comfortable using computers and EHRs. Majority are happy with the training provided on how to use the EHR system and would prefer additional training on the same. Majority of them found EHRs

Technology Characteristics

Technology Characteristics	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Enables machine to locate appropriate					
Comfortable using Computers	40.4	53.8	4.5	1.3	-
Comfortable using EHRs	30.8	55.1	11.5	1.9	.6
Training provided on using EHR	26.5	56.8	13.5	2.6	.6
Additional training on EHR if provided	29.5	49.4	19.2	1.9	-
EHR helps in reducing errors in health records	30.8	51.3	14.7	3.2	-
Overall happy with EHR implementation	28.2	53.8	14.1	3.8	-
Ease of using EHR on hand held devices	26.9	44.9	22.4	5.8	-
Prefer to use EHR from home	23.1	39.7	20.5	12.2	4.5

- 21% of respondents were in age group 20-25 years, 31% belonged to the age group 26-30 years, 22% belonged to the age group 31-35 years, 11% belonged to age group 36-40 years, 8% were in age group 41-45 years and remaining 7% belonged to age above 45 years.
- 41% of the respondents were male and 59% of them were female.
- 59% of respondents were from hospitals in Bangalore, 22% were from Mysore and 20% were from Bellary. No respondents from Belagavi as the hospital selected for study did not permit to conduct the study and hence an alternate hospital was selected from Bangalore.
- Only 68.4% of the respondents were using Electronic Health Records at the hospital and the remaining 31.6% were using manual system to store health records.
- 33% of the respondents have been using EHRs for a period of less than 6 months, 10% of them have been using EHRs for more than 6 months but less than one year, 17% have been using EHRs for more than 1 year but less than 2 years. 9% have been using EHRs for more than

help in reducing errors in maintaining health records. About 82% of respondents are happy with the implementation of EHR and about 72% of them feel that it is easier to enter the details of health records on hand held devices. Only about 53% of respondents preferred to use EHR from home for any reference and the rest 47% were either neutral or not ready to use EHRs from home for any reference or calls.

Use and Usability:

The responses of the respondents on use and usability of EHR were analyzed and found the following results.

The above results were found from a total of 156 respondents. Some respondents did not respond to use of EHR to assess patients and recommend medication as they were clinical staff and had never prescribed medication to any patients whereas at some hospitals the clinical staff were medical doctors and knew the use of EHR regarding patient's medication prescribed electronically. Almost 75% or more of the respondents were at ease using EHRs and found it easy to search patient records electronically and also prescribe medication easily. But many others, almost 25% were neutral about their comments and very few were not comfortable

Usability and Usefulness of EHR

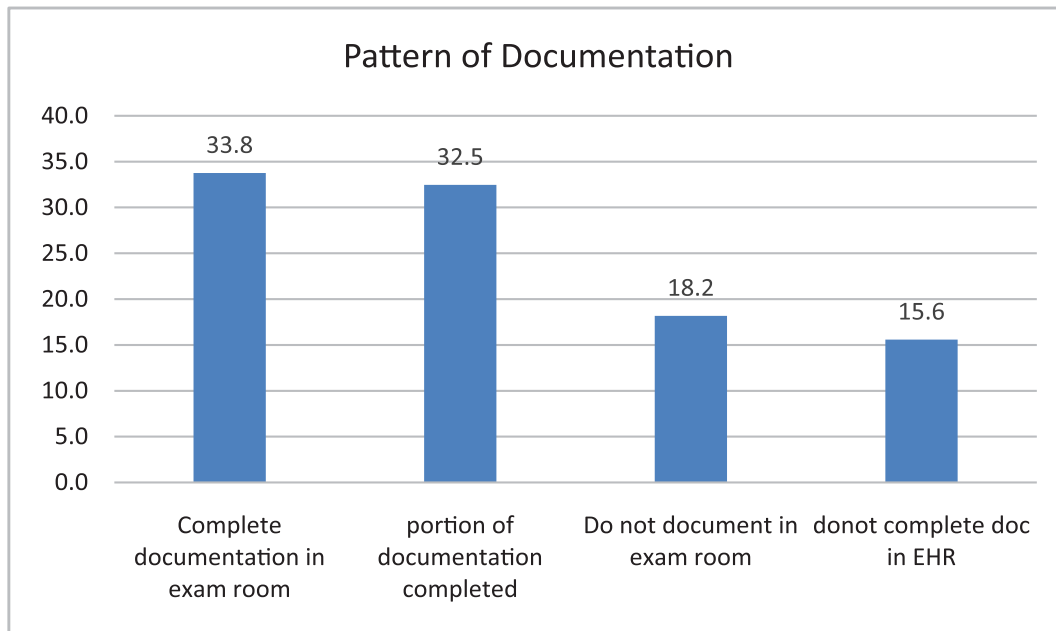
Usability and Usefulness of EHR	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Easy documentation while seeing patients	32.7	55.1	7.1	4.5	.6
Enables machine to locate appropriate format	26.3	55.8	17.3	.6	-
Easy navigation to explore various features embedded in it	25.6	60.9	12.8	.6	-
Able to effectively use various modules	19.4	56.8	21.3	2.6	-
Able to electronically review patient's ancillary and diagnostic test results	31.4	51.9	14.7	1.9	-
All information needed to assess a patient's condition is available	22.4	59.6	15.4	2.6	-
Able to quickly search, select and enter patient's medication	22.4	56.4	18.6	1.9	.6
Able to electronically prescribe patient's medication with ease	19.5	50.6	22.7	6.5	.6
Provides useful tools for disease management	16.7	50.0	27.6	5.8	-
Helps in faster insurance processing	14.1	61.5	21.2	2.6	.6

using EHRs. A larger number, close to 33% did not comment or did not find EHR providing useful tools for disease management. A lot of respondents, 75% of them found EHR helpful in faster insurance processing.

Pattern of documentation using EHR

The figure shows the documentation pattern by respondents while seeing patients. It was found that 34% of the

respondents completed the documentation using EHR while they were with the patient in the examination room. Majority of these were consultants who examined Out Patients. 33% of the respondents completed a portion of the documentation using EHR while they were in examination room with patient and the rest was completed later. 18% of the respondents did not document in EHR when they were the patient in the examination room whereas 15% of the respondents did not complete the documentation using EHR instead they would either dictate or use hand written notes.



Documentation Pattern

Documentation using EHR:

The above table shows that about 75-80% of the respondents were able to document their recommendations for patients in EHR and were able to find these recommendations with ease. About 80% of the respondents were able to complete the documentation electronically on the same day that they saw the patient and the remaining were neutral and less than 2% disagreed with the same. About 72% of the respondents found

computers for the people working in the hospital. To procure the computers with proper hardware and network them with good connectivity to the server so that the patient records can be accessed and stored with high speed. The respondents experience regarding this is as shown in the table above. Of the 156 respondents who were using EHR about 77% of them had the required hardware and network facilities, about 76% of the respondents felt that the network speed required for EHR was reliable and that the devices enabled them in efficient work

Documentation using EHR (in %)

Documentation using EHR	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
All recommendations for patient care are documented using EHR	22.4	60.9	14.7	1.9	-
Recommendations for patient's plan of care are easily found	16.0	64.1	16.7	3.2	-
Able to complete patient encounter documentation on the same day of seeing patient	18.1	61.9	18.7	.6	.6
Documentation is as complete on EHR as it was on paper	16.7	55.8	21.2	6.4	-
Documentation is as accurate on EHR as it was on paper	16.7	55.8	20.5	7.1	-
Appropriate CPT codes available on EHR to be included in patient report	17.9	46.2	33.3	2.6	-
EHR helps improve quality of patient care	20.6	60.6	16.8	1.9	-

their documentation on EHR to be as complete and accurate as it was on paper and the remaining respondents were neutral about it and about 7% disagreed with it. About 66% of the respondents found CPT (Current Procedural Terminology) codes on EHR which they could include in patient report whereas the majority of remaining were neutral on their comment and less than 3% disagreed. Majority of the respondents found that EHR helped to improve the quality of patient care.

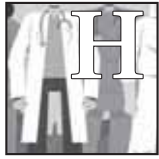
flow. The remaining respondents were neutral about their response regarding these and less than 7% disagreed that they had the right hardware and network facilities to use the EHR. 76% of the respondents found the IT support responsive at their organisation while the remaining were neutral and less than 4% disagrees with it. 75% of the respondents felt that their respective organisations had the right number of IT resources to support them in using EHR whereas about 17% were neutral and 6% disagreed on having the right IT resources to support the use of EHR. About 72% of the respondents could easily get help from the IT people in their hospitals if they had any problem in using EHR and found the technical team considering their EHR enhancements requests, whereas 19% were neutral and less than 10% disagreed to the same.

Technical Support:

The IT/Systems department plays a very important role in every hospital. They are given the responsibility to get enough

Technical Support (%)

Technical Support (%)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Hardware and network support for EHR available	20.5	56.4	21.8	1.3	-
The hardware and network supporting EHR were reliable in terms of speed	20.0	56.1	17.4	6.5	-
The devices used to access EHR enabled efficient work flow	12.8	62.2	20.5	4.5	-
IT support at the organisation very responsive	18.7	58.1	19.4	3.2	.6
The organisation has right number of IT resources to support in using EHR	15.4	61.5	17.3	5.8	-
Can easily get help from IT team when having a problem using EHR	14.1	58.3	19.2	7.7	.6
The technical team in organisation considers enhancement requests when submitted	14.1	61.5	18.6	5.8	-



HYPOTHESIS TESTING

Hypothesis were tested using Chi-Square and results are summarised in the table below. Ease of documentation using EHRs while seeing patients were checked if influenced

significantly by various technology and IT support characteristics

Factor Analysis

KMO value .871 indicates that data is sufficient and sample is

adequate. The total variance table is shown below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.871
Sig.	.000

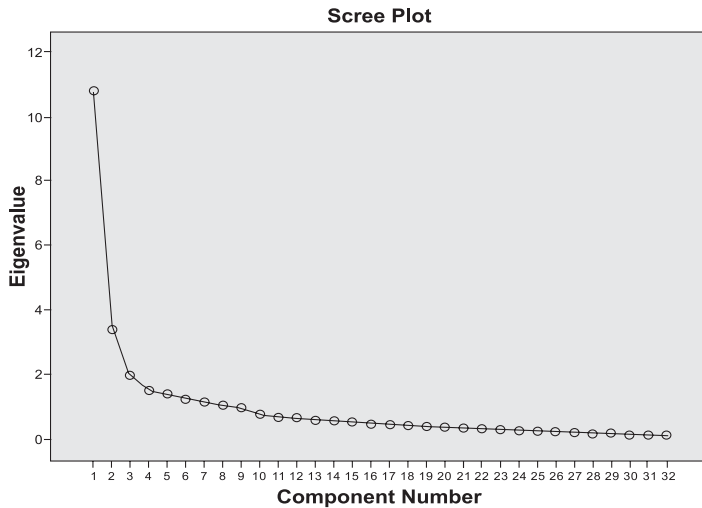
#	Null Hypothesis	Alternate Hypothesis	Sig. Value	Acceptance/Rejection of Null Hypothesis
1	Ease of using computers does not significantly influence the ease of using EHRs	Ease of using computers does significantly influence the ease of using EHRs	.000	Rejected
2.	Training provided to respondents has no significant influence on ease of using EHRs.	Training provided to respondents has significant influence on ease of using EHRs.	.000	Rejected
3.	Respondents being comfortable using computers has no significant influence on them finding EHRs easy for documentation while seeing patients	Respondents being comfortable using computers has significant influence on them finding EHRs easy for documentation while seeing patients	.000	Rejected
4.	Respondents being comfortable using EHRs has no significant influence on them finding EHRs easy for documentation while seeing patients	Respondents being comfortable using EHRs has significant influence on them finding EHRs easy for documentation while seeing patients	.000	Rejected
5.	Respondents given additional training on EHR no significant influence on them finding EHRs easy for documentation while seeing patients	Respondents given additional training on EHR has significant influence on them finding EHRs easy for documentation while seeing patients	.459	Accepted
6.	EHR's characteristic of helping in reducing errors in health records has no significant influence on easy documentation using EHRs while seeing patients	EHR's characteristic of helping in reducing errors in health records has a significant influence on easy documentation using EHRs while seeing patients	.000	Rejected
7.	EHR on hand held devices has no significant influence on the ease of documentation in EHRs while seeing patients	EHR on hand held devices significantly influence the ease of documentation in EHRs while seeing patients	.035	Rejected
8.	The devices used to access EHR at practice do not have significant influence on ease of documentation in EHRs while seeing patients	The devices used to access EHR at practice have significant influence on ease of documentation in EHRs while seeing patients	.000	Rejected
9.	The IT support being responsive at the organisation has no significant influence on ease of documentation in EHRs while seeing patients	The IT support being responsive at the organisation has significant influence on ease of documentation in EHRs while seeing patients	.103	Accepted
10.	Organisation having right number of IT resources has no significant influence on ease of documentation in EHRs while seeing patients	Organisation having right number of IT resources has significant influence on ease of documentation in EHRs while seeing patients	.009	Rejected

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.772	33.661	33.661	10.772	33.661	33.661
2	3.384	10.575	44.236	3.384	10.575	44.236
3	1.968	6.149	50.385	1.968	6.149	50.385
4	1.524	4.764	55.149	1.524	4.764	55.149
5	1.408	4.401	59.550	1.408	4.401	59.550
6	1.250	3.908	63.458	1.250	3.908	63.458
7	1.161	3.629	67.087	1.161	3.629	67.087
8	1.046	3.268	70.355	1.046	3.268	70.355
9	.978	3.056	73.411			
10	.766	2.392	75.803			
11	.681	2.129	77.933			
12	.656	2.050	79.983			
13	.586	1.831	81.814			
14	.566	1.769	83.583			
15	.520	1.624	85.207			
16	.459	1.434	86.641			
17	.456	1.424	88.066			
18	.421	1.316	89.382			
19	.405	1.266	90.648			
20	.371	1.158	91.806			
21	.338	1.058	92.864			
22	.321	1.004	93.868			
23	.302	.945	94.813			
24	.261	.817	95.629			
25	.239	.748	96.377			
26	.222	.693	97.070			
27	.199	.623	97.693			
28	.172	.539	98.231			
29	.169	.528	98.759			
30	.144	.451	99.210			
31	.132	.411	99.621			
32	.121	.379	100.000			

Extraction Method: Principal Component Analysis.

There are eight components which explain the variables having 70% influence on the study. The scree plot and the variance values above show that the last four components are not having much variation and hence the first four components are considered for explanation.



Four components can be identified as follows:

1. Ease and use of EHRs
2. Technical support availability to use EHR
3. Additional use of using EHR
4. Use of EHR on day to day basis.

The items under the four components are as mentioned below:

1. The first component comprises of - comfortable using EHRs, EHR being helpful in improving the quality of care of patients, Recommendations for patient's plan of care are easily found, comfortable using computers, able to complete most of patient encounter documentation within the same day of seeing the patient, able to effectively use the various modules, EHR provides useful tools for disease management, appropriate CPT codes are available to be included in report, documentation is as complete as it was on paper/using dictation, Overall, happy with EHR implementation, All the information needed to assess a patient's condition is available, able to electronically prescribe patient's medications with ease, able to electronically review patient's ancillary and diagnostic test results and the training provided on EHR.
2. The second component comprises of preference to use EHR from home (eg when on call), IT Support being responsive at the organization, EHR helps in faster insurance processing, and being able to get help when having problem with EHR.
3. The third component comprises of EHR provides useful tools for disease management, comfortable using computers, able to effectively use the various modules.

4. The fourth component comprises of EHR helps in faster insurance processing, able to complete most of the patient encounter documentation within the same day of seeing the patient, IT Support being responsive at the organization.

Respondents not using EHR

73 of the total respondents were not using electronic health record system and still followed the manual record system. Analysis of the data collected from them is as follows:

At these hospitals where EHR was either not implemented or was still not fully functional, computers were used for registration of patients and hence all demographics of patients were found online.

Convenience to look into old information of patients stored manually

55% of the respondents found it convenient to look into old information of patients stored manually, 18% were neutral and 27% found it inconvenient to look for records of patients stored manually.

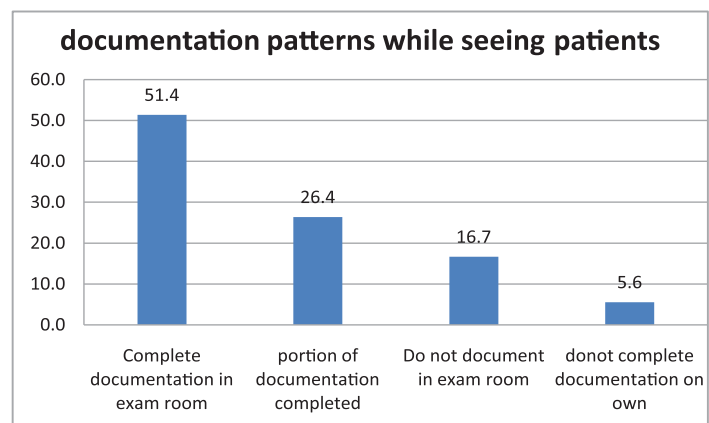
convenient to look into old information of patients stored manually(%)	
Very Convenient	21.1
Convenient	33.8
Neutral	18.3
Inconvenient	25.4
Very Inconvenient	1.4

In these hospitals diagnostic centres maintained all reports electronically.

Preference to view patient reports

It was found that only 4% of the respondents preferred to view the reports only in hard copy format, 42% of the respondents preferred to view it only on computers and the rest 54% preferred both soft copy and hard copy of the reports.

Documentation patterns while seeing patients



The figure above the documentation patterns of respondents while seeing patients. 51.4% of them complete the documentation manually in examination room itself while with the patient, 26.4% of them complete a portion of the documentation while with patient and the rest later, 16.7% of them do not document in the examination room and 5.6% of the respondents do not document it on their own.

Preference to use Electronic Health Record System

93% of the respondents agreed that they prefer to use EHR and only 7% were neutral of their opinion.

Specific reasons for not implementing EHR

About 42% of the respondents felt lack of approval from authorities as a reason for not implementing EHR, 22% felt the software not user friendly and hence the reluctance to use it, 15% of the respondents were not willing to shift from manual system to electronic system, 12.5% of them felt there could be lack of security in maintaining records electronically and 8% felt lack of funds as a reason for not implementing EHR.

Specific reasons for not implementing EHRs (%)	
Lack of funds	8.3
Lack of approval from authorities	41.7
Software not user friendly	22.2
End users not willing to shift from manual system	15.3
Lack of security of records	12.5



CONCLUSION

It was found that 68% of the private hospitals in Karnataka considered for study had

implemented EHR and the others still used the manual system to maintain the health records. Along with analysis of questionnaire, observation method was also used and showed that most of the hospitals which implemented EHR were situated in Bangalore and some were found in Mysore region but private hospitals in other regions of Karnataka were yet to implement EHR. It was also found that although some private hospitals had implemented EHR software it was not used for maintaining health records, it was used for registration, billing, pharmacy, discharge summary and other modules but clinical modules were yet to be used. Various reasons identified during the study were, it was more difficult to use EHR in hospitals where there were too many patients, since saving records electronically took a little extra time and it was difficult to use. Some hospitals were using EHR only for out-patients and were in process of adopting it for in-patients. Hospitals where EHR was not implemented had majority respondents willing to shift to electronic method from the manual method. The reasons identified for not implementing EHR were lack of approval from authorities (42%), software not user friendly (22%), end users not willing to shift from manual system (15%), the feel that there would be lack of security of records stored electronically (13%) and lack of funds (8%). Overall, it was found that respondents found it easier to save and retrieve patient records stored electronically which helped them give faster and better treatment to patients. The critical factors for using EHR were identified as respondents found it easier to use EHR as they were comfortable using computers which helped them in improving and providing better care to patients. The doctors were willing to use EHR from home which helped them to give treatment to patients on call. With good IT support from respective hospitals the doctors were able to finish all documentation of patient record on time.

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DOCTORAL ABSTRACT

Investment Behaviour of Institutional Investors in India: A Comparative Study Foreign Institutional of Investors And Indian Mutual Funds

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Institutional investors are organizations which collect great amount of money from the investors and invest those funds in various investment avenues. They are, in fact, a significant vehicle for retail investors to participate in the various segments of capital market. A prominent feature of the progress of Indian stock market in the last two decades, has been the growing contribution of institutional investors. In post liberalization era, the main institutional investors in Indian capital market include a) Development Financial Institutions b) Insurance Companies c) Mutual Funds d) Foreign Institutional Investors (FIIs), e) Non-Banking Financing Companies and f) Commercial Banks. Institutional

investors serve to increase the investment levels to generate opportunities for economic growth. The present study focused on the Foreign Institutional investors in the category of foreign investors and Mutual funds in the category of domestic investors out of the various institutional investors.

Portfolio investments in India include investments in Global Depository Receipts (GDRs)/ American Depository Receipts (ADRs), investments in offshore funds and Foreign Institutional Investments. In the pre globalization era, only Non-Resident Indians (NRIs) and Overseas Corporate Bodies were allowed to undertake portfolio investments in

India. Thereafter, the Indian capital market was opened up for the participation by FIIs. They were legalized to make investments in all the securities traded on the primary as well as the secondary market together with the equity and other listed securities of companies or which were to be listed on stock exchanges in India. The mutual fund industry in India was established with the foundation of Unit Trust of India in 1963 at the initiative of Reserve Bank of India (RBI) and Government of India. The history of mutual funds in India can be divided into six distinct phases.

- Phase I (1964-87): Growth of UTI
- Phase II (1987-93): Entry of Public Sector Funds
- Phase III (1993-96): Emergence of Private Funds
- Phase IV (1996-99): Growth and SEBI Regulation
- Phase V (1999-2004): Emergence of a Large and Uniform Industry
- Phase VI (From 2004 Onwards): Consolidation and Growth

The year 2004 marked a new phase in the Indian mutual funds industry with a sequence of mergers and acquisitions. At the same time, various foreign players continued to enter the Indian mutual fund industry.

The major point of distinction of the current study from the earlier ones was that this study considered foreign institutional investors and domestic mutual funds within the same context, while the earlier studies have studied the

2. To identify the determinants of FII flows in India.
3. To determine the factors affecting the flow of funds into the Indian Mutual Fund industry.
4. To analyze the investment behaviour of FIIs and Mutual Funds operating in India.
5. To examine the impact of FIIs investments and Mutual Fund Investments on the Indian stock market.
6. To make suggestions on the basis of the findings of the study.



SAMPLING DESIGN

Selective sampling method was used for selecting the FIIs and Mutual Funds and stock market indices. Stock index CNX NIFTY has been used for the study since it is a better representative of India stock market in relation to institutional investments.

As far as the determinants of investments by foreign institutions in India and factors affecting the flow of funds into the mutual funds industry are concerned, the present study takes into consideration the macroeconomic variables and the stock market variables of national and foreign country.



SOURCE OF DATA COLLECTION

The data required for the present study was collected from secondary sources which were as follows:

Source of data collection

Variable	Data Source
Investments by FIIs	Moneycontrol.com
Investments by Mutual Funds	Moneycontrol.com
Resource mobilized by Mutual Funds	SEBI, Handbook of Statistics
CNX Nifty Index	Moneycontrol.com
BSE Sensex Index	Moneycontrol.com
Federal Reserve Rate	Official website of Federal Reserve
Exchange Rate of Rupee vs. US \$	federalreserve.gov
S&P 500 Index	Yahoofinance.com
Savings of the household sector	Economic Survey, indiabudget.nic.in
Growth rate of the economy	Handbook of Statistics on Indian economy (2012-13), Economic Survey (Various Issues).
Wholesale Price Index	RBI Annual Report (Various Issues)

interactions with stock returns and institutional investments separately.



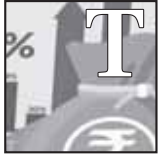
OBJECTIVES OF THE STUDY

1. To study the emergence of Foreign Institutional Investors and Mutual Funds in India.



PERIOD OF THE STUDY

The period of the study was from April 2000 to March 2016. The daily data of FIIs and Mutual Fund investments were taken to analyze the impact of institutional investors on Indian stock market.



TECHNIQUES OF DATA ANALYSIS AND INTERPRETATION

Various econometric techniques were selected by taking into consideration the suitability of data and requirements of data analysis. The stationarity of the time series data was tested using Augmented Dickey Fuller Unit root test.

To identify the factors determining the investments by Foreign institutional investors in India, various macroeconomic variables were being focused upon. The analysis was being made using Quarterly as well as daily data. For the purpose of analysis, the variables considered included Indian stock market return, Growth prospects of India, Inflation in India, Investments by Domestic Institutional Investors, Global interest rates, Foreign Exchange rate and Stock market return in the International market, Federal Reserve rate and S&P 500. The analysis was done using multiple regression analysis, Pairwise granger causality test and Vector auto regression estimates and Block Exogeneity Wald test.

In order to study the factors affecting the investments in Indian mutual fund industry, the annual data of various years was being used. The variables like savings by the household sector, CNX Nifty Returns, Investments by Foreign Institutional Investors, Growth Rate of the economy, Exchange Rate and Inflation Rate were taken as independent variables.

A comparative analysis of investment behaviour of Foreign Institutional Investors and Indian Mutual Funds was made using Pairwise Granger causality test, Vector autoregression estimates, Wald test, variance decomposition analysis and impulse response analysis.

Further, the impact of institutional investors on Indian stock market volatility was studied using volatility model of Auto Regressive Conditional Heteroscedasticity (ARCH) and Generalized Auto Regressive Conditional Heteroscedasticity (GARCH) models.



RESEARCH FINDINGS

- The study revealed the presence of bi-directional causality between investments by foreign Institutional Investors and Indian stock market returns and also between foreign Institutional Investors and Exchange rates. The Granger Causality test indicated that Growth Rate of the economy played a significant role in affecting the flow of funds into the Indian mutual fund industry.
- The presence of uni-directional causality from Foreign Institutional Investors investments to Mutual Fund flows was found from the analysis. It indicated that the investments by Mutual funds are influenced by investments by FIIs in India.

- The GARCH results of NIFTY returns indicated that ARCH term, GARCH term and investment by FIIs and mutual funds are significant which reveals that past volatility has an influence on volatility of the current period.
- Both the categories of institutional investors, that is, Foreign Institutional Investors and Indian Mutual funds have been found to affect the volatility of NIFTY returns. Arch term estimated in mean equation, which is measured as lag of squared residuals representing information about volatility in previous period is also found to be significant at 5 percent level of significance. It indicates the volatility of NIFTY returns is found to be significantly influenced by previous volatility and Investment flows by FIIs and mutual funds.
- Feedback trading behaviour is found to be followed by institutional investors, that is, Foreign Institutional Investors and Indian mutual funds. GARCH (1,1) model using Nifty returns showed that volatility of Indian stock market increased due to investments by FIIs and mutual funds in India.



RESEARCH CONTRIBUTION

Research shows that stock market returns and exchange rates are important determinants of FII in India. The mobilization of resources for the Indian mutual fund industry is primarily influenced by savings in the household sector and the growth rate of the economy. The GARCH (1,1) model using the Nifty return showed that the volatility of the Indian stock market increased due to FII investments and mutual funds in India.



SUGGESTIONS OF THE STUDY

- Exchange rate is found to be a significant negative determining factor of investment flows by FIIs. From a policy perspective, it demonstrates that fluctuations in exchange rate tend to induce volatility in investment flows by FIIs. This can have implications for the stability of overall economy. So, the regulators and policymakers should try to maintain the stability in the Foreign exchange rate.
- The regulatory authorities are required to encourage the household sector to transfer their savings from physical avenues to financial avenues. This will confirm the augmented exposure of retail investors towards the stock market instruments.
- Other domestic institutional investors should be inspired to upsurge their participation in the stock market to endure the adverse outcome of heavy selling pressures by FIIs on the stock market.

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