A Business Intelligence Model for Indian Consumers' Behaviour with respect to Motivation

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ABSTRACT

This research attempts to design a framework for Business Intelligence based on critical motivational factors that influence the online buying decisions of Indian Consumer and to establish their causal impact. The effectiveness of the motivational factors is tested through the online users of Indian Railway website (irctc.co.in).

Categories and Subject Descriptors: J. [**Computer Applications**] : Business Intelligence in E-Retailing J.4. [**Computer Application in Online Buying Behaviour**]: Business Intelligence Model for Online Buying Behaviour in Indian Context;

Subject descriptor: Designing and Developing Business Intelligence Model based on Motivation for Online Buying Behaviour of Indian consumer through Empirical study

General Terms: Business Intelligence Model, Online Buying Behaviour, Motivation

Additional Key Words and Phrases: Online Consumer Behaviour, E-Retailing, BI, Decision making in Online Buying, Motivation to Buy Online, Empirical Study to Conform the Factors that Motivate Indian Consumer to Buy Online, Application of Business Intelligence in E-Retailing

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1. INTRODUCTION

Business Intelligence (BI) provides powerful and useful information for businesses that enable useful insight and understanding into the fundamental component behind business success: the people (customers). Ultimately it is the customer that drives the decisions and they need to be won over in order for a business to succeed. Understanding what people do and why they do it provides great business insight while making strategic decisions. These powerful insights into consumer behaviour and their dynamics can mean the difference between success and failure of a business strategic plan. Business Intelligence allows firms to predict the behaviour of existing and potential customers. Empowered with this information, firms are able to devise suitable strategies to better manage their respective businesses.

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With the worldwide growth of the Internet and an emergence of e-commerce over the past two decades, there has also been a revolution in the basic format of transaction from a physical store format to a non-store one. With a change in the consumers' mindset of purchase made from a physical store to online buying, the industry has witnessed the ever-increasing volumes of online transactions. The growth in online buying is mainly due to advancement in technology; consumer characteristics, both demographic as well as psychographic; and situational influences.

The rapidly growing Indian economy is catching the attention of local as well as global retailers and thereby unlocking the doors for new genres of online consumer research. The growth of the Internet presents a huge opportunity to online retailers to capture a considerable share of sales. In this context it is important to understand the factors that motivate Indian consumers to indulge in online buying; in fact the drivers, enablers and the inhibitors, all need to be identified and addressed. A framework is needed to structure the complex system of effects of the demographic, psychographic and situational factors that impact a consumer's decision to shop online, and develop an in-depth understanding of consumers' motivation to shop online.

The objective of the study is to explore the critical motivational factors that influence the online buying decisions of people, establish their causal impact, and develop an integrated framework for BI based on motivation driven decision making. Critical factors that motivate Indian online buyers are tested through empirical studies done on users of irctc.co.in, an online reservation system of railway tickets.

2. WHAT MOTIVATES INTERNET USERS TO BUY ONLINE?

Consumer shopping motivation in the context of online has been well researched (Alba et al., 1997; Burke 1996, 1997; Childers et al., 2001; Koufaris et al., 2001-2002; Wolfinbarger and Gilly, 2001; Babin et al., 2003; Rohm and Swaminathan, 2004). Numerous consumer needs such as browsing and searching for products, ease and convenience, obtaining information about firms, products and brands, comparing product features and prices, shopping 24/7, having fun and excitement, maintaining anonymity while shopping for certain products, are all fulfilled more effectively and efficiently than conventional shopping. In fact, the benefits that consumers derive out of the online sopping experience are two fold, viz., functional and utilitarian dimensions, like "ease of use" and "usefulness", or emotional and hedonic dimensions like "enjoyment" (Hirschman and Holbrook, 1982; Childers et al., 2001; Mathwick et al., 2001; Menon and Kahn, 2002). Such factors are moderated by exogenous factors like "consumer traits", "situational factors", "product characteristics", "previous online shopping experiences" an "trust" (Eastin and LaRose, 2000; Lee and Turban, 2001; Shim et al., 2001; Wolfinbarger and Gilly, 2001; Burke, 2002; Dabholkar and Bagozzi, 2002; Grewal, 2002; Yoon, 2002).

With convenience, price, product variety and product access as major motives in the context of online shopping, the functional aspects of shopping motivation have been stressed upon (Alba et al., 1997; Donthu and Garcia, 1999; Wolfinbarger and Gilly, 2001). Suki et al., 2001, speaks of user's motivation and concerns for shopping online and mentions motivation factors like accessibility, reliability, convenience, distribution, socialization, search ability and availability; among issues of concern are privacy, reluctance to change, quality, security, trust, connection speed and non disclosure of complete product information.

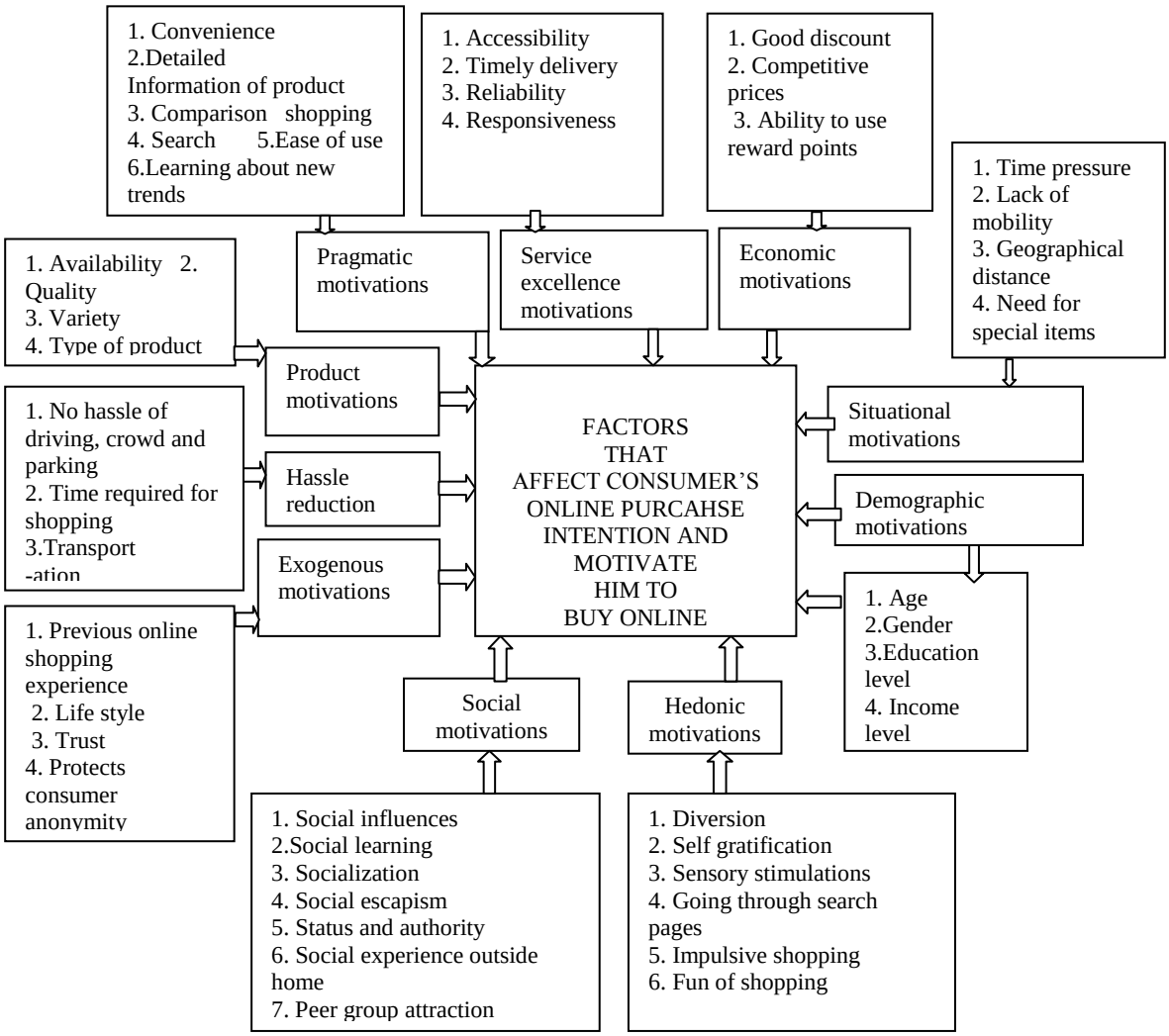
Rohm and Swaminathan, 2002, speak of a typology amongst consumers, based upon their motivation for shopping online; viz., online convenience (convenience shoppers), physical store orientation (variety seekers), information us in planning and shopping (balanced buyers), and variety seeking in the online shopping context (store oriented shoppers). Swaminathan et al., 1999, refer to the convenience factor, i.e., being able to shop 24/7 from one's home as the most compelling motivation. While the TAM (Technology Acceptance Model) (Davis, 1989; Davis et al., 1989), explain easy adoption through website characteristics and purchase intentions, Lee et al., 2007 propose an e-Com adoption Model that include "perceived ease of use, perceived usefulness, perceived risk with products and services, and perceived risk in the context of online transaction".

Rajamma et al, 2007, speak of 'key dimensions that drive the shopping process' and they describe them as first, "merchandise motivation" where availability, quality and variety of merchandise are the guiding forces; second, "assurance motivation", which comprises dimensions like "confidentiality and shopping security"; third, "convenience and hassle reduction motivation"; fourth, "enjoyment motivation" (Hoffman and Novak, 1996; Burke, 2002; Evanschitzky et al., 2004); fifth, "pragmatic motivation", which comprises elements like "attractive prices, convenience of shopping and ability to do comparative shopping" (Burke, 2002; Evanschitzky et al., 2004); and sixth, "responsiveness", that includes elements such as "delivery at home, time delivery and ability to contact the seller".

3. CONCEPTUAL FRAMEWORK: FACTORS THAT MOTIVATE CONSUMERS TO BUY ONLINE

Based on literature review, (Korgaonkar and Wolin, 1999; Suki et al., 2001; Foucault and Scheufele, 2002; Parsons, 2002; Joines et al., 2003; Monsuwe´ et al., 2004; Rajamma et al., 2007), a model is proposed that delineates the factors that motivate people to buy online. These works have been undertaken under different contexts and environments, and are multidimensional. An attempt has been made to conceptualize a framework that has been tested empirically in the subsequent phase of this study (see Figure 1).

Figure 1: Conceptual Framework: Factors that Motivates Consumers to Buy Online



3.1 Determinants of Consumer Motivation to buying Online:

3.1.1 Pragmatic Motivations

Convenience acts as a primary motive to make purchases online. This convenience may be in terms of convenience of time, place, and the complete buying process (Nielson, 1999; Suki et al., 2001; Foucault and Scheufele, 2002; Alreck and Settle, 2002); it enhances the flexibility with respect to time and place and that in turn motivates consumers to buy online. Consumers can enjoy window-shopping on the Internet without the pressure to purchase. Swaminathan et al., (1999) and Bhatnagar et al. (2000) have concluded from their study that consumers who are primarily motivated by 'convenience' as a factor are more likely to make purchases online. The Internet provides current and detailed information for the pre-purchase search activity (Sorce et al., 2005). Korgaonkar and Wolin (1999) and Joines et al., (2003) have found that 'information; motivation is positively related to online buying. Services tend to be more information oriented than products (Rajamma et al., 2007). Online buying brings along with the availability of a wide range of products thus, enabling easy comparison. Consumers can compare product variants, product features and prices of different brands with just a click of a mouse (Alba et al., 1997; Shankar et al., 2003).

Easy access to specific, detailed and current information of products and services helps consumers to make decisions quickly (Suki et al., 2001). Searching for information and products and making comparisons is related to information motivation, which in turn affects time spent online purchasing items (Korgaonkar and Wolin 1999; Joines et al., 2003). The perception that online buying is easier and involves minimum effort also motivates consumer to buy online. According to the Technology Acceptance Model, the easier and useful a technology is, the more likely are consumers to get motivated to use online technology (Davis et al., 1989; Dabholkar, 1996; Monsuwe´ et al., 2004). Ease of use is related to experience of an individual with the technology and system which provides him an easy online buying experience. Underlying dimensions of ease of use are site characteristics like navigation, search functions and downloading speed. The Internet provides a platform to view products with detailed information from international locations and thereby help consumers in learning about new trends. Consumers can also interact with user groups and find out about latest fads and fashions.

3.1.2 Product Motivations

The availability of products that cannot be found locally motivates consumers to buy online. Product motivations such as availability of products, quality and variety of products encourage consumer to indulge in online buying (Rajamma et al., 2007). Certain kind of products such as CDs and books, and services such as buying air tickets are more suitable for online buying. With no fears and apprehensions about the need to feel, try, smell or touch the product, the consumer gets motivated to buy such products and services online (Monsuwe´ et al., 2004). Another factor that encourages online buying is the option of customization of certain products such as greeting cards, personal computers, T-shirts proclaiming one's own tastes and fashion. The online market for personalized goods in India is over Rs 200 crores.

3.1.3 Economic Motivations

Competitive prices and good discounts are the two main economic factors that induce Internet users to shop online. Korgaonkar and Wolin (1999) found that economic motivation is directly related to time spent online and purchases made online. This is further supported by the research done by Joines et al., (2003). Competitive prices influence online buying as consumers want to get the best deal. They compare prices, quality, delivery, discount offered etc., reward points earned etc., through online search which is cost effective (Rajamma et al, 2007).

3.1.4 Service Excellence Motivations

Service excellence is a value based perception for buying on the Internet (Monsuwe´ et al., 2004). It is based on the consumers' approval of delivered promises in terms of price and timely delivery of products in good condition. Quick home delivery of products in good condition encourages consumers to buy online (Rajamma et al., 2007). Prompt replies to email queries and smooth transactions also inspire consumer to buy online (Rajamma et al., 2007).

3.1.5 Hedonic Motivations

A consumer's motivation to shop online may be either due to an utilitarian motive as a "problem solver" or a hedonic motive in terms of "fun, fantasy…….and enjoyment" (Hirschman and Holbrook, 1982). Some customers prefer to shop and browse on the Internet due to the fun, enjoyment and excitement involved,

that is the emotional and hedonic pleasures, either as individuals or as social groups (Bloch and Richins, 1983; Hirschman, 1983; Childers et al., 2001; Menon and Kahn, 2002; Parsons, 2002). Enjoyment derives from the fun and playfulness of the online shopping experience, rather than from shopping task completion. The underlying dimensions of online enjoyment are escapism, pleasure and arousal. Escapism acts as a diversion from the normal routine day to day traditional shopping mode and activities without any time constraint and physically moving out (Parsons, 2002). In fact Parsons (2002), states that online buying provides many sensory benefits such as background music and visual stimulations. Enjoyment and recreation is also derived in going through search pages, impulsive shopping and fun of shopping and this leads self gratification.

3.1.6 Demographic Motivations

Demographic parameters such as gender, age, income level, education level influence the online buying behavior of consumers (Foucault and Scheufele, 2002). Consumers with a higher education level and income level are more likely to buy online (Li et al. 1999). The study done by Monsuwe´ et al., 2004, suggest that young adults are more inclined towards online shopping and more interested in having fun while buying.

3.1.7 Social Motivations

Supportive social environment, perceived norms, family and friends influence the decision to buy online (Limayem 2000, Kraut et al. 1996). Human beings acquire new behavior by observing others. Though, not much research is done on effects of social learning on online buying behavior, research done by Foucault and Scheufele, (2002) on buying books online suggests that through social learning, a consumer does get to know about the online retailer which increases the likelihood of a person indulging in online buying. Being online enables discussion on number of topics through chatting and blogging, without any restriction (Korgaonkar and Wolin, 1999; Joines et al., 2003). While social escapism is also directly related to online buying (Korgaonkar and Wolin, 1999), research by Joines et al., 2003, found that it does not have a significant effect on online buying. Online buying provides an opportunity to command attention (receiving personal emails from online store) and respect. Membership of desired virtual community can provide elevated status and feeling of being important. Online buying provides a time and place for social interaction and social contacts through interactive sites (Parsons, 2002). Online buying offers an opportunity to interact with others having a similar interest through online store-sponsored chat rooms, search engines, links with other sites of interest, user groups. Online buyers can expand their network of connections without feeling conscious in contacting complete stranger.

3.1.8 Hassle Reduction Motivations

Hassle reduction motivations inspire consumers to buy online because it is comparatively trouble free (Burke, 2002; Foucault and Scheufele, 2002; Evanschitzky et al., 2004; Lee and Overby, 2004; Rajamma et al., 2007). Online buying is free from hassles of taking out time for marketing, dressing up to go to market, driving, traffic jams, crowd and finding a place for parking. There is also no hassle of transporting the goods purchased as Internet vendors provide home delivery of products purchased online.

3.1.9 Situational Motivations

Situational factors such as time pressure, geographical distance, lack of mobility, attractiveness of alternatives and need for special items positively influence online buying of consumers (Monsuwe´ et al., 2004). The need for special items which are generally not available in local markets also drives consumers to buy online (Wolfinbarger and Gilly, 2001).

3.1.10 Exogenous Motivations

Exogenous factors such as previous online shopping experiences, lifestyle, trust and maintaining consumers' anonymity influence online buying behavior of consumers. If the previous online shopping experience in terms of payment, delivery terms, and service offered, risk involved, privacy, security, personalization, visual appeal, navigation, entertainment and enjoyment are satisfactory then there is more likely hood of the consumer to indulge in online buying (Mathwick et al.,2001; Burke, 2002; Parasuraman and Zinkhan, 2002). Since consumer cannot check the quality of the product and insecure about the privacy

and safety of information provided in online buying, trust in online medium for shopping plays a major role in motivating consumers toward online buying (McKnight and Chervany, 2001-2002).

4. EMPIRICAL STUDY

4.1. Objectives:

The study was conducted with the objective of tapping the consumers' online buying motivational profile. The ultimate objective is that of identifying those factors and design characteristics that can help to develop motivational forces in consumers towards online purchasing. The objectives may be summarized as follows:

1. To establish the impact of convenience based pragmatic motivational factors on online purchase intention
2. To establish the impact of time and efforts based pragmatic motivational factors on online purchase intention
3. To establish the impact of search and information based pragmatic motivational factors on online purchase intention
4. To establish the impact of product based motivational factors on online purchase intention
5. To establish the impact of economic motivational factors on online purchase intention
6. To establish the impact of service excellence motivational factors on online purchase intention
7. To establish the impact of situational and hassle reducing motivational factors on online purchase intention
8. To establish the impact of demographic motivational factors on online purchase intention
9. To establish the impact of social and exogenous motivational factors on online purchase intention
10. To assess the differences across sample on demographics, gender and age.

4.2 Methodology

The study undertaken is descriptive, diagnostic, and causal in nature. It is aimed at identifying the critical motivational parameters of users in online booking of railway tickets in India (through usage of the registered railway website of Indian Railway Catering and Tourism Corporation, www.irctc.com). A pilot study was conducted on a total of 100 sample respondents. The results of the pilot study established the reliability of a total of 38 items, which got grouped under 9 factors / components viz., Convenience based Pragmatic Motivation, Time and Efforts based Pragmatic Motivation, Search and Information based Pragmatic Motivation, Product Motivation, Economic Motivation, Service Excellence Motivation, Situation and Hassle Reducing Motivation, Demographic Motivation, and Social and Exogenous Motivation.

The items drawn from previously tested scales that were modified for this study were validated by factor loadings on their respective constructs.

The statistical method used in these scales was principal component factor analysis. The sample size recommended for this statistical method is at least 50 responses. The guideline used was a factor loading of 0.5 or above (Hair et al. 1995). The recommended guidelines for principal component factor analysis are at least 50 responses, and a ratio of 5 responses for every variable in each scale being measured (Hair et. al., 1995). This sample size met both the criteria. The following Tables (see Tables 1 to 9) illustrate the results of the pre – test in detail.

Reliability concerns the extent to which a measurement of a phenomenon provides stable and consistent result. In assessing measurement reliability, Fornell and Larcker (1981), stress the importance of the reliability of each measure (individual item), and the internal consistency or composite reliability of each construct (Cronbach, 1951). The reliability score and factorial loading of each item were found to be well above the acceptable criterion of 0.50 (see Table 1).

Table 1: Analysis of Factorial Validity and Construct Reliability

Variable	Measured	Factor Loading	Composite Reliability
Convenience based Pragmatic Motivation (CPM)	M11	0.754	0.8937
	M12	0.805	
	M13	0.814	
	M14	0.761	
	M15	0.741	
	M16	0.752	
	M17	0.598	
	M18	0.612	
	M19	0.545	
	M0	0.756	
Time and Efforts based Pragmatic Motivation (TEPM)	M21	0.703	0.8928
	M22	0.718	
	M23	0.914	
	M24	0.634	
Search and Information based Pragmatic Motivation (SIPM)	M31	0.630	0.8254
	M32	0.529	
	M33	0.602	
Product Based Motivation (PDM)	M41	0.758	0.6491
	M42	0.624	
	M43	0.554	
Economic Motivation (EM)	M51	0.613	0.5579
	M52	0.590	
	M53	0.512	
	M54	0.754	
Service Excellence Motivation (SEM)	M61	0.502	0.7011
	M62	0.626	
	M63	0.639	
	M64	0.531	
Situation and Hassle Reducing Motivation (SHRM)	M71	0.678	0.8689
	M72	0.618	
	M73	0.514	
	M74	0.528	
Demographic Motivation (DM)	M81	0.841	0.7908
	M82	0.742	
	M83	0.692	
Social and Exogenous Motivation (S & EM)	M91	0.755	0.6665
	M92	0.652	
	M93	0.508	

[Note: Acceptable factor loadings and reliabilities (guidelines used $\lambda > 0.5$ and reliability > 0.5 respectively.]

The questionnaire for the final study comprised two parts; the first part comprised questions related to basic demographic information about the user (age group, gender, income level, educational qualification, regional location, frequency of online ticket booking, etc.); the second part was intended to measure the users' relative preferences and experiences about critical motivational attributes that induce them to book online the railway tickets. The study was thus aimed at identifying parameters with respect to motivational inclination towards online railway ticket booking and thereby establishes critical motivational factors in the online buying behavior of users of railway ticket reservation.

4.3 Research Hypotheses

The following hypotheses were developed from the objectives of the study mentioned above. A series of multiple regressions was conducted to test each of the hypotheses in the subsequent section of this study.
Hypothesis 1: Convenience based pragmatic motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 2: Time and efforts based pragmatic motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 3: Search and information based pragmatic motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 4: Attributes of online ticket booking transaction (product based motivational factors) have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 5: Economic motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 6: Service excellence motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 7: Situational and hassle reducing motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 8: Demographic motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

Hypothesis 9: Social and exogenous motivational factors have a significant impact on users' intention to reserve railway tickets online in India.

4.4 Data Collection

The final questionnaire was developed to capture quantitative data was administered to a cross-section of respondents. The sample was heterogeneous consisting of educated middle and upper class people, who were users of the registered Indian railway website (IRCTC) and had used the service to reserve their travel tickets online at various points of time. A total of 327 questionnaires were found to be complete and valid for analysis.

4.5 Analysis of Data

The responses were subjected to various empirical analyses through using 10.0 version of SPSS. The findings were finally presented with a set of conclusions and recommendations. The statistical analyses were descriptive as well as causal, and included multivariate statistical techniques for testing of the hypotheses and analyzing the demographics to arrive at the research findings.

The factor analysis had grouped the items into 9 constructs with 38 items (see Tables 1). For analytical purposes, descriptive statistics were used through measures of central tendency and dispersion (see Table 2). The users of the railway website were asked to rate the parameter based statements on a scale of 1 to 5, based on their level of agreement or disagreement to each statement. The sum total produced a consolidated score. The means and standard deviations were calculated construct wise. The mean scores for various constructs ranged between 3.1873 and 3.5023, with 'Economic Motivation' having the least score and 'Situation and Hassle Reducing Motivation' have the highest score. This clearly indicates that in India, the economic motivational factors of online railway ticket booking in terms of service charges, speedy refund on cancellation, cost of accession, and travel agent fees (while online booking is done through agency services) do not act as factors that are favorable enough to induce people to go for online reservation of railway tickets. While this is a factor that needs improvement, what really impacts online booking transaction is the hassle free mechanism in the process (see Table 2).

Table 2: Descriptive Statistics for Motivational Constructs on Online Buying Behavior

S. No.	Constructs	No. of	Mean	Std. Deviation	N
1	Convenience based Pragmatic Motivation (CPM)	10	3.4257	0.8815	327
2	Time and Efforts based Pragmatic Motivation	4	3.4625	1.0955	327
3	Search and Information based Pragmatic	3	3.4271	1.0401	327
4	Product Based Motivation (PDM)	3	3.3629	0.9777	327
5	Economic Motivation (EM)	4	3.1873	0.7573	327
6	Service Excellence Motivation (SEM)	4	3.2528	0.8694	327
7	Situation and Hassle Reducing Motivation	4	3.5023	1.1514	327
8	Demographic Motivation (DM)	3	3.3874	0.9316	327
9	Social and Exogenous Motivation (S & EM)	3	3.2528	0.8694	327

Having calculated the descriptive statistics, the linear relationships were established among the various constructs using correlation analysis so as to measure the strength and direction of linear relationship between them. Each construct was correlated with its individual measuring items to establish the linear relation between them. Also, the various constructs were correlated with each other to establish the strength of association between them (see Table 3).

Table 3: Correlation Analysis of Motivational Constructs on Online Buying Behavior

Constructs	CPM	TEPM	SIPM	PDM	EM	SEM	SHRM	DM	S &
CPM	1								
TEPM	.831**	1							
SIPM	.775**	.781**	1						
PDM	.634**	.648**	.659**	1					
EM	.631**	.595**	.633**	.576**	1				
SEM	.627**	.594**	.540**	.455**	.513**	1			
SHRM	.809**	.823**	.761**	.626**	.582**	.577**	1		
DM	.503**	.442**	.438**	.362**	.383**	.493**	.478**	1	
S & EM	.627**	.594**	.540**	.455**	.513**	1.00**	.577**	.493**	1.00**

** Correlation is significant at 0.01 level (2 tailed)

A series of multiple regressions was conducted to test the hypotheses in order to assess the causal relationships between the various motivational constructs of user groups and their impact on the online reservation of railway tickets in India. The procedure used for these analyses involved a study of the p-value, which indicated whether or not the regression model explained a significant portion of the variance of the dependent variable and the independent variable.

4.6. Hypotheses Testing

Hypothesis 1: Convenience based pragmatic motivation significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the convenience based pragmatic motivation as the dependent variable, and popularity of the railway website, ease of clarity and usage, ease of access, ease of the process, saving of time, ease of cancellation, ease of payment, and time taken for loading of the web page as independent variables. On entering the variables in a single block, it was found that 99.8% of the variance in convenience based pragmatic motivation is explained by all the other constructs ($R2 = .998$, F Value = 46.078, $p < 0.01$). All the ten dimensions offered significant contributions with their respective t values and the associated level of significance (see Table 4).

Table 4: Model Summary for Convenience based Pragmatic Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.999	.998	46.078	.000
Items Measuring Convenience based Pragmatic	Item Total Correlation	Standardized Coefficients	t	Sig.
Constant			.000	1.000
The IRCTC web site is well known. (CPM1)	.822**	0.143	113.027	0
It is easy to get the website to do what I want (CPM2)	.811**	0.132	53.677	0
The website is easy to understand and use. (CPM3)	.847**	0.134	42.298	0
I feel free/ comfortable to access online ticket booking site. (CPM4)	.844**	0.14	34.046	0

It is easy to purchase ticket online. (CPM5)	.845**	0.145	211.408	0
Online ticketing saves time. (CPM6)	.834**	0.164	71.895	0
The Internet speed does not create problem while online ticketing. (CPM7)	.260**	0.14	58.025	0
The cancellation of online ticket is easy.	.696**	0.143	86.095	0
The ticket transaction for payment is simple and easy. (CPM9)	.758**	0.133	101.703	0
Web pages take too long to load. (CPM10)	.389**	0.121	76.069	0

a) Predictors: (Constant), CPM1, CPM2, CPM3, CPM4, CPM5, CPM6, CPM7, CPM8, CPM9, CPM10

b) Dependent Variable: Convenience based Pragmatic Motivation (CPM)

The hypothesis failed to get rejected. Convenience based pragmatic motivational factors of people in India, who intend to book railway tickets online, significantly impact the online transaction. Hence, the factors mentioned above have to be managed properly and improved in the desired direction to induce people more into buying railway tickets online in India.

Hypothesis 2: Time and efforts based pragmatic motivational factors significantly influence the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the time and efforts based pragmatic motivation as the dependent variable, and ease and convenience of online booking process, ease of filling up online reservation form, facility of getting the booking done on one's own, and no requirement of following up with others as independent variables. On entering the variables in a single block, it was found that 73.0% of the variance in time and efforts based pragmatic motivation is explained by all the other constructs ($R2 = .730$, F Value = 112.017, $p < 0.01$). All the four dimensions offered significant contributions with their respective t values and the associated level of significance (see Table 5).

Table 5: Model Summary for Time and Efforts based Pragmatic Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.769	.730	112.017	.000
Items Measuring Time and Efforts based Pragmatic Motivation (TEPM)	Item Total Correlation	Standardized Coefficients (Beta)	t	Sig.
Constant			.000	1.000
I understand that online ticketing is easy and convenient. (TEPM1)	.867**	.304	52.011	.000
It is easy to fill up online reservation form for ticket. (TEPM2)	.876**	.279	222.077	.000
I need not take the help from others while buying ticket online. (TEPM3)	.872**	.284	46.721	.000
I do not need any interaction with others while buying ticket online. (TEPM4)	.864**	.281	119.121	.000

a. Predictors: (Constant), TEPM1, TEPM2, TEPM3, TEPM4

b. Dependent Variable: Time and Efforts based Pragmatic Motivation (TEPMThe hypothesis failed to get rejected. Time and efforts based pragmatic motivational factors of people in India, who intend to book railway tickets online, significantly impact the online transaction.

Hypothesis 3: Easy searching and access to information based pragmatic motivation significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the search and information based pragmatic motivation as the dependent variable, and display of adequate information about all trains, schedule, availability of berth, station code, and guidance to fill up the online reservation form by the railway website as independent variables. On entering the variables in a single block, it was found that 79.8% of the variance in search and information based motivation is explained by all the other constructs ($R2 = .798$, F Value = 422.786, $p < 0.01$). All the three dimensions offered significant contributions (see Table 6).

Table 6: Model Summary for Search and Information based Pragmatic Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.863	.798	422.786	.000
Items Measuring Search and Information based	Item Total Correlatio	Standardized Coefficients	t	Sig.
Constant			.000	1.000
This web site is user friendly and gives adequate information about all trains, schedule and availability of seat, class, berth and easy guidance to fill up form. (SIPM1)	.878**	.398	67.763	.000
I can find the station code easily. (SIPM2)	.850**	.389	119.121	.000
Searching for particular/alternative trains and schedule is easy. (SIPM3)	.856**	.374	46.595	.000

a) Predictors: (Constant), SIPM1, SIPM2, SIPM3
b) Dependent Variable: Search and Information based Pragmatic Motivation (SIPM)

The hypothesis failed to get rejected. Search and information based pragmatic motivational factors of people in India, who intend to book railway tickets online, significantly impact the online transaction. Hence, the factors mentioned above have to be managed properly and improved in the desired direction to induce people more into buying railway tickets online in India.

Hypothesis 4: Availability of various online purchase facilities as the basic product based attributes motivates people to reserve railway tickets online in India.

Regression analysis was performed with the basic product motivation based on the availability of service facilities in online reservation as the dependent variable, and iterative booking facilities, combination of tickets across places, and availability of online booking facility during the business hours as independent variables. On entering the variables in a single block, it was found that 57.8% of the variance in availability of service facilities based on online product motivation is explained by all the other constructs ($R2 = .578$, F Value = 297.002, $p < 0.01$). All the three dimensions offered significant contributions (see Table 7).

Table 7: Model Summary for Product based Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.692	.578	297.002	.000
Items Measuring Product based Motivation	Item Total Correlation	Standardized Coefficients	t	Sig.
Constant			.000	1.000
I can buy tickets for my iterative journey. (PDM1)	.656**	.471	76.115	.000
I can buy various combinations of tickets from any place. (PDM2)	.847**	.429	118.211	.000
Online ticket booking is favored because one can buy ticket online at any time (24/7). (PDM3)	.814**	.402	102.111	.000

a) Predictors: (Constant), PDM1, PDM2, PDM3

b) Dependent Variable: Product based Motivation (PDM)

The hypothesis failed to get rejected. Availability of various online purchase facilities motivates the people in India, who intend to book railway tickets online, and thus significantly impacts the online transaction. Hence, all the above factors as basic product attributes specific to online booking that are not otherwise easily available for booking physically over the counter, have to be maintained properly and improved in the desired direction to induce people more into buying railway tickets online in India.

Hypothesis 5: Various factors related to economic motivation significantly influence the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the economic motivation in online reservation as the dependent variable, and speedy refund after cancellation, reasonable service charges, commission of travel agents, and the cost of accessing online information as independent variables. On entering the variables in a single block, it was found that 81.9% of the variance in economic motivation related to online purchase transaction is explained by all the other constructs ($R2 = .819$, F Value = 730.013, $p < 0.01$). All the four dimensions offered significant contributions (see Table 8).

Table 8: Model Summary for Economic Motivation on Online Buying Behavior

	R	R Square	F	Sig.
Model 1	.886	.819	730.013	.000
Items Measuring Economic Motivation (EM)	Item Total Correlation	Standardized Coefficients	t	Sig.
Constant			.000	1.000
To get the refund money after canceling of the online ticket is trouble free. (EM1)	.780**	.374	152.315	.000
Service charge is reasonable. (EM2)	.775**	.384	151.684	.000
I do not have to pay extra to travel agent. (EM3)	.686**	.403	187.444	.000
The process is expensive due to cost of access. (EM4)	.375**	.363	124.471	.000

a) Predictors: (Constant), EM1, EM2, EM3, EM4

b) Dependent Variable: Economic Motivation (EM)

The hypothesis failed to get rejected. Various factors related to economic motivation thus significantly impact the intention of people to reserve railway tickets online in India.

Hypothesis 6: Motivation based on excellence in service delivery significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the motivation based on excellence in service delivery in online reservation as the dependent variable, and prompt home delivery of i-ticket, reduction in processing errors, customer care service, and technical security of online transaction as independent variables. On entering the variables in a single block, it was found that 48.4% of the variance in service excellence motivation related to online purchase transaction is explained by all the other constructs ($R2 = .484$, F Value = 24.649, $p < 0.01$). One out of the four dimensions offered significant contribution (see Table 9).

Table 9: Model Summary for Service Excellence Motivation on Online Buying Behavior

	R	R Square	F	Sig.
Model 1	.501	.484	24.649	.000
Items Measuring Service Excellence Motivation (SEM)	Item Total Correlation	Standardized Coefficients (Beta)	t	Sig.
Constant			9.000	.000
The delivery of online i-ticket is prompt. (SEM1)	.800**	.339	5.369	.000

Online ticket buying reduces processing errors. (SEM2)	.750**	.079	1.331	.184
Customer care service for online ticket booking is adequate enough. (SEM3)	.695**	.105	1.905	.058
Technical foul-ups prevent transaction from going through. (SEM4)	.664**	.086	1.619	.106

a. Predictors: (Constant), SEM1, SEM2, SEM3, SEM4 b. Dependent Variable**:** Service Excellence Motivation (SEM)

The hypothesis failed to get rejected. Prompt home delivery of I-ticket as part of excellence in service delivery thus significantly impacts the intention of people to reserve railway tickets online in India. Hence, this particular factor has to be maintained and strengthened properly to induce people more into buying railway tickets online in India.

Hypothesis 7: Motivation based on situational and hassle reducing factors significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the motivation based on situational and hassle reducing factors in online reservation as the dependent variable, and booking through convenient online access, saving of physical efforts, avoidance of traveling the distance, and comfort issues in online transaction as independent variables. On entering the variables in a single block, it was found that 67.1% of the variance in situational and hassle reducing motivation related to online purchase transaction is explained by all the other constructs ($R2 = .671$, F Value = 154.152, $p < 0.01$). All the four dimensions offered significant contributions (see Table 10).

Table 10: Model Summary for Situation and Hassle Reduction Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.714	.671	154.152	.000
Items Measuring Situation and Hassle Reduction Motivation (SHRM)	Item Total Correlation	Standardized Coefficients (Beta)	t	Sig.
Constant			.000	1.000
I do not need to travel physically to buy ticket. (SHRM1)	.907**	.315	96.001	.000
Online ticket booking is really effort saving. (SHRM2)	.908**	.308	124.276	.000
I prefer to buy ticket online because railway station is far away from my residence. (SHRM3)	.668**	.252	153.892	.000
Online ticket buying removes the hassle of travel and of standing and waiting in the queue and hassle of parking car etc. (SHRM4)	.883**	.301	211.113	.000

a) Predictors: (Constant), SHRM1, SHRM2, SHRM3, SHRM4
b) Dependent Variable: Situation and Hassle Reduction Motivation (SHRM)

The hypothesis failed to get rejected. Various factors related to the situation and hassle reduction thus significantly impact the intention of people to reserve railway tickets online in India.

Hypothesis 8: Factors of demographic motivation significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the various factors related to consumer demographics in online reservation as the dependent variable, and level of education, level of income, and level computer operating knowledge as independent variables. On entering the variables in a single block, it was found that 48.1% of

the variance in various demographic factors related to online purchase transaction is explained by all the other constructs (R2 = .481, F Value = 961.236, p < 0.01). All the three dimensions offered significant contributions (see Table 11).

Table 11: Model Summary for Demographic Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.519	.481	961.236	.000
Items Measuring Demographic Motivation (DM)	Item Total Correlation	Standardized Coefficients (Beta)	t	Sig.
Constant			.000	1.000
Higher education motivated me to buy ticket online. (DM1)	.873**	.403	116.621	.000
Income level motivated me to buy ticket online. (DM2)	.814**	.376	98.117	.000
Proficient Computer Knowledge encourages me to buy ticket online. (DM3)	.833**	.411	192.215	.000

a) Predictors: (Constant), DM1, DM2, DM3
b) Dependent Variable: Demographic Motivation (DM)

The hypothesis failed to get rejected. Various factors related to the consumer demographics thus significantly impact the intention of people to reserve railway tickets online in India. Hence, all the above factors have to be considered and analyzed properly over various periods of time and across the geographical regions of the national territory. The same will help take appropriate strategies related to identifying the existing customer segmentation and development of potential online customers, who would be buying railway tickets online in India.

Hypothesis 9: Social and exogenous motivation significantly influences the intention of the people to reserve railway tickets online in India.

Regression analysis was performed with the motivation based on social and exogenous factors in online reservation as the dependent variable, and privacy of the transaction, influence of peer group, and social status as independent variables. On entering the variables in a single block, it was found that 70.3% of the variance in social and exogenous motivation related to online purchase transaction is explained by all the other constructs (R2 = .703, F Value = 1002.004, p < 0.01). All the three dimensions offered significant contributions (see Table 12).

Table 12: Model Summary for Social and Exogenous Motivation on Online Buying Behavior

Model 1	R	R Square	F	Sig.
	.781	.703	1002.00	.000
Items Measuring Social and Exogenous Motivation (S & EM)	Item Total Correlati	Standardized Coefficients (Beta)	t	Sig.
Constant			.000	1.000
Money refunded on cancellation goes directly to my bank account. (S&EM1)	.792**	.416	271.346	.000
I buy online ticket because people around me used to buy online tickets. (S&EM2)	.806**	.425	511.789	.000
My friends/family members influenced me to start buying ticket online. (S&EM3)	.729**	.449	146.299	.000

a) Predictors: (Constant), S&EM1, S&EM2, S&EM3
b) Dependent Variable: Social and Exogenous Motivation (S & EM)

The hypothesis failed to get rejected. Various factors related to the social and exogenous motivation thus significantly impact the intention of people to reserve railway tickets online in India. Hence, all the above factors have to be considered and analyzed properly over various periods of time and across the various groups of consumers. The same will help take appropriate strategies related to identifying the existing customer segmentation and development of potential online customers, who would be buying railway tickets online in India.

4.7 Analysis of Demographics

Based on the analysis of background information of the survey respondents, the samples were further classified on the basis of gender and age groups. Then suitable statistical techniques were applied to capture the cross – sectional comparisons of buyers' / users' motivational attributes imperative to online buying intention of railway tickets in Indian context.

4.7.1. Analysis based on Gender

Out of a total number of 327 respondents covered in the survey, 234 were male and 93 were female. The analysis of descriptive and dispersions were calculated in addition to independent t – test to examine gender wise differences of motivational attributes on online buying intention, if any (see Table 13). The results of independent t – tests showed that for all the critical motivational parameters of buyers / users namely Convenience based Pragmatic Motivation, Time and Efforts based Pragmatic Motivation, Search and Information based Pragmatic Motivation, Product Motivation, Economic Motivation, Service Excellence Motivation, Situation and Hassle Reducing Motivation, Demographic Motivation, and Social and Exogenous Motivation had no significant differences among male and female respondents.

Table 13: Comparative Analysis of Motivational Attributes Based on Gender

Constructs	Age Group	df	Mean Square	F	Sig.
Convenience based Pragmatic Motivation (CPM)	Between Groups	4	3.793	5.149	.000
	Within Groups	322	.736		
	Total	326			
Time and Efforts based Pragmatic Motivation (TEPM)	Between Groups	4	5.397	4.749	.000
	Within Groups	322	1.137		
	Total	326			
Search and Information based Pragmatic Motivation (SIPM)	Between Groups	4	5.868	5.740	.000
	Within Groups	322	1.022		
	Total	326			
Product Based Motivation (PDM)	Between Groups	4	3.015	3.246	.012
	Within Groups	322	.929		
	Total	326			
Economic Motivation (EM)	Between Groups	4	.915	1.606	.172
	Within Groups	322	.570		
	Total	326			
Service Excellence Motivation (SEM)	Between Groups	4	3.352	6.050	.000
	Within Groups	322	.554		
	Total	326			
Situation and Hassle Reducing Motivation (SHRM)	Between Groups	4	5.665	4.488	.002
	Within Groups	322	1.262		
	Total	326			
Demographic Motivation (DM)	Between Groups	4	.674	.775	.542
	Within Groups	322	.870		
	Total	326			

Social and Exogenous Motivation (SEM1)	Between Groups	4	1.253	1.672	.156
	Within Groups	322	.749		
	Total	326			

Therefore, it can be inferred that as far as these critical motivational attributes are concerned in the context of online reservation of railway tickets in India, they stand equally important and given due importance by both male and female buyers of long distance railway tickets. The univocal importance of buyers' motivational attributes has to be considered accordingly as because it implies that all these motivational attributes to online buying intention are of generic significance irrespective of gender (see Table 13).

4.7.2. Analysis based on Age Group

The total number of 327 respondents was classified under five different categories namely 15 – 20 age group, 20 – 30 age group, 30 – 40 age group, 40 – 50 age group, 50 – 60 age group, and 60 + age group. Analysis of variance (ANOVA) was applied to find out age group wise differences on critical motivational attributes of online buying intention (see Table 14). The results of ANOVA analyses showed that for some of the motivational attributes there were significant differences, whereas for others the differences were not found significant.

For Convenience based Pragmatic Motivation, a significant difference was found among the various age groups with $F(4, 322) = 5.149$, $p < 0.001$. For Time and Efforts based Pragmatic Motivation, a significant difference was found among the various age groups with $F(4, 322) = 4.749$, $p < 0.001$. For Search and Information based Pragmatic Motivation, a significant difference was found among the various age groups with $F(4, 322) = 5.740$, $p < 0.001$. For Service Excellence Motivation, a significant difference was found among the various age groups with $F(4, 322) = 6.050$, $p < 0.001$. For Situation and Hassle Reducing Motivation, a significant difference was found among the various age groups with $F(4, 322) = 4.488$, $p < 0.005$.

These findings can be attributed to the fact that the above motivational attributes have got different implications for various age groups of people/buyers, who reserve long distance railway tickets online in India. People belonging to lower age brackets are more techno savvy, and hence prefer to reserve rail tickets online to avoid the physical hassle and distance. On the other hand, buyers belonging to middle age brackets are people in the working category, and hence they might prefer to book railway tickets online to save time and efforts of their busy professional schedule.

Whereas people in the higher age brackets, may not feel comfortable operating computers and hence might not be so inclined to buy railway tickets online in India. Moreover the retired people can afford to travel and spend time for over the counter booking, many of them might still not be convinced about the integrity of online booking, and again some of them might try to avoid taking the service of any travel agents to reserve tickets online because of excessive fees charged or harassment by such agents. So keeping in mind all such distinct possibilities, the concerned Indian railway authority can go for segmented analysis to decide promotional strategies for online reservation of long distance tickets in order to induce buyers in various age groups with their matching motivational drivers to online buying intention.

Whereas for other motivational parameters like Product Based Motivation, Economic Motivation, Demographic Motivation, and Social and Exogenous Motivation there were no significant differences found among the various age groups. These findings can be attributed to the fact that these kind of motivational drivers are important enough for all types of buyers belonging to various age groups, who reserve/intend to reserve railway tickets online in India. Hence, all such factors have to be considered with due importance while deciding the marketing, promotion, and customer relationship strategies by the Indian railway to induce people more to go for online buying of long distance railway tickets (see Table 14).

Table 14: Comparative Analysis of Motivational Attributes Based on Age Group

Constructs	Age Group	df	Mean Square	F	Sig.
Convenience based Pragmatic Motivation (CPM)	Between Groups	4	3.793	5.149	.000
	Within Groups	322	.736		
	Total	326			
Time and Efforts based Pragmatic Motivation (TEPM)	Between Groups	4	5.397	4.749	.000
	Within Groups	322	1.137		
	Total	326			
Search and Information based Pragmatic Motivation (SIPM)	Between Groups	4	5.868	5.740	.000
	Within Groups	322	1.022		
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Service Excellence Motivation (SEM)	Between Groups	4	3.352	6.050	.000
	Within Groups	322	.554		
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	Within Groups	322	1.262		
	Total	326			
Demographic Motivation (DM)	Between Groups	4	.674	.775	.542
	Within Groups	322	.870		
	Total	326			
Social and Exogenous Motivation (SEM1)	Between Groups	4	1.253	1.672	.156
	Within Groups	322	.749		
	Total	326			

5. A BI FRAMEWORK FOR ONLINE BUYING BEHAVIOUR BASED ON MOTIVATION DRIVEN DECISION PROCESS

In the proposed BI framework a Knowledge Management (KM) approach is used for effective decision support system.

5.1 Link between BI, KM and Data Mining (DM)

There is a link between BI, KM and DM. BI is a broad category of applications and technologies of gathering, accessing, and analyzing a large amount of data for the organization to make effective business decisions (Cook and Cook, 2000; Williams and Williams, 2006). Typical BI technologies include business rule modeling, data profiling, data warehousing and online analytical processing, and DM (Loshin, 2003). The central theme of BI is to fully utilize massive data to help organizations gain competitive advantages.

KM is a set of practices of the creation, development, and application of knowledge to enhance performance of the organization (Wiig, 1999; Buckman, 2004; Feng and Chen, 2007; Lee and Change, 2007; Smoliar, 2007; Wu et al., 2007; Paiva and Goncalo, 2008; Ramachandran et al., 2008). Similar to BI, KM improves the use of information and knowledge available to the organization (Sun and Chen, 2008). However, KM is distinct from BI in many aspects. Generally, KM is concerned with human subjective knowledge, not data or objective information (Davenport and Seely, 2006). The majority of models used in the KM field, such as the tacit and explicit knowledge framework for a dynamic human process of justifying personal belief toward the truth (Nonaka, 1994; Nonaka and Takeuchi, 1995), are typically non-technology oriented. Although KM has not evolved out of a set of formal methodologies, KM competently deal with unstructured information and tacit knowledge which BI fails to address (Marwick, 2001).

DM (sometimes called Knowledge Discovery in Databases process or KDD) is the process of discovering new patterns from large structured data sets as well as unstructured dataset. DM is the computer-assisted process of digging through and analyzing enormous sets of data and then extracting the meaning of the data. DM tools predict behaviors and future trends, allowing businesses to make proactive, knowledge-driven decisions.

5.2 Integrating Motivation Driven Decision Making and DM

DM is considered to be useful for business decision making, especially when the problem is well defined. Because of this, DM often gives people an illusion that one can acquire knowledge from computers through pushing buttons. The danger of this misperception lies in the over-emphasis on "knowledge discovery" in the DM field and de-emphasis on the role of user interaction with DM technologies in developing knowledge through learning. There is a lack of attention on theories and models of DM for knowledge development in business. Conventional theories and models in this area ought to be re-examined and developed in such a way that a distinction is made between two important variables: DM centered information and business centered knowledge.

The primary limitation in traditional data mining theory is its limited real world application in two aspects. First, people often find that "knowledge" gained from DM does not always lead to an action in all situations, particularly when the piece of "knowledge" is hard to apply. It fails to recognize the roles of business insiders in developing their knowledge for coordination of actions for business.

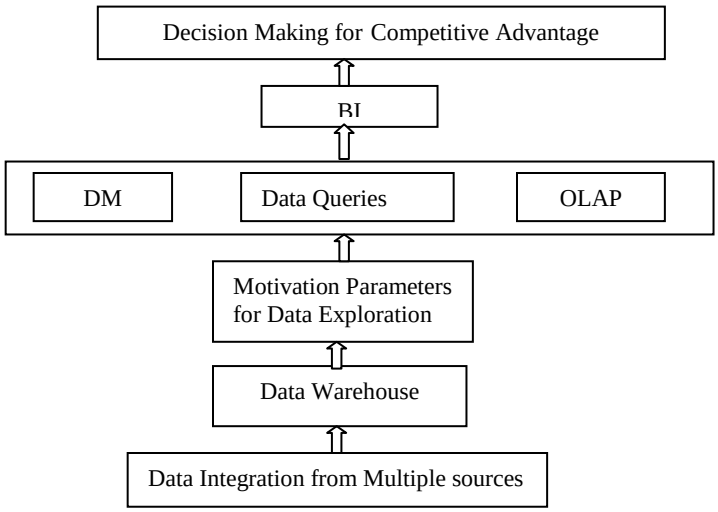
The proposed behavioural BI framework is an attempt to overcome the limitation of traditional data mining by integrating it with motivation driven decision making of online buyer. Factors that motivate online buyer are empirically tested, DM can be done these factors and decision makers can use the information for competitive advantage. The integration of motivation drives decision making of online buyer with data exploration and query makes data mining relevant to genuine BI.

The knowledge work done by motivation parameters can be generally described in the perspective of unstructured decision making. To be ready for action, a decision maker searches appropriate information, evaluates alternative actions pertinent to this information, and choose the action that is best supported by the information. In the DM context, DM results can be a set of information for the decision maker in making unstructured decisions.

5.3 A BI Framework for Online Buying Behaviour Based on Motivation Driven Decision Making

The technical view of BI usually centers on the process of or applications and technologies for gathering, storing, analyzing and providing access to data to help make better business decisions. Business Intelligence software (figure 2) queries and analyzes, information from data warehouse using techniques such as data mining (DM), data query and online analytical processing (OLAP) based on factors which motivate online buyer. Data ware house integrates and transforms data pulled from multiple sources such as operational data base, customer database, market research database, legacy system, customer relationship management (CRM), enterprise resource planning (ERP), online transaction data processing (OLTP), web server, mail server, call logs, emails, surveys, consumer forums, consumer feedback etc.

Figure 2: A BI Framework for Online Buying Behaviour Based on Motivation



6. CONCLUSION

Although the number of individuals buying products and services online continues to increase in India, managing the dynamics of this behavior has often been a research question. What motivates a buyer to shop online is a matter that has evoked a lot of interest although the findings from research are loose, fragmented and disintegrated. Similarly present BI models do not give attention on theories and models of DM for knowledge development in business. Online transactions are characterized by anonymity, lack of physical interaction, lack of control, great deal of uncertainty and potential opportunism.

Based on the analysis of data, this study reached a logical conclusion that the motivation to buy online exhibits positive correlation to Convenience based Pragmatic Motivation, Time and Efforts based Pragmatic Motivation, Search and Information based Pragmatic Motivation, Product Based Motivation, Economic Motivation, Service Excellence Motivation, Situation and Hassle Reducing Motivation, Demographic Motivation, and Social and Exogenous Motivation have a significant influence on people's intention to reserve railway tickets online in India.

This paper is an attempt to conceptualize 'motivation' as a concept paramount for online buying. The paper starts with the concept of motivation, thereafter, factors that motivate online buyer tested. Finally a framework for BI based on motivation driven decision making in online buying is proposed.

REFERENCES

ALRECK, P AND SETTLE, R. (2002), The Hurried Consumer: Time-Saving Perceptions of Internet and Catalogue Shopping, *Journal of Database Marketing*, 10 (1): 25-35.

BABIN, B., DARDEN, W. and GRIFFIN, M. (1994) Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value, *Journal of Consumer Research, 20:* 644-656.

BLOCH, P.H and RICHINS, M.L. (1983) A Theoretical Model for the Study of Product Importance Perceptions, Journal of Consumer Research, 47 (Summer): 69-81.

BURKE, R.R. (1996) Virtual Shopping: Breakthrough in Marketing Research, *Harvard Business Review*, 74 (2): 120-131.

BURKE, R.R. (1997) Do You See What I See? The Future of Virtual Shopping, *Journal of Academy of Marketing Science*, 25 (4): 352-360.

BURKE, R.R. (2002) Technology and the Customer Interface: What Consumers Want in the Physical and Virtual Store, *Journal of the Academy of Marketing Science*, 30 (4): 411-432.

BUCKMAN, R.H. (2004), Building a Knowledge-Driven Organizations, McGraw Hill, New York, NY.

CHEN, S.Y. and LIU, X. (2005), "Data mining from 1994 to 2004: an application-oriented review*", International Journal of Business Intelligence and Data Mining, Vol. 1 No. 1,* pp. 4-11.

CHILDERS, T.L., CARR, C.L., PECK, J. and CARSON, S. (2001) Hedonic and Utilitarian Motivations for Online Retail Shopping Behavior, *Journal of Retailing, 77 (4):* 511-535.

COOK, C. and COOK, M. (2000), The Convergence of Knowledge Management and Business Intelligence, Auerbach Publications, New York, NY.

CRONBACH, L. J., (1951), Coefficient alpha and the internal structure of tests, Psychometrika, 16 (3): 297-335.

DABHOLKAR, P.A. (1996) Consumer Evaluations of New Technology-Based Self-Service Options, *International Journal of Research in Marketing, 13 (1):* 29-51.

DABHOLKAR, P.A. and BAGOZZI, R.P. (2002) An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors, *Journal of the Academy of Marketing Science, 30 (3):* 184-201.

DAVIS, F.D. (1989), Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, MIS Quarterly, 13 (3): 319-40.

DAVIS, F.D., BAGOZZI, R.P. and WARSHAW, P.R. (1989) User Acceptance of Computer Technology: A Comparison of Two Theoretical Models, Management Science, 35 (8): 982-1003.

DONTHUS, N. and GARCIA, A. (1999) The Internet Shopper, *Journal of Advertising Research*, 39 (3): 52-59.

EASTIN, M.S. and LAROSE, R. (2000) Internet Self-Efficacy and the Psychology of the Digital Divide, *Journal of Computer-Mediated Communication*, available at: www.ascusc.org/jcmc/, 6 (1).

EVANSCHITZKY, H., IYER, G., HESSE, J. and AHLERT, D. (2004) E-satisfaction: A Re-examination, *Journal of Retailing, (80):* 239-247.

FOUCAULT, B.E., and SCHEUFELE, D.A. (2002) Web vs Campus store? Why Students buy Textbooks Online, *Journal of Consumer Marketing, 19 (5)*: 409-423.

GREWAL, D., IYER, G.R. and LEVY, M. (2002) Internet Retailing: Enablers, Limiters and Market Consequences, *Journal of Business Research,*57 (7): 703-13.

HAIR, J F.; ANDERSON, R.E.; TATHAM, R.L.; BLACK, W.C., (1995), Multivariate Data Analysis, 4th ed., Englewood cliffs, NJ, Prentice-Hall.

HIRSCHMAN, E.C. and HOLBROOK, M.B. (1982) Hedonic Consumption: Emerging Concepts, Methods and Propositions, *Journal of Marketing, 46 (3):* 92-101.

HIRSCHMAN, E. C. (1983) Predictors of Self-Projection, Fantasy Fulfillment and Escapism, *Journal of Social Psychology, 120*: 63-76.

HOFFMAN, D.L. and NOVAK, T. (1996) Marketing In Hypermedia Computer-Mediated Environment: Conceptual Foundations, *Journal of Marketing, 60 (July)*: 50-68.

JOINES, J.L., SCHERER, C.W. and SCHEUFELE, D.A. (2003) Exploring motivations for Consumer Web Use and their Implications for E-Commerce, *Journal of Consumer Marketing, 20 (3):* 90-108.

KORGAONKAR, P. and WOLIN, L. (1999) A Multivariate Analysis of Web Usage, *Journal of Advertising Research*, 38 (1):7-21.

KOUFARIS, M., KAMBIL, A. and LaBARBERA, P.A. (2001-2002) Consumer Behavior in Web-Based Commerce: An Empirical Study, *International Journal of Electronic Commerce*, 6 (2): 115-38.

KRAUT, R., SCHERLIS, W., MUKHOPADHYAY, T., MANNING, J. and KIESLER, S. (1996) The Home Net Field Trial of Residential Internet Services, Communications of the ACM, 39 (12): 55-63.

LEE, K.S., LEE H.S. and KIM S.Y. (2007) Factors Influencing the Adoption Behavior of Mobile Banking: A South Korean Perspective, *Journal of Internet Banking and Commerce, 12 (2).*

LEE, E. and OVERBY, J.W. (2004) Creating Value for Online Shoppers: Implications for Satisfaction and Loyalty, *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 17: 54-67.

LEE, M.K.O. and TURBAN, E. (2001) A Trust Model for Consumer Internet Shopping, *International Journal of Electronic Commerce, 6 (1):* 75-91.

LIMAYEM, M., KHALIFA, M. and FRINI, A. (2000) What Makes Consumers Buy from the Internet? A Longitudinal Study of Online Shopping, IEEE Transactions on Systems, Man and Cybernetics – Part A: Systems and Humans, 30 (4): 421-32.

MATHWICK, C., MALHOTRA, N. and RIGDON, E. (2001) Experiential Value: Conceptualization, Measurement and Application in the Catalog and Internet Shopping Environment, *Journal of Retailing, 77 (Spring):* 39-56.

MATHWICK, C., MALHOTRA, N.K. and RIGDON, E. (2002) The Effect of Dynamic Retail Experiences on Experiential Perceptions of Value: An Internet and Catalog Comparison, *Journal of Retailing, 78 (1):* 51-60.

MCKNIGHT, D.H. and CHERVANY, N.L. (2001-2002) What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology, *International Journal of Electronic Commerce, 6 (2):* 35-59.

MENON, S. and KAHN, B. (2002) Cross-Category Effects of Induced Arousal and Pleasure on the Internet Shopping Experience, Journal of Retailing, 78 (1): 31-40.

MONSUWE,´T.P, DELLAERT, B.G.C. and RUYTER, K. (2004) What Drives Consumers to Shop Online? A Literature Review, *International Journal of Service Industry Management, 15, (1):* 102-121.

NIELSON, J. (1999) Why People Shop on the Web, *Jakob Nielson's Alertbox*, www.useit.com/alertbox/990207.html.

NONAKA, I. and Takeuchi, H. (1995), The Knowledge-Creating Company, Oxford University Press, New York, NY.

PAIVA, E.L. and GONCALO, C.R. (2008), "Organizational knowledge and industry dynamism: an empirical analysis", *International Journal of Innovation and Learning, Vol. 5 No. 1*, pp. 66-80.

PARASURAMAN, A. and ZINKHAN, G.M. (2002) Marketing to and Serving Customers through the Internet: An Overview and Research Agenda, *Journal of the Academy of Marketing Science, 30 (4):* 286-295.

PARSONS, A.G. (2002) Non-functional Motives for Online Shoppers: Why we Click, Journal of Consumer Marketing, 19 (5): 380-392.

RAJAMMA, R.K., PASWAN, A.K. and GANESH, G. (2007) Services Purchased at Brick and Mortar Versus Online Stores, and Shopping Motivation, Journal of Services Marketing, 21(2): 200-212.

RAMACHANDRAN, S.D., CHONG, S.C. and LIN, B. (2008), "Perceived importance and effectiveness of KM performance outcomes: perspective of institutions of higher learning", *International Journal of Innovation and Learning, Vol. 5 No. 1*, pp. 18-37.

ROHM, A.J. and SWAMINATHAN, V. (2004), A Typology of Online Shoppers based on Shopping Motivations, Journal of Business Research, 57 (7): 748-758.

SHANKAR, V., SMITH, A.K. and RANGASWAMY, A. (2003) Customer Satisfaction and Loyalty in Online and Offline Environments, *International Journal of Research in Marketing*, 20: 153-175.

SHIM, S., EASTLICK, M.A., LOTZ, S.L. and WARRINGTON, P. (2001) An Online Prepurchase Intentions Model: The Role of Intention to Search, *Journal of Retailing, 77 (3)*: 397-416.

SMOLIAR, S.W. (2007), "The poetics of knowledge sharing: putting Aristotle to work in the enterprise", *International Journal of Innovation and Learning, Vol. 4 No. 1*, pp. 26-39.

SUN, S.Y. and CHEN, Y.Y. (2008), "Consolidating the strategic alignment model in knowledge management", *International Journal of Innovation and Learning, Vol. 5 No. 1*, pp. 51-65.

SORCE, P., PEROTTI, V. and WIDRICK, S. (2005) Attitude and Age Differences in Online Buying, *International Journal of Retail & Distribution Management, 33 (2):* 122-132.

SUKI, N.M. (2001) Malaysian Internet User's Motivation and Concerns for Shopping Online, *Malaysian Journal of Library & Information Science, 6 (2):* 21-33.

SUKI, et al., (2001) http://minbar.cs.dartmouth.edu/greecom/ejeta/second-issue/ejeta-2002.05.14.04.09.49.

SWAMINATHAN, V., LEPKOWSKA-WHITE, E. and RAO, B.P. (1999) Browsers or Buyers in Cyberspace? An Investigation of Factors Influencing Electronic Exchange, *Journal of Computer-Mediated Communication*, 5 (2), available at: www.ascusc.org/jcmc/vol5/issue2/swaminathan.html.

WIIG, K.M. (1999), "What future knowledge management users may expect", *Journal of Knowledge Management, Vol. 3 No. 2*, pp. 155-65.

WILLIAMS, S. and WILLIAMS, N. (2006), The Profit Impact of Business Intelligence, Morgan Kaufmann, San Francisco, CA.

WOLFINBARGER, M. and GILLY, M. (2001) Shopping for Freedom, Control and Fun, California Management Review, 43 (2): 34-55.

WU, J.H., CHEN, Y.C., CHANG, J. and LIN, B. (2007), "Closing off the knowledge gaps in IS education", *International Journal of Innovation and Learning, Vol. 4 No. 4*, pp. 357-75.

WU, X., Yu, P. and PIATESKY-SHAPIRO, G. (2000), "Data mining: how research meets practical development?", *Knowledge and Information Systems, Vol. 5 No. 2*, pp. 248-61.

YOON, S.J. (2002), The Antecedents and Consequences of Trust in Online Purchase Decisions, *Journal of Interactive Marketing, 16 (2*): 47-63.

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www.imrbint.com

www.internetworldstat.com