Devising loyalty relationship strategies in technology-based remote services

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Abstract: Technology has become an integral part of the business today and has changed the way businesses are being run. Many new services have come up using technology-based remote services in addition to the existing physical channels. This study aimed at getting a clear idea about the underlying complex relationships between perceived value, satisfaction, trust, commitment and their effects on loyalty in technology-based ATM banking services. The study has used structural equation modeling to reveal the nature of relational influences of these constructs on loyalty. It has brought about a better understanding of the factors that govern the technology-based remote service process not only for academic purpose but for managers to devise strategies to attract customers, retain them for a longer period and make them loyal.

Keywords: Technology-Based Remote Service, Loyalty, Trust, Commitment, Satisfaction, Perceived Value

1. Introduction

The importance of the service sector in our economy today is unquestionable. The growth of the service sector is contributed not only by the traditional services but new categories of services emerging which are using electronic process technologies. Many core traditional service businesses are trying to reach its customers simultaneously through various channels, often using technology-based remote services in addition to the existing physical channels.
With the advent and frequent use of technology in service delivery, remote service encounter is fast replacing or supplementing interpersonal service encounters. Such encounters are characterized by self-service situation, where a customer independently produces a service through a technological interface

(Rayport & Sviokla, 1994), where no interpersonal contact is required between the buyer and the seller. Studies have examined the consumer perceptions and behavioral response towards technology-based service encounters. (Dhabolkar, 1996; Parasuraman 1998; Luran & Lin 2003). The factors that influence evaluation of technology-based service encounters could be distinctly different from that of people-based service encounters.

To build a long term relationship with the customers an understanding of how customer satisfaction translates into loyalty is must. With increasing competition we find, one of the greatest challenges of service marketers is to capture, maintain and expand its existing customer base through the steps of the loyalty ladder – satisfaction, trust, commitment, loyalty, which are actually the building blocks of CRM (Customer Relationship Management). (Tax, et al., 1998). Relationship studies have primarily focused on business-to-business relationships. However, relationships of consumers and the company is a less explored area (Wu, 2008).

The importance of the service sector in the economy and the rapid changes in this sector calls for a thorough in-depth understanding of the dynamics of how the service industry operates, especially in the consumer-to-company technology-based remote processes. In this study technology-based services which are kiosk based with customer service perspective, that is, ATM services of banks have been considered.

ATM has now become the most used touch point between a bank and its consumers. More people are now moving towards using the ATM for their banking needs. Number of ATMs in India is on a steady rise and growing by almost 20% each year. (Report on ATM, Banknet, 2009) Yet, the ATM market in India is not saturated. Though the concentration of ATMs is greater in metros, the demand is increasing for other cities and even rural areas. So it is imperative to investigate and explore these technology-based remote services with respect to building long-term relationships with the service providers.

2. Objectives

The study's main objective is to throw light on the underlying relational dynamics of how loyalty is influenced by antecedents like, perceived value, satisfaction, trust and commitment in technology-based remote self-service encounters. This could be achieved by the following sub-objectives:

To build an integrated comprehensive model to understand the relational dynamics in technology-based remote services

To design and construct a measurement index for the technology-based

remote services for measuring customer loyalty, satisfaction, trust, commitment, and perceived value

To investigate the interrelationships between the constructs and to identify the relationships of these constructs with loyalty.

This research will develop an index to measure the constructs - satisfaction, trust, commitment and perceived value in technology-based service encounters and reveal the underlying dimensions between the related constructs. It also attempts to identify the relationships of these constructs with loyalty, which is the determinant of long-term relationship of the customer with a company.

3. Conceptual Framework

Loyalty is defined as the intention of a customer to repurchase a product or service through a particular TBRS provider. Oliver (1993) defines brand loyalty as a "deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts by competitors which have the potential to cause switching behavior." (Day, 1969).

Perceived Value is the perceived utility relative to its monetary and non-monetary costs, assessed by the customer on simultaneous considerations of what is received and what is given up to get it. The Perceived Value concept involves a get-give evaluation. The "get' component consists of the benefits a buyer derives from the seller's offering and the "give" component comprises the buyer's monetary and nonmonetary costs (time, cognition and effort) of acquiring the offering (Zeithmal, 1988). In this psychological evaluation of "get" vs. "give", if get exceeds give, then satisfaction is derived. The theory of disconfirmation (Rust, Zahonik & Keningham, 1999.) also claims that when there is no gap between the expected service level and actual performance the customer is satisfied. Thus it is proposed that perceived value influences satisfaction.

- *H1b : Perceived Value will positively influence Satisfaction*

Satisfaction is a concept, which can be explained as a feeling reaction of fulfillment, when the service performance levels meets or exceeds the expected service levels. Different methods and systems are being developed not only to satisfy customers but to retain them for as long as possible, so that the business survival and growth is guaranteed (Reichheld & Sasser, 1990; Oliver, 1993). It is well established that customer satisfaction can affect customer retention and profitability (Anderson & Fornell, 1994). Customer satisfaction is suggested to

be a necessary condition for customer loyalty but may not be the only condition. This feeling of satisfaction influences the trusting beliefs about the competence of the service provider and the predictability of service performance. The fulfillment feeling of satisfaction also gives rise to the psychological attachment or commitment. Thus it is proposed that satisfaction influences trust and commitment, leading to the following hypotheses:

- *H2a : Satisfaction will positively influence Trust*

- *H2b : Satisfaction will positively influence Commitment*

Trust has been conceptualized by previous researches in a variety of ways, both theoretically and operationally. Previous studies have conceptualized trust as trusting beliefs (Ganesan, 1994; Gefen, 2003) or trusting intentions (Hosmer, 1995; McKnight, Choudhury, & Kacmar, 2002). Trust has been defined as a set of specific beliefs dealing primarily with integrity, benevolence, competence and predictability of a particular service provider (Luran & Lin, 2003). In the marketing literature it is suggested that trust positively affects commitment (Morgan & Hunt,1994). and also is the basis of brand loyalty (Berry, 1999). Loyalty and commitment underlies the process of continuing relationship with service provider and thus determines retention in the CRM process. Trust is vital to business relationships, especially where an element of risk is involved, as in a technology-based service encounter. Thus the service delivery process of ATMs of banks the risk involved is higher.

- *H3a : Trust will positively influence Loyalty*

- *H3b: Trust will positively influence Commitment*

Commitment is defined as a customer's psychological attachment to a service and service provider. Commitment is involved in warranting maximum efforts at maintaining relationship with the service provider. Commitment is propensity to display certain behaviors, such as the likelihood of future usage, not willing to switch to other providers, even if recommended by others. Customer commitment can be described as a stable preference that is derived from the customer's satisfaction and the trust on the service provider. It is bound by an attitude of resistance to change (Pitchard et al., 1999; Crosby & Taylor, 1983). The constructs loyalty and commitment by definition are different, but are related, with commitment leading to loyalty (Chaudhuri, 2001). Commitment positively influences intentions to engage in repeat purchase behavior with a specific service vendor. Thus the following hypothesis is proposed.

- *H4 : Commitment will positively influence Loyalty*

This study examines empirically the factors that influence and builds

customer loyalty in a technology-based remote service, which typically lacks human interaction. This study will advance our understanding of these highly interrelated constructs and their linkage to loyalty and long-term provider-customer relationship.

4. Methodology

To study the relationship between the different constructs in reference to technology-based remote services the constructs must be defined and measured. So the study was designed in two stages.

4.1. Development of the Measurement Scale

Stage one was to develop and refine the test instrument for measurement. In this stage, first   multi-item measurement scales to measure the different constructs were developed. Scales used in different studies were considered for choosing the items of the multi-item scales to measure the constructs, keeping in mind the relevance of technology-based services. First an extensive list of items was prepared for each of the constructs covering all the underlying dimensions. These were mainly adapted from prior studies to ensure content validity. Few items were added and modified to fit the requirement of the present technology-based services study. The scales developed to measure most of the constructs were having sub-scales of the main-items (Hair, Black, & Babin, et al., 2007).

   The perceived value construct was measured by a 13-item scale. The main items of the scale to measure the construct, perceived value, covers the concepts of functional, social, emotional, and price factors, each have a sub-scale. (Punniiyamoorthy & Mohanraj, 2007; Sweeney & Sontar, 2001; Lassar, Mittal, & Sharma, 1995). Satisfaction is the expectations of the customer being fulfilled. Here in this study the overall satisfaction was measured by a 6-item scale. (Javedein, Khanhari, & Estiri, 2008; Luran, & Lin, 2003, Wang, Itang, 2001; Doll & Torkzadeh, 1988).Three main items were selected to measure the construct, trust - integrity, competence, and dependability (Sudhakar, 2006; Gefen, Karahanna, & Straub, 2003; Mcknight, Chowdhury, & Kacmar, 2002; Morgan & Hunt,1994). Each of the main item was measured by a sub-scale of three to four items each. Commitment was measured by a 10-item scale. The main items of the commitment scale are affective and continuance commitment (Luran & Lin, 2003; Grunig & Hon, 1999; Pritchard, Havitz, & Howard, 1999). Loyalty is just not repeat purchase, but there are several dimensions to it. The main items of the 14-item loyalty scale represented the cognitive, attitudinal, and behavioural dimensions of loyalty (Sudhakar, 2006; Chaudhuri & Holbrook,

2001).

For refining the so developed scale, it was pre-tested among about 100 select ATM users. There were about 56 items in all for the five constructs. For all the items in the multi-item scale the ratings of the respondents were taken on rating scale (1-10), with anchors ranging from "strongly disagree' to 'strongly agree". The quality and adequacy of the measurement model was assessed by investigating the validity and reliability of the model. Reliability was evaluated by assessing internal consistency of the items representing each construct using Cronbach's alpha. The alpha values of perceived value is 0.895, satisfaction is 0.921, trust is 0.939, commitment is 0.908, and loyalty is 0.929. This indicates that coefficient alphas of all the five constructs were above the recommended threshold, 0.70 (Nunnally, 1979). The item-to-total correlations were analyzed and few items with low scores were deleted. Thus the scale so developed would produce a measure which is content or face valid and reliable.

A Confirmatory factor analysis (CFA) was done to evaluate construct validity regarding convergent and discriminate validity. CFA was used to test the adequacy of the measurement model using LISREL 8.25 (Joreskog & Soborn, 1989, 1993).

Table 1

Chi-square	df	p-value	RMSEA	GFI	NFI	CFI
1389.42	445	0.000	0.097	0.91	0.93	0.94

The results indicate reasonable overall fit between the model and the observed data (Table 1). The assessment of the model fit was based on multiple criterion; $\chi2$, df, the root mean square Error of Approximation (RMSEA), the Goodness of fit Index (GFI), Normed Fit Index (NFI), and Comparative fit index (CFI). As shown in Table 1 all the criteria fall in the recommended range, like GFI, CFI AND NFI exceeds 0.90 threshold levels and RMSEA is less than 0.5 (Bryne 2001; Hair et al., 1995). All the statistical values of the final measurement model indicated that the model fitted well in representing the data thus indicating strong construct validity. Thus at the end of the stage one, reliable and valid scales for measuring the constructs were developed, including a 4-item perceived value scale, 6-item satisfaction scale, 3-item trust scale, 2-item commitment scale and 3-item loyalty scale, with a total of 47 sub-scale items. This completed the first stage of the study, which was followed by the second stage of data collection.

4.2.   Data Collection

A survey was conducted among respondents having an experience in using

technology-based services. As such services are not yet common and are still not being used by the public at large, a random sample of the population would likely result in a sample with a limited experience of technology-based services. Thus a population that was expected to use ATM was targeted for data collection and only those who can describe it in detail was considered to be an eligible respondent. Although the sample may not be truly representative of the national population, it addresses the needs of this study.

Data was collected from 580 respondents, out of which 21 had to be eliminated as the responses were incomplete, lacked detail description or was vague. The final sample was of 559 respondents were taken into consideration for the study. The above discussed rating scale was used as the main input for the questionnaire along with personal demographic information. This structured questionnaire was used for of data collection in the second stage

5. Data Analysis and Findings

The models are tested using a two-stage structural equation model. First, a Confirmatory Factor Analysis (CFA) was done to evaluate construct validity (Anderson & Gerbing, 1988). In the second stage, path analysis was performed to test the research hypotheses.

Table 2: Empirical results of the proposed mode.

Causal Path	Hypothesis	Path Coefficient	t-value	Assessment p-value < 0.01
Perceived Value →Satisfaction	H1	0.551	12.33	Sig
Satisfaction → Trust	H2a	0.760	14.57	Sig
Satisfaction → Commitment	H2b	0.494	6.84	Sig
Trust → Loyalty	H3a	0.643	15.81	Sig
Trust → Commitment	H3b	0.592	5.89	Sig
Commitment → Loyalty	H4	0.339	3.81	Sig

5.1. Path model and Hypothesis testing

The second step is evaluation of the structural model and is related to testing of hypotheses formulated previously in conceptual model.

Empirical results supported the conceptualized hypotheses as indicated in Table 2. The estimated structural paths are visualized in Figure 1 which shows the hypothesized relationships between the latent constructs and their corresponding standardized path coefficients.

Results show that of the proposed model supports all the hypotheses (H1, H2a,H2b,H3a,H3b and H4) . The t-values are all significant at $p < 0.01$ and the path coefficients values shows that all the proposed relationships are valid.

Perceived Value influences satisfaction and satisfaction leads to trust and commitment, which in turn influences loyalty. Trust also influences commitment.

6. Discussions

It can be seen that satisfaction is necessary but for long-term relationships but not the only factor. The path analysis diagram (Figure 1) shows that trust and commitment also play a very important role. Trust appears be the most important influencer of loyalty in technology-based services, in our study -- the ATM services of banks.

Trust influences loyalty directly and also indirectly through commitment. The integrity and competence dimensions of trust influences attitudinal loyalty (Day, 1969), so it is observed that trust influences loyalty directly (0.643). The dependence dimension of trust and leads to repeat purchase intention of commitment (0.592). Thus we see that trust also influences commitment.

As the people-based interactions are not there in ATM services of banks, the trust on the service provider is derived from the overall satisfaction of the service performance (0760). Thus satisfaction builds trust. The feeling of satisfaction also influences the continuing involvement with the service provider thus leading to commitment (0.494). Commitment of purchase intentions thus lead to behavioral loyalty (0.339) (Day, 1969).

Evaluation of perceived benefits vis-à-vis the cost (time, effort and money) of obtaining the service is perceived value. Perceived value influences the expectations of the customer about the service performance and when expectations are met it leads to satisfaction (0.551).

It is observed from the path diagram that the steps of the loyalty ladder -- satisfaction, trust, commitment and loyalty (Wu, 2008) are not hierarchical, instead they influence each other also. Satisfaction influences both trust and commitment and trust also influences loyalty directly along with commitment. Thus it gives rise to a more complex network of relationships which needs to be considered while adopting strategies for customer relationships management.

Managers must realize that satisfaction, commitment and trust will bring customer loyalty as suggested by the proposed model, but these constructs are not exclusive by themselves. So while developing strategies an integrated approach must be adopted.
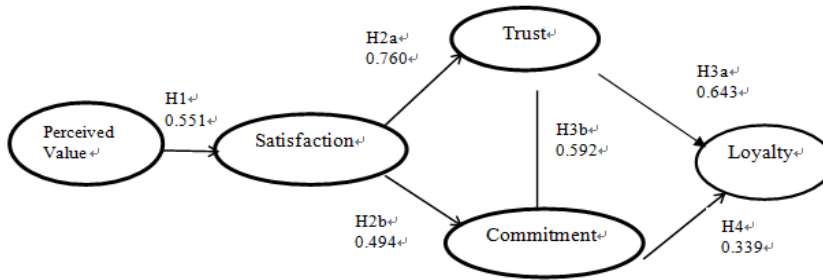
Figure : 1   Path Diagram of Loyalty Relationships

Fig.1: Path diagram of loyalty relationships.

7. Conclusions

This study has attempted to validate empirically proposed theoretical relationships into the newly emerging area of technology-based ATM banking services. The results suggest that perceived value, trust, commitment, and satisfaction are separate constructs that combine to determine loyalty. These constructs are interrelated, so loyalty towards the service can be achieved by appropriate management of perceived value, satisfaction, trust and commitment in an integrated manner. Thus the management should focus its attention on development of these internal processes.

In order to increase loyalty and commitment it is important for customer loyalty managers to make their technology-based remote service a 'satisfying' brand, toward which customers have an overall favorable disposition. Creating and maintaining customer satisfaction through its antecedents would be an appropriate strategy. The dimensions of perceived value, functional quality, technical quality, social and emotional factors along with price are the antecedents for satisfaction. Thus managers need to pay heed to all these tangible and intangible factors to achieve satisfaction. Managers should understand and accordingly design the technology-based remote services encounters, from the first exposure to technology through purchase to delivery and beyond, as the case may be, because customer's remote self-service experience influences customer satisfaction. (Meuter et al., 2000; Sur, 2007).

To build trusting beliefs, strategies to develop perception of competence and integrity about the technology-based service are required. To do this the service delivery process must be user-friendly and consistent, so that dependence and trust on the service would develop. The emotional and social dimensions of perceived value also should not be neglected. In fact, satisfaction of these

factors leads to commitment.

ATM users are also using people-based forms of service delivery of the bank, which influence their perceived value of the overall service performance of the bank. It also influences the trust beliefs of integrity, competence and dependability about the service. These perceptions and beliefs get translated for their technology-based service delivery to some extent. So we find that direct influence of trust on loyalty is high. Functional features and emotional factors of perceived value have a direct effect on satisfaction and loyalty.

These findings provide several implications to Customer Relationship Management process and particularly to loyalty management in technology-based remote services. The use of ATM is rising at a very fast pace. So banks have to design strategies to retain their customers and make them more loyal to ATM services. This can be achieved by building trust and improving the perceived value. Trust can be improved by making the ATM services more dependable and satisfying. The technological process of service delivery needs to be perfect, always and every time, which would positively influence the trusting beliefs. It can improve the integrity by providing the services it has promised successfully. The service provider has to prove its competence by continuously improving the design of service delivery process adding more and more customer oriented features of the technology-based service.

Perceived value of the ATM services of the bank can be improved by ensuring reliable and credible services of consistent quality, providing appealing technological facilities and easy-to-use features like, specialized machines, embedded with biometric devices for authentication, using local language on a graphical user interface. The perceived value can also be improved by promotional means, like, advertisements promoting the image of the ATM services. The communication towards the customers can also focus on social and emotional factors and establishing a psychological association between the customers and the service brand leading to commitment.

The results of this study have brought about a clear understanding of these interrelated constructs and the proposed model has revealed the underlying dynamics of these constructs. These results give a conceptual understanding not only for academicians but also encourage managers to integrate all the concepts of perceived value, trust, commitment, satisfaction and loyalty into present customer loyalty valuation techniques and help business managers formulate effective strategies, to identify and manage channels of service delivery for increasing profitability and growth in this competitive market.

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