Measuring moderating effects of service recovery and CRM on consumer trust, repatronization and advocacy with distributive variation of the same across recovery zone-of-tolerance (RZOT)

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Abstract

Service firms are prone to encounter service failures due to certain inherent criticalities of services related to its transaction and quality perception. As a strategic response, service recovery becomes almost imperative in such cases. To increase the probability of registering zero-defective services, service firms have adopted customer relationship management (CRM) which has been presumed to equip them with pro-customer business analytics. The objective of this paper is to assess the moderating effects of service recovery and CRM dimensional performance on behavioural intents namely customer trust-repatronization-customer advocacy link with a novel approach of recovery zone of tolerance (RZOT), which has been conceptualized to reveal a varying degree of acceptance of service recovery under the influence of service recovery initiated and CRM dimensional performance. The study has been restricted to the banking sector with cross-sectional primary data. Appropriate methodology was applied and necessary statistical methods were applied to identify the causal relationships between the constructs. The results confirmed the moderating capability of service recovery and CRM dimensional performance on behavioural aspects of customers under study. The RZOT concept also exhibited considerable variance across layers. The default research model holds good and was found to be robust when structural equation modelling technique was applied.

Key words: service, recovery, customer relationship management, behavioural intents, bank, recovery-zone-of-tolerance

1. Introduction

Research has described service failure as one of the 'pushing determinant' that, if handled improperly, drives a customer's switching behaviour (Roos, 1999); thus effective service recovery satisfaction has become an emerging area of interest in an effort to minimize failures and retain customers. Service failures are considered to be detrimental to a firm's sustainability as it may trigger customer defection (Folkes, 1984; Folkes and Kotsos, 1986, Maxham III, 2001) resulting in increase in cost with respect to acquisition of new customers (Hart et al., 1990) and receding profit line (Kelley and Davis, 1994; Smith et al, 1998). Zemke (1999) observed that a dissatisfied customer may influence 10-20 prospects by relating his/her experience in encountering service failure and thus minimizing the prospects' patronizing decision of the service provider. Therefore, for a service provider, responding to a service failure – termed as 'service recovery', must receive top-priority. Researchers found empirical evidence that effective service recovery may generate a higher level of satisfaction (McCollough and Bharadwaj, 1992) popularly phrased as 'recovery-paradox' (McCollough et al., 2000; Smith et al., 1998; Tax et al., 1998). For a service firm, customer advocacy is absolutely critical as it plays the role of 'physical evidence' in detangibilizing a service and ensuring new customer acquisition. Till date, not much of research evidence is available which can correlate customer advocacy with other marketing initiatives. Service failures and subsequent initiatives to recover from such failures may be affected by the zone-of-tolerance of an individual customer which centres around the concept of a buffer of acceptable service quality with upper and lower limits.

For financial service providers like banks, error-free service delivery is an absolute must as customers are sensitive to transactions. Therefore this study, which attempts to explore the moderating effects of perceived service recovery and zone-of-tolerance of customers on some specific behavioural manifestations namely customer trust, repatronization intention and customer advocacy in the context of the banking sector of India, should prove to be quite significant not only for the researchers but also for the bankers.

The objectives of the study were (a) to assess the relationship between the constructs, (b) to assess whether to identify the moderating effects, if any, of perceived service recovery and customer relationship management on customer trust-repatronization-customer advocacy link and (c) to test the robustness of the proposed research model.

The layout of the paper following the introduction has been restricted to 'review of literature and formulation of hypotheses and research model', 'methodology with factor constructs and reliability and validity' data-analysis and interpretation' and 'conclusion with managerial implications and future scope'.

2. Review of literature

Service failures are likely to occur during service transactions and are sensitive to the behavioural intents of the customers (Maxham III, 2001). If not addressed promptly, these failures can prove to be extremely costly for firms, as customersoften switch providers after such experiences (Folkes, 1984; Folkes and Kotsos, 1986). Service recovery expectations are defined as customers' belief about the level of effort that is appropriate and justified after a perceived service failure (Zeithaml, Berry and Parasuraman, 1993, cited by Hess et al, 2003). Service recovery is a significant factor to retain the customer inspite of a

perceived service failure (Zeithaml, Bitner and Gremler, 2006). Empirical research work revealed a strong and positive correlation with customer satisfaction (Boshoff, 1997; Andreassen, 2000; McCollough, Berry and Yadav, 2000; Hess, Ganeshan and Klein, 2003, Weun, Beatty and Jones, 2004), customer loyalty (de Ruyter and Wetzler, 2000; Buttle and Burton, 2002) and customer advocacy (Spreng, Harrell and Mackoy, 1995). A number of researchers have proposed the possible service recovery strategies following a service failure. Zeithaml, Bitner and Gremler (2006) proposed eight possible service recovery initiatives namely treating customers fairly, providing adequate and justifiable explanations for possible failure, acting promptly, encouraging and tracking complaints, making the service failure-proof, learning from customers' experience, learning from recovery experience and nurturing relationships with customers. De Ruyter and Wetzels (2000), Yim, Gu, Chan and Tse (2003), Wirtz and Mattila (2004), Mattila and Cranage (2005), Hocutt, Bowers and Donavan (2006) have identified apology and compensation as two key factors in service recovery. Error in service delivery has been considered almost inevitable by the researchers who have also admitted that zero-error service is a utopia (Hess, Ganesan and Klein, 2003). Grönroos (2006) observed that errors made in service delivery would result in both emotional and factual loss as a result of which psychological and tangible service recovery is a critical requirement for service firms (Schweikhart, Strasser and Kennedy, 1993; Kenney, 1995; Miller, Craighead and Karwan, 2000). Customers experiencing service failures revert to a complaint mechanism. Morgan and Hunt (1994) were of the opinion that effective complaint handling determines successful and sustainable customer relationships. For the service providers, complaints offer an opportunity to redeem the relationship by initiating rectifications in service delivery mechanisms, while for the customers, encountering a service failure, complaint behaviour signals the process of reestablishment of the relationship by providing an opportunity to the service provider to refabricate their service offers (DeWitt, Nguyen and Marshall, 2008). Grönroos (1988) conceptualized service recovery as the action taken by a service provider in response to a service failure as perceived by the customers. Prior studies recognised service recovery as a dynamic process of initiation of marketing activities to regain customer trust following a perceived failure in service to meet customer expectation or zone-of-tolerance. As a measure to recuperate customer trust and satisfaction, service providers may adopt various sustainable recovery strategies (Davidow, 2000; Hess, Ganesan and Klein, 2003; Johnston and Michel, 2008; Luo and Homberg, 2007, 2008; Rust and Chung, 2006, Yousafzai, Pallister and Foxall, 2005; Maxham and Netemeyer, 2002). A number of studies revealed that successful service recovery has a role to play in ensuring customer trust, satisfaction and loyalty (Blodgett, Hill and Tax, 1997; Maxham and Netemeyer, 2000, 2003; Smith, Bolton and Wagner, 1999). Literature also supports the link between successful service recovery and customer relationships (Maxham and Netemeyer, 2002; Tax, Brown and Chandrasekharan, 1998). One of the major business processes that has gained momentum towards its application in heterogeneity dominated service industry to revoke service failure and subsequent initiation of service recovery, is customer relationship management (CRM).

Customer relationship management (CRM)has reoriented customer attitudes, perceptions and behavioural manifestations in the context of their apprehension and expectation (Peppers and Rogers,

2004). Conceptually, CRM embarks upon three basic foundations of marketing management: (a) customer orientation, (b) relationship marketing and (c) database marketing (Yim et al, 2004). CRM, as a business analytical process gained momentum among academicians and corporate houses (Gruen et al, 2000; Rigby and Ledingham, 2004; Srivastava et al, 1999; Thomas et al, 2004) in terms of empirical exploration of its potentiality to be implemented. CRM has been widely used by the sales personnel in augmenting their relationship with customers (Widmier et al, 2002) to improve sales forecasting, lead management and customization (Rigby and Ledingham, 2004). Yim (2002) provided conceptual clarity of CRM by synthesizing the literatures (Crosby and Johnson, 2001; Fox and Stead, 2001; Ryals and Knox, 2001) pertaining to marketing, technology and management and came out with four critical areas: (a) strategy, (b) people, (c) processes and (d) technology. Day (2003) confirmed that the key focal factors identified by Yim (2002) can create a synergistic relationship value when they work in unison (rather than in isolation), thereby conforming to the objective and realm of CRM. Study of extant literature revealed that implementation of CRM necessarily involved four specific activities: (a) focusing on key customers (Schmid and Weber, 1998; Srivastava et al, 1999; Sheth et al, 2000; Ryals and Knox, 2001; Armstrong and Kotler, 2003; Vandermerwe, 2004; Srinivasan et al, 2002, Jain and Singh, 2002) which encompassed the view of a customer-centric organizational structure with dyadic interactive points targeted towards identification of key or valued customers through lifetime value computations, (b) organizing around CRM (Brown, 2000; Homburg et al, 2000; Ahmed and Rafique, 2003) which emphasized on customer-centric organizational functions with an objective to ensure value proposition to customers, (c) managing knowledge (Peppard, 2000; , Freeland, 2003; Stefanou et al, 2003; Stringfellow et al, 2004, Yim et al, 2004; Plessis and Boon, 2004; Brohman et al, 2003) whereby information about the customer is effectively transformed into knowledge about the customer, and disseminated across the organizational hierarchy which will equip salespeople with better understanding of customers' requirements and (d) adopting CRM-based technology (Butler, 2000; Pepperd, 2000; Vrechopoulos, 2004; Widmier et al, 2002) to optimize communication with customers, accurate service delivery with back-up and supportive information, managing customer-knowledge by data warehousing and data mining, and providing customized services. Literature has revealed that only a few take on CRM performance measurement based on CRM process and dimensionality ((e.g., Brewton & Schiemann, 2003; Jain, Jain, & Dhar, 2003; Kim,Suh, & Hwang, 2003; Lindgreen et al., 2006; Zablah et al, 2004). Abdullateef et al (2010) concentrated on four dimensions of CRM namely customer orientation, CRM organization, knowledge management and CRM technology to identify caller satisfaction in contact centres. Successful implementation of CRM has modulated the behavioural posture of customers in favour of the service providers following service failures and was also instrumental in justifying the 'service recovery paradox'.

Research has established customer satisfaction as a mediator towards explaining the relationship between service recovery and post purchase behaviour, namely customer trust and loyalty, and customer advocacy (Wirtz and Matilla, 2004). Further to this, empirical works have linked satisfied output of service recovery initiative to customer trust and loyalty (Boshoff, 2005; Olsen and Johnson, 2003; de Ruyter and Wetzels, 2000) and customer loyalty has been conceptualized

as consumers' readiness towards repatronization and inhibition towards alternative service providers (Arnould, Price and Zinkham, 2002). Customer trust has been defined by Moorman, Deshpande and Zaltman (1993) as willingness to rely on an exchange partner in whom one has confidence and is regarded as a positive catalyst in buyer-seller relationship (Schurr and Ozanne, 1985). Morgan and Hunt (1994) treated trust as a multidimensional construct in the research of 'The commitment–trust theory of relationship marketing'. In the service recovery context, a customer's trust reflects the willingness to accept susceptibility of an anticipated service failure (Dunn and Schweitzer, 2005). Dewitt, Nguyen and Marshall (2008) proved that customer trust plays a mediating role to link perceived justice and loyalty in a service recovery set-up. Trust has been considered to be a pivotal factor in customer relationship since its significance was emphasized by Dwyer et al. (1987). Subsequent research works further revealed that relationship marketing is built on customer trust (Crosby et al., 1990; Morgan and Hunt, 1994). In a study conducted by Shankar, Urban and Sultan (2002), it was revealed that customer trust for automated transactions is critical for electronic format of business too. Reliable fulfilment of demand and provision of receiving unbiased information were considered to be factor critical for customer trust (Urban et al, 2000). Customer trust has also been conceptualized as a reflection of customer satisfaction and researchers have also linked successful service recovery to customer satisfaction on the ground of customers' perception of a firm's fair effort in ensuring recovery (McCollough and Berry, 1996; Singh and Wilkis, 1996). In a study conducted by Maxham (2001), it was found that effective service recoveries can augment customers' perceptions of satisfaction, intent to repatronize and initiating customer advocacy. With the gradual penetration of technology in banking service, a bank's service quality may well be measured in terms of personal support (Urban and Hauser, 1993). In one of the studies conducted by Urban et al (2000), it was observed that trust-based marketing is one of the critical issues to be addressed in determining marketing strategies.

Empirical evidence was found to link post recovery satisfaction with positive word-of-mouth communications or customer advocacy (Wirtz and Mattila, 2004). Spreng, Harrell and Mackoy (1995) reported service recovery satisfaction to be instrumental in stimulating positive word-of-mouth and intent to repurchase. Customer advocacy, often referred to as organizational-citizenship-behaviour (OCB), reflects the customers' role as an employee in the context of service transaction, and was conceptualized by the researchers as a form of customer value-adding strategy (Lawer and Knox, 2006; Urban, 2004, 2005). Maxham (2001) indicated that customer advocacy was important to word-of-mouth receivers as they are exposed to business information and attitude of the service firms. Furthermore, the researchers could establish relationship between post recovery satisfaction and repatronization too (Stauss, 2002). In a study made by Pai, Yeh and Lin (2012), it was found that post recovery satisfaction would reduce negative word-of-mouth and increase the probability of repatronization. On the other hand, dissatisfied customers with negative perception of service recovery are likely to switch brands and engage in negative word-of-mouth (Evans et al, 2006; Peter and Olson, 2005). Loyal customers with a substantially high level of trust were also considered to be a good source for spreading favourable word-of-mouth patronization (Evans et al, 2006).

Zone of tolerance (ZOT) has been proved to be a useful tool in incorporating service quality perceptions and different levels of expectations (Parasuraman et al, 1991b, Walker and Baker, 2000) as it indicates a bi-polar buffer with 'adequate-level' and 'desired-level' at its two extremities. Service recovery is required if the perceived service quality comes below the adequate level triggering customer dissatisfaction and grievance. ZOT also proved to be an effective approach in diagnosing changes in the relationship between service quality and its outcomes (Liljander & Strandvik, 1993, Zeithaml, 1996; Teas & DeCarlo, 2004). Although there is a dearth of empirical research evidence on the changes in the service quality-behavioural intention both within and outside ZOT (Zeithaml et al, 1996, Teas & DeCarlo, 2004), researchers have supported the ZOT model and its superiority towards analyzing perceived service quality (Voss et al, 1998; Zeithaml, 2000, Teas & DeCarlo, 2004, Walker and Baker, 2000). ZOT can be a significant tool too for identifying the degree of effort required to ensure satisfactory service recovery as customers with perceived service quality closer to the desired level would command a greater effort to recover from a failure and can be re-nomenclated as recovery zone-of-tolerance (RZOT) with minimum acceptable recovery effort and desired level of recovery effort.

2.1 Research gap identified

Literature remained inconclusive regarding the conceptualization and measurement of service-recovery zone-of-tolerance and its probable moderating effects in combination with CRM dimensional performance on behavioural manifestation of customers following service recovery.

2.2 Formulation of hypotheses and research model framework

Apropos to the literature reviewed, the researchers hypothesized that:

H_1: Service recovery (SR) will have an impact on customer trust (CT), repatronization (REP) and customer advocacy (CA).

H_2: CRM dimensional performance (CRMD) will affect customer trust (CT), repatronization (REP) and customer advocacy (CA).

H_3: Customer trust (CT), repatronization (REP) and customer advocacy (CA) will change across the three levels of ZOT (within ZOT, above ZOT and below ZOT) under the impact of PSR and CRMD.

The researchers expected and therefore intended to identify and assess the moderating roles of service recovery and zone-of-tolerance on customer trust-repatronization customer advocacy link. The researchers further advocated that different degrees of service recovery e.g. superior, moderate and inferior, and different tolerance ranges of ZOT e.g. broad-band and narrow-band will share a differential relationship with the triple variable link. Therefore, it was hypothesized that:

H_4: Higher perceived service recovery will have a stronger effect of CRMD on customer trust-repatronization-customer advocacy link.

The researchers also intended to assess the moderating role of CRM dimensional performance on the relationship between customer trust, repatronization and customer advocacy.

Therefore it was hypothesized that:

H_5: Superior level of CRM will have a stronger effect of perceived service recovery on customer trust-repatronization-customer advocacy link.

Appropriate to the literature reviewed and hypotheses formulated thereof, the researchers proposed the following model:

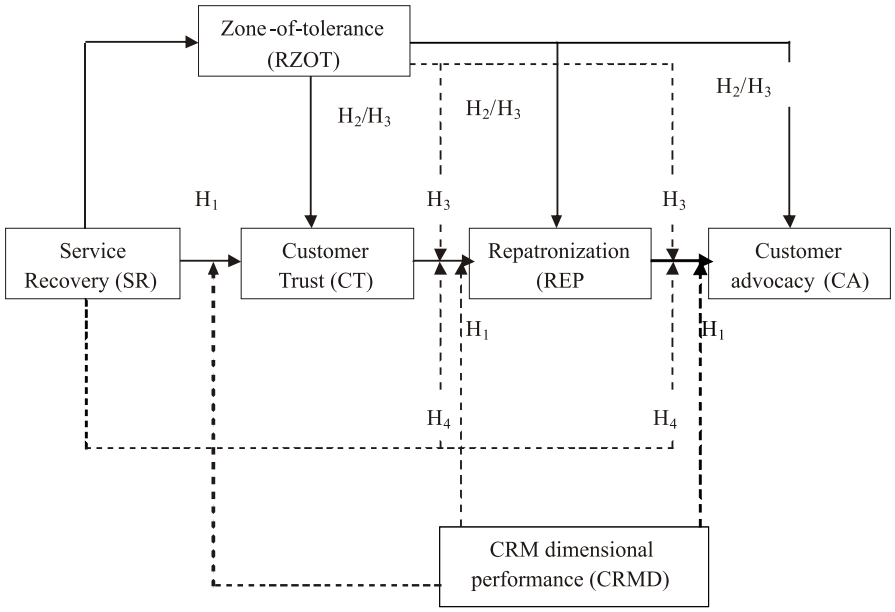

Fig.1: Proposed research model

3. Methodology

The study comprised of two phases. Phase-I involved a pilot study to refine the test instrument with rectification of question ambiguity, refinement of research protocol and confirmation of scale reliability given special emphasis (Teijlingen and Hundley, 2001). FGI was administered. Cronbach's α coefficient (>0.7) established scale reliability (Nunnally and Bernstein, 1994). The structured questionnaire thus obtained after refinement contained seven sections. Section-1A asked the respondents about the service recovery/remedial efforts initiated by their service provider following a perceived service failure while section-1B was designed to assess their perception of service recovery in the context of the degree of effort initiated by the service provider and thus categorized into 'high' [1], 'moderate' [2] and 'low' [3]. Section-2 was intended to generate response withregardto perceived zone-of-tolerance [ZOT] of respondents in the context of service received by them. Section-3, section-4 and section-5 asked questions about customer trust, repatronization intention and customer advocacy on the basis of perceived service recovery. Section-6 was designed to generate the demographic profile of the respondents. Section-7 was targeted to the bankers and it attempted to generate response with regard to CRM deployment and its impact on customer services. The study was carried out in the banking sector involving the largest public sector bank of India namely State Bank of India (SBI) across 10 cities in the southern part of West Bengal (Asansol, Durgapur, Ranigunj, Andal, Burdwan, Barakar, Bolpur, Suri, Rampurhat and Saithia) involving 25 branches. The second phase of the cross-sectional study was conducted by using the structured questionnaire. Systematic simple random sampling technique was administered as every seventh customer coming out of the bank premise was requested to fillup the questionnaire. A total number of 2,000 questionnaires were used which generated 1,589 usable responses with a response rate of 79.45% (approximately).

3.1 Factor constructs measurement

To develop a measure for perception of service recovery, the 29 item scale used by Kau and Loh (2006) (adopted from Bies and Shapiro, 1987; Blodgett et al., 1997; Bitner et al., 1990; Parasuraman et al., 1988) was used. Respondents' perception of service recovery was measured and using the same items, respondents were also asked to indicate their minimum and desired service expectations as was used by Zeithaml et. al. (1996). These two indicators represent the lower and upper bounds of the service recovery ZOT (RZOT). The study used a 3-item scale for 'customer trust' adopted from DeWitt, Nguyen and Marshall (2008) and Kau and Loh (2006). The measurement of repatronization used 4 items (Maxham-III, 2001) while conceptualization of customer advocacy used 4 items also (Maxham-III, 2001). A 7-point Likert scale (Alkibisi and Lind, 2011) was used for sections 1, 3, 4 and 5. For section 3, a 9-point Likert scale was used whereby '9' denoted 'cannot do without it' on one extreme and on the other extreme '1' represented 'can do without it'. The upper-bound [desired level] of ZOT was represented by '9'/ '8' while the lower-bound [adequate level] was represented by '7'/ '6'. To develop a measure for CRM performance, three CRM process elements, namely CRM initiation, CRM maintenance, and CRM termination (Reinartz, Krafft, &Hoyer, 2004) and four CRM dimensions, namely customer orientation, CRM organization, knowledge management, and CRM technology (Abdullateef, Mokhtar and Yousoff, 2010) were identified for the study. The CRM performance items thus obtained were subsequently modified to suit the study.

3.2 Reliability and validity test

Exploratory factor analysis (EFA) was deployed using the principal axis factoring procedure with orthogonal rotation through VARIMAX process with an objective to assess the reliability and validity of all factor constructs. Secondly confirmatory factor analysis (CFA) was used to understand the convergence, discriminant validity and dimensionality for each construct to determine whether all the items measure the construct adequately as they had been assigned for. Finally, LISREL 8.80 programme was used to conduct the Structural Equation Modelling (SEM) and Maximum Likelihood Estimation (MLE) was applied to estimate the CFA models.

4. Data analysis and interpretation

The demographic data collected from the respondents were presented in Table-1

Table-1: Demographic data of the respondents

Demographic Variables	Factors	Frequ	%
Gender	Male	1069	67.27%
	Female	522	32.73%
Age	≤ 21 years	38	2.41%
	22-32 years	497	31.27%
	33-43 years	748	47.07%
	44-54 years	247	15.54%
	≥ 55 years	59	3.71%
Income	≤ Rs. 14999.00	132	8.30%
	Rs. 15000-Rs. 24999.00	997	62.74%
	Rs. 25000-Rs. 44999.00	349	21.96%
	≥ Rs. 45000.00	111	7.00%
Occupation	Service [govt./prv]	903	56.82%
	Self employed	452	28.44%
	Professionals	54	3.42%
	Student	76	4.78%
	Housewives	104	6.54%
Educational qualification	High school	18	1.15%
	Graduate	1213	76.33%
	Postgraduate	332	20.89%
	Doctorate & others (CA, fel low etc)	26	1.63%

To assess the reliability and validity of the constructs, the researchers applied exploratory factor analysis (EFA) using principal axis factoring procedure with orthogonal rotation through VARIMAX process. The results of the EFA are displayed in Table-2. The Cronbach's Coefficient alpha was found significant enough, as it measured>.7 (Nunnally and Bernstein, 1994) for all constructs and therefore it is reasonable to conclude that the internal consistency of the instruments used were adequate. Each accepted construct displayed an acceptable construct reliability with estimates well over .6 (Hair, Anderson, Tatham and William, 1998). Further to this, the average variance extracted (AVE) surpassed the minimum requirement of .5 (Haier et al., 1998). The KMO measure of sample adequacy (0.925) indicated a high-shared variance and a relatively low uniqueness in variance (Kaiser and Cerny, 1979). Barlett's sphericity

test (Chi-square=1369.109, p<0.001) indicated that the distribution is ellipsoid and amenable to data reduction (Cooper and Schindler, 1998).

The initial 29 items related to perceived service recovery were reduced to 12 items with items having factor loading scores of <0.6 being discarded. The items related to repatronization were limited to 2, while the 4-item customer advocacy scale revealed significant factor loading for all its items and so did the customer-trust scale (3-item). The CRM dimensional were loaded on 20 items.

Table-2: Measurement of reliability and validity of the variables

Items	FL	t	α	AVE
Perceived Service Recovery (PSR)				
SBI employees explain the reason/s for service failure (PSR1)	0.701	27.009	.931	0.849
SBI employees listen to my problems in accessing services etc. (PSR2)	0.711	29.096	.931	0.849
SBI employees seem to be very much concerned about my problems(PSR3)	0.698	20.873	.931	0.849
SBI was prompt to offer an apology for the service failure encountered (PSR4)	0.724	31.653	.931	0.849
SBI assures of a quick remedy to the service failure encountered (PSR5)	0.658	20.075	.931	0.849
SBI offers zero-cost transaction while fixing the service failure (PSR6)	0.660	22.842	.931	0.849
SBI offers future incentives for the customers encountering service failure (PSR7)	0.644	19.632	.931	0.849
SBI has installed a system to recover from service failure (PSR8)	0.629	16.421	.931	0.849
SBI employees are knowledgeable enough to ensure service recovery(PSR9)	0.659	20.528	.931	0.849
SBI ensures recovery of service at the committed time (PSR10)	0.699	27.321	.931	0.849
SBI communicates with me at every stage of service failure, service recovery and post recovery (PSR11)	0.638	18.100	.931	0.849
SBI strictly monitors the post-recovery phase of service failure (PSR12)	0.661	22.101	.931	0.849
Customer trust (CT)				
SBI can be banked upon to initiate recovery facing a service failure (CT1)	0.769	27.09	.925	0.801
SBI can be relied on to keep its commitment to recover service (CT2)	0.731	25.327	.925	0.801
SBI puts customers' interest first (CT3)	0.774	28.405	.925	0.801
Repatronization (REP)				
I shall avail of SBI services at the post service recovery phase (REP1)	0.785	26.12	.944	0.872
I shall continue to avail of SBI services at the post service recovery phase (REP2)	0.801	32.576	.944	0.872
Customer advocacy (CA)				
I shall volunteer positive word-of-mouth advocacy about SBI's services (CA1)	0.717	15.095	.938	0.823
I shall recommend the services of SBI to anyone seeking guidance on banking services (CA2)	0.702	12.455	.938	0.823
I shall advocate trialrun of SBI services for customers of other banks (CA3)	0.854	29.084	.938	0.823

Items	FL	t	α	AVE
CRM dimensional performance (CRMD)				
Our organization establishes and monitors customer - centric performance standards at all customer touch points (CRMD1)	0.651	19.03	.937	0.852
Our organization has established clear business goals related to customer acquisition, development, retention and reactivation. (CRMD2)	0.672	22.33	.937	0.852
Our organization has the sales and marketing expertise and resources to succeed in CRM (CRMD3)	0.701	29.81	.937	0.852
Our employee training programme has been designed to develop the skills required for acquiring and deepening customer relationships. (CRMD4)	0.687	23.47	.937	0.852
Employee performance is measured and rewarded based on meeting customer needs and on successfully serving the customer. (CRMD5)	0.671	22.09	.937	0.852
Our organizational structure has been designed to foster customer centricity. (CRMD6)	0.665	26.731	.937	0.852
Our organization commits time and resources to manage customer relationships. (CRMD7)	0.672	27.623	.937	0.852
Our organization has apt softwares to serve our customers. (CRMD8)	0.631	19.056	.937	0.852
Our organization has the required hardwares to serve our customers. (CRMD9)	0.629	18.167	.937	0.852
Our organization has the proper technical personnel to provide technical support to our CRM executives. (CRMD10)	0.648	20.776	.937	0.852
Our organization maintains a comprehensive database of our customers. (CRMD11)	0.717	31.009	.937	0.852
Individual customer information is available at every point of contact (CRMD12)	0.728	32.098	.937	0.852
Our organization provides customized services to our key customers. (CRMD13)	0.683	29.086	.937	0.852
Our organization communicates with key customers to customize our offerings on demand. (CRMD14)	0.679	28.993	.937	0.852
Our organization makes an effort to find out what the key customer requirements are (CRMD15)	0.649	21.093	.937	0.852
Our employees make coordinated efforts to deliver customize service once a customer places a demand for such service (CRMD16)	0.734	35.259	.937	0.852
Each and every employee of our organization treats customers with great care. (CRMD17)	0.721	32.145	.937	0.852
Our organization provides channels to enable ongoing two -way communication between our key customers and us. (CRMD18)	0.654	22.453	.937	0.852
Our customers are informed about when exactly services will be performed (CRMD19)	0.619	14.234	.937	0.852
Our organization fully understands the requirements of our key customers and us. (CRMD20)	0.627	18.425	.937	0.852
KMO	0.925			
Barlett's sphericity	Chi-square	1369.109		
	df	731		
	Sig.	.000		

**FL: factor loadings, t: t-value, α: Cronbach's α, AVE: average variance extracted

Bivariate correlation was obtained to understand the correlationship between perceived service recovery, zone-of-tolerance, customer trust, repatronization and customer advocacy. As a measure of the constructs, composite means were obtained for the same. The results (Table-3) confirmed that perceived service recovery (PSR) shared a strong and positive correlation with service-recovery zone-of-tolerance (RZOT) (r=.201**, p<.001), customer trust (CT) (r=.297**, p<.001), repatronization (REP) intention (r=.331**, p<.001) and customer advocacy (CA) (r=.154**, p<.001). RZOT exhibited a moderate correlationship with CT (r=.109*, p<.005) and CA (r=.098*, p<.005) but did not establish relationship with repatronization intention. Customer trust (CA) shared a strong and positive correlationship with repatronization (r=.185**, p<.001) and customer advocacy (r=.205**, p<.001). Repatronization confirmed correlationship with customer advocacy (r=.266**, p<.001). CRM dimensional performance (CRMD) exhibited a strong and positive relationship with perceived service recovery ((r=.263**, p<.001), customer trust (r=.164**, p<.001) and repatronization (r=.119**, p<.001) while it shared moderate correlation with service-recovery zone of tolerance (RZOT) (r=.097*, p<.005) and customer advocacy (r=.081*, p<.005).The results of bivariate correlation provided support for H_1, and H_2.

Table-3: Bivariate correlation between the constructs under study

Variables	Perceived service recovery (PSR)	Service-recovery Zone-of-tolerance (RZOT)	Customer trust (CT)	Repatronization (REP)	Customer advocacy (CA)	CRM dimensional performance (CRMD)
Perceived service recovery (PSR)	1					
Service-recovery Zone-of-tolerance (RZOT)	0.201**	1				
Customer trust (CT)	0.297**	0.109*	1			
Repatronization (REP)	0.331**	0.061	0.185**	1		
Customer advocacy (CA)	0.154**	0.098*	0.205**	0.266**	1	
CRM dimensional performance (CRMD)	0.263**	0.097*	0.164**	0.119**	0.081*	1

**Correlation significant at 0.01 level (2 tailed), *Correlation significant at 0.05 level (2-tailed)

Regression analysis was conducted by incorporating dummy variables, in line with Zeithaml et al.'s (1996) adoption of the same, to understand the changes in slopes in the variables e.g. customer trust, repatronization and customer advocacy across the three zones of RZOT. Dummy variables are generally used to indicate if an individual customer's perception of service recovery was outside (above/below) the same customer's RZOT. The following regression equation indicated the value of d_1=1, if perceived service recovery (PSR) is less than the adequate expectation, d_2=1, if PSR exceeds the desired level. Therefore, the relationship between PSR and related variables (customer trust, repatronization and customer advocacy) across and beyond RZOT can be defined as:

$X_1/X_2/X_3 = \beta_0 + \beta_1(PSR*CRMD) + \beta_2(d_1*PSR*CRMD) + \beta_3(d_2*PSR*CRMD) + \varepsilon_1$

where,

X_1 = Customer trust

X_2 = Repatronization

X_3 = Customer advocacy

PSR = Perceived service recovery

d_1 = 1, when PSR, CRMD <adequate level, 0 otherwise

d_2 = 1, when PSR, CRMD >desired level, 0 otherwise

$\beta_1, \beta_2, \beta_3$ = unstandardized regression coefficients.

β_0 = constant in the equation

ε= error term

In this equation, the slope inside the RZOT is β_1, below RZOT is $\beta_1+\beta_2$ and above RZOT is $\beta_1+\beta_3$. Table-4 displays the regression results across the RZOT layers.

Table-4: Regression results across RZOT levels

Dependent variables	Independent& moderating variable-PSR& CRMD		
	Slope within the RZOT (β_1)	Slope below the RZOT ($\beta_1+\beta_2$)	Slope above the RZOT ($\beta_1+\beta_3$)
Customer trust	0.23**	-0.31**	0.28**
Repatronization	0.19**	-0.09*	0.18**
Customer advocacy	0.09*	-0.10*	0.37**

** indicates p<0.01, * indicates p<0.05

The results of the regression analysis (Table-4) indicate that the impact of PSR and CRMD is significantly high on customer trust (β=0.28**, p<0.01), repatronization (β=0.18**, p<0.01) and customer advocacy (β=0.37**, p<0.01) above the zone of tolerance and negative below the same(CT: β= - 0.31**, p<0.01; REP: β= -0.09*, p<0.05 and CA: β= -0.10*, p<0.05), while within the zone, the impact of PSR and CRMD on customer trust (β=0.23**, p<0.01) and repatronization (β=0.19**, p<0.01) was strong, and moderate on customer advocacy (β=0.09*, p<0.05). The results supported H_3.

Hierarchical regression analysis was deployed by considering the average (mean) values of the items for the factor constructs to understand the direct and the moderating effects of the independent variables on dependent variables. Three regression equations were developed: (a) considering customer trust (CT), (b) repatronization (REP) and (c) customer advocacy (CA) as the dependent variables. For providing empirical evidence to our hypotheses, we proposed an ordinary least square (OLS) regression for our dependent variables CT, REP and CA. The following models were constructed:

Regression equation-1

$CT = \beta_0 + \beta_1 * PSR + \beta_2 * CRMD + \beta_3 * PSR * CRMD + \varepsilon_i$

where, CT represented customer trust, PSR represented perceived service recovery andCRMD represented dimensional performance of CRM. PSR*CRMD represented binary interaction between perceived service recovery and dimensional performance of CRM.

Regression equation-2

$REP = \beta_0 + \beta_1 * CT + \beta_2 * PSR + \beta_3 * CRMD + \beta_4 * CT * PSR + \beta_5 * CT * CRMD + \beta_6 * PSR * CRMD\ \beta_7 * CT * PSR * CRMD + \varepsilon_i$

where REP represents repatronization and others have their own meanings as the first equation in the binary and ternary interaction.

Regression equation-3

$CA = \beta_0 + \beta_1 * CT + \beta_2 * REP + \beta_3 * PSR + \beta_4 * CRMD + \beta_5 * CT * PSR + \beta_6 * CT * CRMD + \beta_7 * REP * PSR + \beta_8 * REP * CRMD + \beta_9 * CT * PSR * CRMD + \beta_9 * CT * REP * PSR * CRMD + \varepsilon_i$

where CA represents customer advocacy and others have their own meanings as the first equation in the binary, ternary and quaternary interaction.

The regression models are displayed in Table-5 (for equation-1,2 and 3). For equations 1 and 2, three models were generated, and for equation 3, five regression models were established. Model 1 depicts the direct effects, model 2 and 3 represent the binary interaction, model 4 represents the ternary interaction and model 5 represents the quaternary interaction. Standardization was applied to avoid interference with regression coefficients arising out of Multi-collinearity between interaction variables (Irwin and McClellan, 2001; Aiken and West, 1991). The VIF (variance inflation factor) corresponding to each independent variable is less than 5, indicating that VIF is well within the acceptable limit of 10 (Ranaweera and Neely, 2003). The results reveal that Model-1 provided moderate to strong support for H_1 and H_2as PSR and CRMD were found to have a significant impact on customer trust (PSR: β = .208, t=18.73, p<0.01, CRMD: β = .321, t=21.32, p<0.01), repatronization (PSR: β = .215, t=16.78, p<0.01, CRMD: β = .121, t=9.02, p<0.01) and customer advocacy (PSR: β = .081, t=3.87, p<0.05). CRMD did not exhibit a significant association with CA.Results of model-1 also emphasize that CT has predictive power in predicting REP (β = .174, t=10.96, p<0.01) and CA (β = .176, t=8.71, p<0.01) while REP displayed a strong association with CA (β = .101, t=6.11, p<0.01). However, CRMD did not exhibit any significant direct impact on CA. Results of Model-2 and 3 supported H_4. The binary interaction between PSR and CRMD indicated that with the increase inPSR, the impact of CRMD on customer trust (β = .235, t=19.09, p<0.01), repatronization (β = .155, t=6.79, p<0.01)and customer advocacy (β = .097, t=4.29 p<0.05)will increase. Model 4 reveals the ternary interaction whereby it was established that repatronization decision will be augmented under influence of CRMD if perceived service recovery manages to impart a positive impact on customer trust (β = .227, t=15.47, p<0.01). Model 4 also established that CA will be strengthened under the influence of PSR if CRMD is of superior level (β = .263, t=16.48 p<0.01). Model 5 represents the only quaternary interaction suggesting that an increase in PSR will enhance the impact of CRMD, CT and REP on CA(β = .127, t=12.25 p<0.01). The binary, ternary and quaternary interaction supportedH_4 and H_5.

Table-5: Regression models testing the interaction effects (equation-1)

Independent Variables	Dependent variable: Customer Trust					
	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	VIF
PSR	.208/18.73/.00					2.091
CRMD	.321/21.32/.00					2.113
Binary interaction effects						
PSR*CRMD		.235/19.09/.00				2.173
Adjusted R^2	.573	.501				
F-value	117.21	98.69				
Independent Variables	Dependent variable: Repatronization					
	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	Model-1 β/t/sig.	VIF
CT	.174/10.96/.00					2.012
PSR	.215/16.78/.00					2.312
CRMD	.121/9.02/.000					1.978
Binary interaction effects						
CT*PSR		.184/11.83/.00				2.117
CT*CRMD			.315/17.28/00			2.009
PSR*CRMD			.155/6.79/.00			1.911
Ternary interaction effects						
CT*PSR*CRMD				.227/15.47/.00		2.101
Adjusted R^2	.546	.487	.491	.502.		
F-value	176.32	89.41	76.31	73.62		
	Dependent variable: Customer advocacy					
	Model-1 β (t value)	Model-2 β (t value)	Model-3 β (t value)	Model-4 β (t value)	Model-5 β (t value)	VIF
CT	.176/8.71/.000					1.889
REP	.101/6.11/.000					2.119
PSR	.081/3.87/.003					2.005
CRMD	.018/1.09/.098					1.912
Binary interaction effects						
REP*PSR		.100/4.21/.002				1.699
REP*CRMD			.027/.97/.121			1.599
PSR*CRMD			.097/4.29/.00			2.385
Ternary interaction effects						
REP*PSR* CRMD				.263/16.48/.000		1.603
Quaternary interaction effect						
CT*REP*PSR* CRMD					.127/12.25/. 000	2.431

a. Dependent variable: CT, REP, CA

b. Independent variable: PSR, CRMD, CT (for 1st eqn.)

Confirmatory factor analysis (CFA) was applied to assess the convergence, discriminant validity and dimensionality for each construct to determine whether all the 40 items (Table-2) measure the construct adequately as they had been assigned for. LISREL 9.90 programme was used to conduct the Structural Equation Modelling (SEM) and Maximum Likelihood Estimation (MLE) was applied to estimate the CFA models. A number of fit-statistics were obtained (Table-6) for the default (proposed) model. The comparative fit indices namely CFI (0.981), NFI (0.990) and TLI (0.977) were found significant enough to accept the fitness of the default (proposed) model (Schreiber et al, 2006). The Parsimonious fit indices (PNFI=0.742, PCFI=0.789, PGFI=0.757) also confirmed robustness of the model and indicated an absolute fit (Schreiber et al, 2006). The GFI (0.982) and AGFI (0.979) scores for all the constructs were found to be consistently >.900 indicating that a significant proportion of the variance in the sample variance-covariance matrix is accounted for by the model and a good fit has been achieved (Hair et al, 1998; Baumgartner and Homburg, 1996; Hulland et. al, 1996; Kline, 1998; Holmes-Smith, 2002, Byrne, 2001). The expected cross-validation index was found to be small enough (ECVI=0.0022) to confirm the superiority of the default model to the saturated and independence model. The RMSEA value obtained (0.053) is < 0.08 for an adequate model fit (Hu and Bentler, 1999). The RMR value (0.003) is small enough (close to 0.00) to assure a robust-fit of the model. The SRMR value was also indicative of good fit (0.0301 which is $\leqslant$ .08) (Schreiber et al, 2006, Anglim, 2007). The probability value of Chi-square (χ^2=201.13, df=113, p=0.000) is more than the conventional 0.05 level (P=0.02) indicating an absolute fit of the model to the data and the χ^2/df value is $\leqslant$ 2 (1.77) suggesting its usefulness to justify the default model as the nested model.

Table-6: Fit indices for the default model

Absolute predictive fit				Comparative fit			Parsimonious fit			Others				
χ^2	Df	P	ECVI	NFI	TLI	CFI	PNFI	PCFI	PGFI	GFI	AGFI	RMR	SRMR	RMSEA
201.13	113	0.02	0.0022	0.990	0.977	0.981	0.742	0.789	0.757	0.982	0.979	0.003	0.0301	0.053

To construct the nomological network and test the nomological validity of the proposed research model, structural equation modelling (SEM) was used. Composite CRMD, PSR, CT, REP, CA and RZOT scores across individual items were obtained by summing the ratings on the scale provided in the survey instrument items which were used as indicators of their latent version.

Structural Equation Modelling (SEM) was used to test the relationship among the constructs. All the 16 paths (including direct and indirect effects) and 10 paths (depicting moderating effects) drawn were found to be significant at both p<0.01 and p<0.05 levels. The research model holds well (Fig.2) as the fit-indices supported adequately the model fit to the data. The double-curved arrows indicated correlationbetween the exogenous and endogenous observed variables which was found significant. The residual variables (error variances) are indicated by ϵ_1, ϵ_2, ϵ_3, etc. The regression weights are represented by λ. The relationship between the exogenous variables is represented by β. One of the factor loading was fixed to '1' to provide the latent factors an interpretable scale(Hox & Bechger).

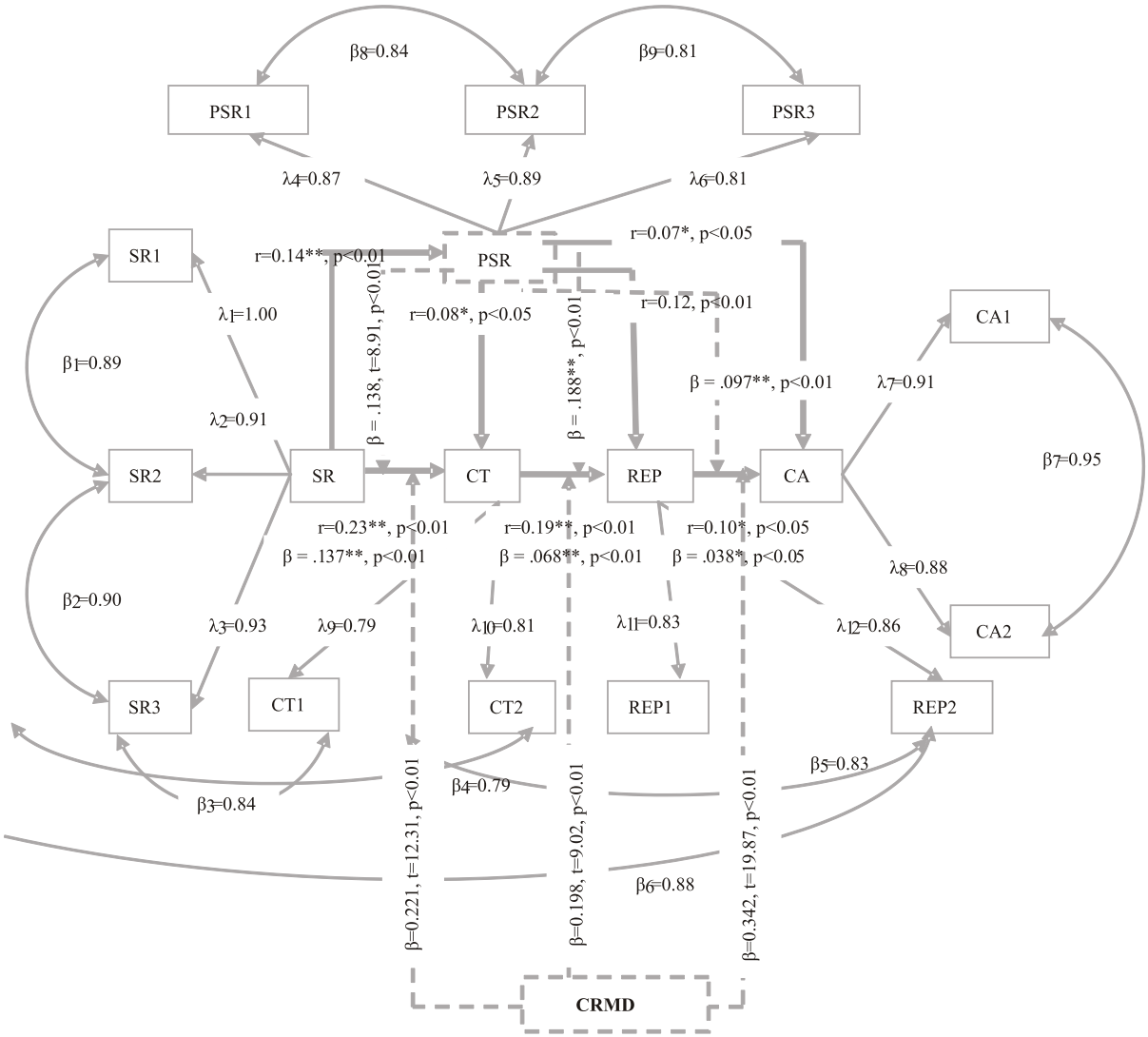

Fig.2: Structural model showing the path analysis
- - - - - ▸: indicates moderating effects

5. Conclusion

The study conceptualized the concept of perceived service-recovery zone-of-tolerance (RZOT) whereby it was assumed that individual customers will have their own tolerance level regarding the acceptability of the effort initiated by the service providers to recover from a potential service failure with both upper-bound (desired level of effort in service-recovery) and lower-bound (adequate level of effort in service-recovery). The results allowed the researchers to conclude that the major dependent variables under study e.g. customer trust, repatronization intention and customer advocacy shared significant correlation and they also exhibited moderate to strong and significant relationship with perceived service recovery and CRM dimensional elements. The results hint towards the possible impact of perceived service recovery and CRMD on the psychographic and behavioural intention of the customers and allowed the researchers to investigate the moderating effects of the same. It was also concluded from the study that the customers' psychographic and behavioural orientations namely

trust, repatronization and advocacy tend to differ across the different layers of their recovery zone-of-tolerance (RZOT) under the influence of perceived service recovery and CRM dimensional impact. It was further concluded that the combined impact of perceived service recovery and CRM dimensions on trust, repatronization and advocacy is strongest above the desired level of RZOT and negative below the adequate level of the same. Perceived service recovery and CRM dimensional performance seems to have a strong impact on customers' behavioural intentions under the study within the RZOT. While examining the moderating effects of perceived service recovery (PSR) and CRM dimensional elements, it was found that both PSR and CRMD are instrumental in moderating the behavioural intentions of customers under study.

The study has significant managerial implications as banking services are becoming customized or personalized as a result of which the zone-of-tolerance with respect to perceived banking service quality will affect and control the recovery zone-of-tolerance in case of a perceived service failure. The managers should assess the individual customer's behavioural profile to understand the tolerance limit for both the parameters and initiate a recovery strategy to regain the trust and repatronization of the customers. With growing competition amongst the financial service providers, organisational citizenship behaviour (OCB) has emerged as a critical behavioural pattern that reinforces the promotional activities of the firm. Bankers must ensure a proper service recovery plan based on the recovery ZOT of their customers to ensure customer advocacy culminating into OCB in the long run. For State Bank of India, the study revealed that customers are relatively satisfied with the initiatives taken by their bank to tackle a perceived service failure. The applications of CRM across banks have significantly increased to address issues related to customer satisfaction and advocacy. Bankers must make periodical assessments of the CRM strategies deployed and their impact in addressing perceived service failure and subsequent adequacy of recovery strategies.

The proposed research model holds good for each of the constructs. The researchers believe the model can be used by bankers for continuous assessments of customers' behavioural pattern following a service failure which might reinforce the bank's effort to ensure a higher degree of recovery initiative. The model can also be used to identify possible reasons for customer defection.

The study was restricted to some specific geographic locations of West Bengal, which in future, can be expanded to obtain a more generalized conclusion. The study focused on a single bank (SBI) as a case and in future, other banks should be incorporated to frame a general idea about customers' behavioural intentions following a service recovery. The RZOT scale can be refined and made versatile. The concept of recovery zone-of-tolerance can be further examined with respect to other variables namely relationship inertia, switching cost, etc. and the degree to which customers agree to compromise with a specific perceived level of service recovery. The study can include other service sectors also, particularly the hospitality and tourism industries, logistic services and healthcare services which are prone to service failures. The study was cross-sectional in nature; therefore, longitudinal research may be taken up also to realize the gradual changes in the perceptual level of customers with respect to their expectations in service quality, service failure and recovery vis-à-vis their behavioural manifestations.

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