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Regular Article

Emotions' influence on customers' *e*-banking satisfaction evaluation in *e*-service failure and *e*-service recovery circumstances

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ABSTRACT

Purpose: The growth in electronic banking platforms resulted in the unintended effect of minimising the customer-service provider physical interactions that were instrumental in managing negative emotions emanating from service failure. This study investigates the influence of emotions related to *e*-service failure and *e*-service recovery strategies on customer satisfaction.
Design/methodology/approach: Cross sectional data was collected from 433 *e*-banking customers using a structured, respondent administered questionnaire. Respondents were randomly intercepted as they moved out of personal service platforms of four selected banks. Hypotheses were tested using structural equation modelling.
Findings: Emotions were found to have a direct positive influence on customers' *e*-banking satisfaction evaluation during *e*-service failure and *e*-service recovery.
Research limitations/implications: Research was conducted in Marondera, an agro-based emerging town geographically located in Mashonaland East province of Zimbabwe. The generalisation of the study findings in Zimbabwe may be enhanced by extending the study to other cities.
Practical implications: During the formulation of *e*-service marketing strategies, bank managers are encouraged to consider the influence of emotions on customers' *e*-banking satisfaction in order to enhance the effectiveness of *e*-service recovery initiatives.
Originality/value: The findings of this study contribute to efforts towards effective management of emotions related to e-service failure and evaluation of e-service recovery strategies, a study area which remains under researched in Zimbabwe's banking sector.

1. Introduction and background

Customer satisfaction and *e*-service recovery are related concepts anchored on emotions exerted when one experiences service encounters via electronic or physical platforms (Chiou, Chao, & Hsieh, 2020). Customer satisfaction and *e*-service recovery on *e*-banking platforms are critical in maintaining customer loyalty (Chou, 2015; Smith & Mpinganjira, 2015). Online platforms offer a competitive edge to banks to survive in competitive circumstances (Budianto, 2019). The Zimbabwean banking history shows that in 1980, when the country gained its independence, there were only 9 banks that were operating (Makanyeza & Chikazhe, 2017; Nyamutowa & Masunda, 2013). Although the banking industry grew during the post-independence era, more banks had to close from 2006 to 2008 due to liquidity and operational challenges (RBZ, 2021). In an attempt to improve operating efficiencies and competitiveness, consistent with global trends, most banks in Zimbabwe are adopting electronic banking (*e*-banking) platforms (Deng et al., 2010; Nyagadza, Pashapa, Chare, Mazuruse, & Hove, 2022). Such platforms include artificial intelligence enabled digital customer service chatbots. In 2018, Steward Bank introduced 'Batsi' which is connected

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to Facebook, Square Mobile App, and e-banking service platform. FBC bank followed suit same year by introducing 'Chido'. ZB bank has its own 'Kesto', BancABC 'Ally' the superhero, and NMB 'Sera' (Nyagadza, Muposhi, et al., 2022). By early 2021, First Capital Bank announced the introduction of 'Alisa', the WhatsApp e-banking chatbot. Almost 80% of the Zimbabwean banks' chatbots use animated characters, which mimic regular conversations that are more or the same as real-life interactions. Notwithstanding these technological developments, the banking sector in Zimbabwe continues to experience a fair share of service failure (Nyagadza, Pashapa, et al., 2022; RBZ, 2021).

As a result of the opportunities offered by the Fourth Industrial Revolution (Sarawathi, 2016) along with the emergency of pandemics such as the COVID-19 virus (Rukasha, Nyagadza, Pashapa, & Muposhi, 2021), the adoption of customer *e*-service platforms by banks is imperative. However, there is a growing realisation that, if not properly managed, service failure can have negative impact on the success of *e*-service platforms (Adams, 1965; Matikiti, Roberts-Lombard, & Mpinganjira, 2018; Stratemeyer, Geringer, & Canton, 2014). Operating challenges related to *e*-banking services are unavoidable due to variation in customer expectations and service satisfaction evaluation criteria (Patterson, Cowley, & Prasongsukarn, 2006; Stratemeyer et al., 2014). Therefore, banks' marketing managers are expected to understand cognitive and affective factors that influence customer satisfaction. This is critical given that *e*-service delivery platforms play a key role in influencing customer satisfaction perceptions (Hoffman & Kelley, 2000). Moreover, customers' perceptions and evaluation of *e*-service recovery methods used by banks significantly influence patronage intentions and electronic word of mouth (Varela-Neira, Vázquez-Casielles, & Iglesias-Argüelles, 2008).

It is important to note that little research efforts have been directed towards understanding *e*-banking service failures and *e*-banking service recovery strategies. Most studies on service failure and recovery have been conducted in the travel and hospitality industry (Chiou et al., 2020; De Souza & Desai, 2013; Koc, 2019). In an attempt to bridge this research gap, this study investigates cognitive and affective antecedents of *e*-banking customer satisfaction in the context of *e*-banking service failure and *e*-banking service recovery circumstances. The specific objectives of this study are: i) to understand the extent to which customer expectations, perceived justice in *e*-banking service recovery and emotions influence customer satisfaction, and ii) to examine whether emotions affect customer *e*-banking satisfaction through cognition antecedents. This study complements the research done by Varela-Neira et al. (2008), in Asturias, Spain. This study intends to contribute to managerial practice by providing insights on effective formulation and implementation of *e*-service delivery and service recovery strategies. This study also contributes to theory by extending the application of the Justice Theory to explain the complexities associated with *e*-banking service recovery process.

The remainder of this paper is structured as follows: Theory and literature review, hypotheses and the conceptual model development are discussed in the first section. This is followed by a section on research methodology, then analysis of results, and finally, the conclusions, research implications, limitations and future research directions are presented.

2. Literature review, hypotheses and conceptual framework

2.1. Justice theory

The Justice theory was derived from the Social Exchange theory (Homans, 1961) and the Equity theory (Adams, 1963). The general maxim in exchange states that if the cost is higher than the gains, something must be done to balance the two so that a level of fairness is reached (Kuo & Wu, 2012; Matikiti et al., 2018). This is in line with the tenets of the Social Exchange Theory (SET) which suggests that the benefits of a service should outweighs the cost (Homans, 1961). Further to this, Equity theory by Adams (1963) proposes that in an exchange relationship, if an individual perceives that he/she is being treated fairly and there is fair distribution of resources, the individual will be satisfied (Tan, 2014). The SET (Homans, 1961) and Equity Theory (Kahneman & Tversky, 1979; Adams, 1963) provide the theoretical basis for the concept of perceived justice, which is central to Justice theory. Related to this study, the fair-mindedness of the supplier's service recovery can be viewed as perceived justice (Kuo & Wu, 2012). Perceived justice has three dimensions namely distributive, procedural and interactional justice. Perceived justice is commonly applied in service studies to understand customers' reactions to service recovery strategies (Matikiti et al., 2018; Wirtz & McColl-Kennedy, 2010). Perceived justice is theorised as the main factor influencing the way customers evaluate service recovery efforts (Kuo & Wu, 2012; Lovelock & Wirtz, 2011; Matikiti et al., 2018; Tan, 2014).

2.2. Expectations' disconfirmation and its impact on customer satisfaction

Customer satisfaction is a consequence of the comparison between the expected *e*-service and service delivered or brand performance and customer expectations (Rita, Oliveira, & Farisa, 2019; Smith, Bolton, & Wagner, 1999). Expectancy disconfirmation model is a common theory that is normally applied when forecasting or predicting customer satisfaction (Szymanski & Henard, 2001; Varela-Neira et al., 2008). This model has proven in previous studies to be effective in explaining post-purchase evaluation of customer behaviours (Erevelles & Leavitt, 1992; Varela-Neira et al., 2008; Yi, 1990). Under the conditions of *e*-banking service failure and *e*-banking service recovery, recovery of the customers' expectations is their beliefs that they hold at a certain acceptable repair level (Nyagadza, 2019), which means recovery is another service performance (Lewis & Spyrakopoulos, 2001; Zeithaml, Berry, & Parasuraman, 1993).

In normal circumstances, *e*-banking service recovery disconfirmation has some implications on the customer satisfaction levels with the service encounter. Customers may experience proper satisfaction if the bank's feedback on *e*-banking is in tandem with their expectations (Menon & Dube, 2000; Varela-Neira et al., 2008), when expectations are exceeded by the bank's performance of *e*-service recovery. Conversely, *e*-banking service recovery response can negatively disconfirm expectations which may reduce customer satisfaction. In line with this, the following hypothesis is formed:

H1. Positive expectations disconfirmation in e-banking service failure and e-banking service recovery contexts have a positive impact on customer satisfaction.

2.3. Perceived justice in e-service recovery and its impact on customer satisfaction

The Social Exchange theory has incubated the idea behind Perceived Justice (Adams, 1963; Blau, 1964). The theory suggests that, according to Adams (1963), people evaluate the balance of a transaction by the comparison of the ratio of outcomes to investments to the ratio for others in relationship of the exchange. Multiple conflict situations' reactions by individual customers (Gilliland, 1993; Lind & Tyler, 1988) have been used to explain the justice concept. Customer evaluative judgements' formation on a bank's responses to *e*-service failure have indicated that perceived justice is an integral concept in prior research inquiries (Mattila, 2001; Varela-Neira et al., 2008). In reality, perceived justice theory is defined in three dimensional ways, which include *Distributive justice*, *Procedural justice,* and *Interactive justice* (Smith et al., 1999). All these elements have some effects to customer satisfaction.

Distributive justice relates to customers' evaluation of the satisfaction of the *e*-service encounter, thus whatever the bank offers the customer to recover from the *e*-banking service failure and resolve the customers'

complaints (Ding & Lii, 2016; Homburg & Furst, 2005). It is focused on the tangible things that customers receive during service recovery, which include rewards in the form of money, refunds, future purchase discounts, coupons, and exchange service (Kuo & Wu, 2012; Matikiti et al., 2018). In another sense, it shows how the customers feel and their evaluation on whether they have received proper treatment regarding the redress of e-service recovery (Mattila & Cranage, 2005; Maxham & Netemeyer, 2002). Other recent research (Chang, Lai, & Hsu, 2012; Ding & Lii, 2016; Kuo & Wu, 2012; Matikiti et al., 2018) has depicted that satisfaction can be predicted by distributive justice. It is expected that distributive justice influences customers' satisfaction. Therefore, we suggest the following hypothesis:

H2. Distributive justice in e-banking service recovery has a positive impact on customer satisfaction.

Procedural justice explains the perception of customers on the rules and guidelines applied by the bank in dealing with the complaints of the stakeholders (Blodgett, Hill, & Tax, 1997; Nikbin, Ismail, Marimuthu, & Armesh, 2012). The main idea here is of probing the bank on whether it has followed adequate procedures in dealing with the complaint raised. Procedural justice influences satisfaction levels (Ding & Lii, 2016; Lopes & Silva, 2015) after *e*-banking service recovery. It may include taking quick action to rectify service failure, fair customer treatment and the elimination of problems (Nikbin et al., 2012; Lopes & Silva, 2015). Therefore, we suggest the following hypothesis:

H3. Procedural justice in e-banking service recovery has a positive impact on customer satisfaction.

Interactional justice accounts for the extent to which customers are handled carefully in their contact with the banks or organisation's employees taking responsibility of *e*-banking service recovery via electronic means (Matikiti et al., 2018; Orsingher, Valentini, & Angelis, 2010). The way the employees behave or treat customers during the *e*-service recovery process (Varela-Neira et al., 2008), and behaviour exhibited in handling complaints (Gountas, Gountas, & Mavondo, 2013; Homburg & Furst, 2005) clearly defines interactional justice. The judgement formed by customers in line with *e*-service recovery process does have an impact on customers' satisfaction (Nikbin et al., 2012). Some research has indicated the positive effect of various justice dimensions on satisfaction with complaint handling or e-banking service recovery (Homburg & Furst, 2005; Lopes & Silva, 2015; Maxham & Netemeyer, 2002), and on general customer satisfaction (Myers & Majluf, 1984; Kuo & Wu, 2012). Therefore, we suggest the following hypothesis:

H4. Interactional justice in e-banking service recovery has a positive impact on customer satisfaction.

Many studies (for example, Kau & Loh, 2006; Patterson et al., 2006; Smith et al., 1999) have given proof that distributive justice has a higher effect than interactional justice on customers' satisfaction with *e*-service recovery. Distributive Justice is claimed to have more impact on the satisfaction of customers (Clemmer, 1993), while Interactional Justice is deemed to be more impactful than Distributive Justice (Matikiti et al., 2018; Orsingher et al., 2010; Seiders & Berry, 1998). Due to the fact that there is some lack of convergence between the conclusions in the prior research studies, this has prompted the researchers' interests in continuing to explore the relative influence of perceived justice elements on customer satisfaction. Thus, it is proposed that:

2.4. The effect of emotions and their direct and indirect impact on customer satisfaction

Emotions can be defined as those responses that customers have after an evaluation made in a specific situation related to *e*-banking service and an experience of consumption (Varela-Neira et al., 2008). For customers and other stakeholders to be able to evaluate the level of satisfaction in the *e*-service offered via *e*-banking platforms (Nyagadza, Kadembo, & Makasi, 2021cortant role (Bagozzi, Gopinath, & Nyer, 1999). However, only a few studies have managed to consider *e*-service failure and *e*-service recovery in connection with emotions (Menon & Dube, 2000; Zeelenberg & Pieters, 2004). The lack of prior research related to emotions on *e*-service encounters has prompted many studies recently (Smith, 2006) including the current one. Emotions are formed from affect, which is a sub-branch of mental processes. The affective psychological element includes moods and emotions (Westbrook & Oliver, 1991). The current study only focuses on emotions from the negative side. When customers experience negative effects, they are exposed to lower satisfaction than those that have little to no emotions (Oliver, 1997). This is due to the fact that customer satisfaction in this context has two psychological components, which are cognitive and affective. Thus, it can be hypothesised:

H5. Degree of negative emotions experienced in e-banking service failure circumstances has a negative impact on customer satisfaction.

E-banking service failure creates some negative bias which results in customer negative emotions during the process of the evaluation of the latter. This is deemed to be perceived justice and disconfirmation of expectations. Negative emotions after *e*-banking service failure causes customers to have a negative evaluation (Kuo & Wu, 2012; Matikiti et al., 2018), than when they experience no emotions at all (Taylor, 1994). Therefore, precisely, the customers or people in general who are in negative state tend to see things negatively (Clark & Isen, 1985), are very pessimistic and their behaviours reflect this negativity in their expectations (Dickinson-Delaporte, Beverland, & Lindgreen, 2010; He, Cai, & Gao, 2016). Thus, it can be hypothesised:

H6. Degree of negative emotions experienced in e-banking service failure circumstances has a negative impact on expectations disconfirmation in e-banking service recovery.

In both developing and developed economies *e*-banking services are fast becoming more demanding to be a competitive prerequisite (Mathew, Jose, Rejikumar, & Chacko, 2020). An increase in the development of techno savvy driven approaches in banks has led to creation of a vast number of systems failures resulting in expectancy disconfirmation (Komunda & Osarenkhoe, 2012), leading to significant decline in customer satisfaction, and e-banking service perceptions (Piha & Avlonitis, 2015). It is focused on the tangible things that customers receive during service recovery, which include rewards in the form of money, refunds, future purchase discounts, coupons, and exchange service (Kuo & Wu, 2012; Matikiti et al., 2018). The most frequent *e*-banking service errors are linked to the self-service technologies and mobile devices (Menshikova, Romolini, Sabbatelli, & De Marco, 2017), and they cause serious negative effects to customers' emotional state (Mathew et al., 2020), further leading to defection and dissatisfaction (Joireman, Gr_egoire, Devezer, & Tripp, 2013). At times the *e*-banking service provider might not be having the room to control the *e*-banking service failures, hence the need for recovery of the lost customer satisfaction (Jose & Mathew, 2016). Therefore, we suggest the following hypothesis:

H7. Degree of negative emotions experienced in e-banking service failure circumstances has a negative impact on distributive justice with regard to e-banking service recovery strategies.

The paradox of *e*-banking service recovery is closely linked to procedural justice. This is so because normally there is a paradox (Wu & Huang, 2015; Gupta et al., 2017), where customers who have some *e*-banking service failure encounters are supplemented by an ultimately good *e*-banking service, they end up being elevated in terms satisfaction (Hoffman et al., 2016; Rejikumar, 2015), compared to the way they would have not experienced failures or errors (Sousa & Voss, 2009). Due to this, procedural justice influences satisfaction levels (Ding & Lii, 2016; Lopes & Silva, 2015) after *e*-banking service recovery. It may include taking quick action to rectify service failure, fair customer treatment and the elimination of problems (Nikbin et al., 2012; Lopes & Silva, 2015). In line with this, digital efficacy perceptions are likely to

cause rationality emotion among the customers to trust and believe online platforms and to remain committed to such technologies (Yeoh, Woolford, Eshghi, & Butaney, 2014). Therefore, we suggest the following hypothesis:

H8. Degree of negative emotions experienced in e-banking service failure circumstances has a negative impact on procedural justice with regard to e-banking service recovery strategies.

Probability of customers' need for the *e*-banking service recovery is very high when failure ocurrs during the process of engagement and interaction. This prompts an urge for *e*-banking service providers to precisely understand the process of recovery, in a bid to win customers' hearts (Nguyen, McColl-Kennedy, & Dagger, 2012). The judgement formed by customers in line with *e*-service recovery process does have an impact on customers' satisfaction (Nikbin et al., 2012). Some research has indicated the positive effect of various justice dimensions on satisfaction with complaint handling or e-banking service recovery (Homburg & Furst, 2005; Lopes & Silva, 2015; Maxham & Netemeyer, 2002), and on general customer satisfaction (Hooper et al., 2008; Kuo & Wu, 2012). If *e*-banking service recovery is not to the level of customers' expectations during the interactions, the propensity of switching the service provider is very high (Chang, Chen, & Lan, 2013). Therefore, we suggest the following hypothesis:

H9. Degree of negative emotions experienced in e-banking service failure circumstances has a negative impact on interactional justice with regard to e-banking service recovery strategies.

Based on the theoretical and literature review and posited hypotheses, the conceptual model supporting this study is illustrated in Fig. 1:

3. Research methodology

The sample, design of the questionnaire and measures, as well as data collection methods applied in the research are explained in this section. The research follows a quantitative approach, with a deductive logic following positivism.

3.1. Design of questionnaire and measures

All variables were measured using validated scales adapted from previous studies using a 7-point Likert scale. Study constructs were measured using item scales adapted from literature specifically related to *e*-banking services. An example of the items is Negative Emotions (NE), shown in Appendix 1, with three items that can be found in Liljander and Strandvik (1997), Yu and Dean (2001), and Varela-Neira et al. (2008). Disconfirmation of Expectations (DE) (in Appendix 2 with three items) (Hess, Ganesan, & Klein, 2003; Smith et al., 1999). Distributive Justice in Appendix 3 with three items can be found in Homburg and Furst (2005) and Maxham and Netemeyer (2003). Procedural Justice (PJ) (Appendix 4 with three items, were utilised in Homburg and Furst (2005), Maxham and Netemeyer (2003) and Smith et al. (1999). Interactional Justice (IJ) (Appendix 5 with three items) (Homburg & Furst, 2005; Maxham & Netemeyer, 2003; Smith et al., 1999; Varela-Neira et al., 2008) and Customer Satisfaction (CS) (Appendix 6 with five items) (Makanyeza & Chikazhe, 2017; Maxham & Netemeyer, 2003; Oliver, 1997; Varela-Neira et al., 2008; Yu & Dean, 2001), were subjected to examination via Confirmatory Factor Analysis (CFA). Further to this, Cronbach's alpha coefficient, the Average Variance Extracted (AVE), Composite Reliability (CR) coefficient, means, standard deviations and the correlation between the set of constructs have been examined.

3.2. Sampling and data collection

The research study applied a cross-sectional survey of 433 *e*-banking customers conducted in Marondera district (Image 1), Mashonaland East province of Zimbabwe. The researchers divided the population of potential *e*-banking respondents into more relevant and significant strata (Nunnally, 1967; Muposhi, Nyagadza, & Mafini, 2021) based on subsets where a random sample was drawn from each of the strata (Saunders, Lewis, & Thornhill, 2009) such as the customers' profiles (low, middle and high income earning capacities) as well as the geographical locations to which they belong to. Stratified random sampling technique was applied due to its accuracy and easy-to-use advantages (Bagozzi & Yi, 1988; Saunders et al., 2009). In order to determine adequacy of sample size, Krejcie & Morgan, 1970 formular was applied, necessary to construct a confidence interval (generally +5%) (Chan & Idris, 2017a, 2017b). A total of 433 valid responses were considered for analysis, translating to a response rate of 87%. Pilot study was conducted on the respondents using stratified random sampling from the selected banks. These respondents represented the recommended 5% of the research study sample. Participation was voluntary and the objectives of the

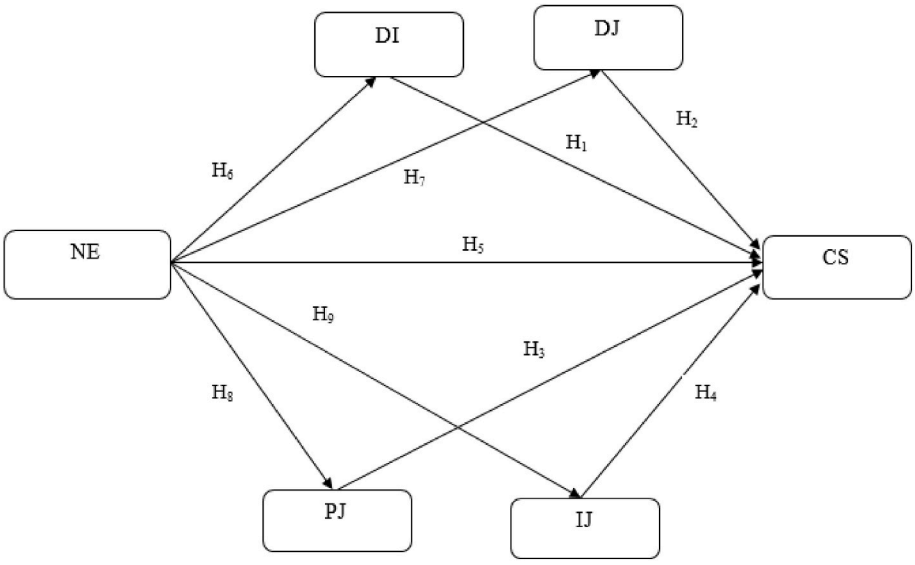

Fig. 1. Hypothesised conceptual research study model.
Key: *NE: Negative Emotions; DI: Disconfirmation; DJ: Distributive Justice; PJ: Procedural Justice; IJ: Interactional Justice, CS: Customer Satisfaction.*
Source: Researchers' conception (2021)

study were explained to the participants in the research study, before respondents completed the questionnaire. The researchers collected the data from January 2021 to April 2021. Stretching of the data collection period was as a result of Covid-19 restrictions, which delayed the whole process. The research study applied an online web-based cross-sectional survey with the aid of 20 fieldworkers to supplement the process. A cross-sectional approach was applied to collect data through the use of questionnaires whereby data was collected from the sample at once. Banking customers who had experienced in the use of *e*-banking were involved in the collection of data.

3.3. Non-response bias test

Armstrong and Overton's technique (1977) was used to check for non-response bias test. The process involved the use of *t*-tests to compare the means of each of the items of the succeeding responses against the rest of the responses. There were no larger differences in the means. This suggests that non-response bias was not a threat to the research study.

3.4. Data analysis method justification

Both descriptive and inferential statistics were used in analysing quantitative data from the questionnaire. Structural Equation Modelling (*SEM*) was used to test the posited hypotheses. Descriptive statistical analysis was achieved through the functional application of charts, tables, graphs and diagrams, and this fed into inferential statistics (Nyagadza et al., 2020a; Attallah, 2015). These included frequencies, mean, and standard deviation. Software packages used for data visualisation were WarpPLS and SPSS, version 7 and version 25, respectively. Exploratory Factor Analysis (*EFA*) was used to identify the underlying relationships between the variables measured (Gerald, 2018). Chan and Idris (2017a, 2017b) advise researchers to carry out an Exploratory Factor Analysis (*EFA*) at the beginning of data analysis as part of scale validation. Keller and Kros (2011) postulate that Exploratory Factor Analysis (*EFA*) is used to measure the dimensionality of a survey, to recognize precarious and non-critical items (Attallah, 2015), to decrease the quantity of items and to re-examine the content of the factor. Effendi, Matore, Khairani, and Adnan (2019) consent that Exploratory Factor Analysis (*EFA*) help researchers who do not know how many factors which explain the interrelationship among a set of items (Maat, Zakaria, Nordin, & Meerah, 2011). Exploratory Factor Analysis (*EFA*) was performed so as to refine and decrease the number of related variables to a more relevant (Keller & Kros, 2011), and manageable number prior to using them for further analysis (Alexander et al., 2016; Schoefer, 2008). To assess adequacy of the measurement model, the researchers applied Confirmatory Factor Analysis (*CFA*) (Worthington, Russell-Bennett, & Härtel, 2010). The researchers also utilised Principal Component Analysis (*PCA*) to consider the total variance in the data (Muposhi et al., 2021), and establishing minimum number of factors that will account for the maximum variance (Da Costa Carvalho, 2015). In addition, the Bartlett's test of sphericity was applied to examine the hypothesis that the variables were uncorrelated (Alalwan, Dwivedi, Rana, & Algharabat, 2018). It was used to see whether there were some relationships between variables, which is necessary for factor analysis to be appropriate (Field, Miles, & Field, 2012).

3.5. Ethical considerations

Ethical considerations related to participating *e*-banking customers' privacy, informed consent, freedom of response, professionalism, integrity, accuracy and values of research have been adhered to by the researchers, in line with the provisions made by the Marketing Research Society (MRS) (2022). Due to this, the researchers were obliged to observe the practices that take note of the values, and integrity of research by not making manipulations to ethical issues (Schumacker & Lomax, 2010; Muposhi et al., 2021). They made sure that they upheld ethical considerations by maintaining integrity and professionalism about the morals of academic research.

4. Data analysis and results

Testing of the developed hypotheses was done after data were assessed for convergent and discriminant validity.

4.1. Description of respondents

Sample profile is presented in Table 1. As depicted in the table, females were more than males. The majority of the respondents (34.6 percent) were aged between 20 and 39 years. Most of the respondents (43.9 percent) had already earned at least a Bachelor degree. The majority of the respondents (34.1 percent) were earning less than USD$1, 500 per month.

4.2. Measurement model

Model Fit Indices (MFI), Composite Reliability (CR), Standardised Factor Loadings (SFL), Individual Item Reliabilities (IIR), Critical Ratios (CRs) and Average Variance Extracted (AVE), have been used to assess convergent validity (Reisinger & Mavondo, 2007). A discriminant validity and reliability test has to be done when fitting a Structural Equation Model (SEM).

For reliability checks, the Cronbach's alpha test (CA) that tests internal consistency, Composite Reliability (CR) and Average Extracted Variance (AVE) were calculated and the results are summarised in Table 2. The Variance Inflation Factors (VIFs) values which examine the presence of multicollinearity among the variables are also presented. The considered variables are Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS).

Both the structure and cross-loadings used to test convergent validity are summarised in Table 3. The figures in bold represent high saturations and the non-bold are with lower loads. Meaningful *p*-values for these results are 95%, and this indicates the presents of convergent and discriminant validity (Shapiro & Nieman-Gonder, 2006; Bagozzi & Yi,

Table 1
Sample profile demographic characteristics.

Characteristics	Frequency	%
Gender		
Male	205	47.3
Female	228	52.7
Total	**433**	**100**
Age		
<20 years	117	27.0
20–29 years	150	34.6
30–39 years	105	24.2
40–49 years	45	10.4
>50 years	16	3.7
Total	**433**	**100**
Education		
High School Level	39	9.0
Certificate Level	53	12.2
Diploma Level	50	11.5
Bachelor's Degree Level	190	43.9
Master's Degree Level	91	21.0
Doctoral Degree Level	10	2.3
Total	**433**	**100**
Monthly Income (US$)		
<500	139	32.1
500–999	148	34.1
1000–1499	79	18.2
1500–1999	49	11.3
>2000	18	4.2
Total	**433**	**100**

Source: Field Data (2021)

Table 2
Descriptive statistics for construct variables.

	NE	DI	DJ	PJ	IJ	CS
CR	0.838	0.868	0.871	0.905	0.849	0.904
CA	0.710	0.772	0.774	0.790	0.733	0.856
AVEs	0.634	0.687	0.694	0.826	0.653	0.703
VIFs	2.279	3.131	3.948	3.465	3.987	4.273

KEY: ***CR*** *= Composite reliability,* ***CA*** *= Composite reliability,* ***AVEs*** *= Average Variance Extracted,* ***VIFs*** *= Variance Inflation Factors.*
Source: Field Data (2021)

Table 3
Structure and cross loadings.

	NE	DI	DJ	PJ	IJ	CS
NE1	**0.785**	0.351	0.403	0.326	0.432	0.477
NE2	**0.747**	0.611	0.589	0.624	0.593	0.672
NE3	**0.853**	0.555	0.589	0.481	0.602	0.559
DI1	0.679	**0.808**	0.594	0.516	0.679	0.63
DI2	0.495	**0.824**	0.588	0.581	0.628	0.628
DI3	0.408	**0.853**	0.662	0.548	0.669	0.540
DJ1	0.505	0.690	**0.703**	0.607	0.636	0.609
DJ2	0.554	0.673	**0.915**	0.699	0.700	0.687
DJ3	0.595	0.514	**0.867**	0.659	0.615	0.684
PJ2	0.511	0.608	0.719	**0.909**	0.646	0.765
PJ3	0.57	0.595	0.711	**0.909**	0.688	0.688
IJ1	0.603	0.661	0.751	0.739	**0.861**	0.735
IJ2	0.533	0.539	0.493	0.427	**0.748**	0.484
IJ3	0.514	0.721	0.628	0.595	**0.813**	0.637
CS2	0.607	0.675	0.530	0.527	0.627	**0.725**
CS3	0.620	0.578	0.738	0.760	0.697	**0.904**
CS4	0.579	0.639	0.764	0.780	0.706	**0.890**
CS5	0.589	0.546	0.601	0.589	0.554	**0.823**

Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

2012).

In line with the results presented in Table 3, all the cross-loadings exceed 0.6, implying that convergent validity on the measurement constructs exist (Fornell & Larcker, 1981). Discriminant validity of the constructs was also examined through inter-constructs correlations.

The inter-constructs correlations, together with the square root of AVEs, are shown in Table 4. Average Variance Extracted (AVE) was compared with squared inter-construct correlations in a bid to assess discriminant validity.

It can be noted from Table 4 results, that discriminant validity exists because the square root of the AVE values (diagonal elements) for the latent variables exceeded the corresponding correlation coefficient values of other latent variables (Fornell & Larcker, 1981; Segars, 1997).

Table 4
Inter-constructs Correlations among latent variables with square root of AVEs.

	NE	DI	DJ	PJ	IJ	CS
NE	0.796					
DI	0.634	**0.829**				
DJ	0.662	0.742	**0.833**			
PJ	0.595	0.662	0.786	**0.909**		
IJ	0.681	0.795	0.778	0.734	**0.808**	
CS	0.711	0.722	0.792	0.8	0.771	**0.838**
AVE	**0.634**	**0.687**	**0.694**	**0.826**	**0.653**	**0.702**

NB: *Square root of AVEs is in bold.*
Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

4.3. Structural model

Variance Inflation Factor (VIF), Coefficient of determination (R^2), Effect size (f^2) and the Predictive Relevance of the model (Q^2) and Overall Assessment of the model were used to evaluate the structural model for the current study. Partial Least Squares (PLS) approach was used to calculate the relationships between the variables in the structural model. WarpPLS 7.0 software was employed in calculating the model's path coefficients and the *p*-values. The reason behind this was to check the impact of each relationship of the variables and whether the data fits to the proposed model. Table 5 presents the results.

With reference to the results in Table 5, DI had a negative effect on CS ($\beta = -0.163, p < 0.001$). This is due to the fact that *e*-banking service recovery response can negatively disconfirm expectations which may reduce customer satisfaction (Smith & Mpinganjira, 2015; Varela-Neira et al., 2008). DJ had a positive effect on CS ($\beta = 0.253$, $p < 0.001$). Customer evaluative judgements' formation on a bank's responses to *e*-service failure have indicated that perceived justice is an integral concept, in prior research inquiries (Homburg & Furst, 2005). PJ had a positive effect on CS ($\beta = 0.419, p < 0.001$) and IJ had a positive effect on CS ($\beta = 0.195$, $p < 0.001$) (Blodgett et al., 1997). It can be further noted that NE had a positive effect on CS ($\beta = 0.197$, $p < 0.001$.). For customers and other stakeholders to be able to evaluate the level of satisfaction in the *e*-service offered via *e*-banking platforms (Nyagadza et al., 2021c important role (Bagozzi et al., 1999). NE had a positive effect on DI ($\beta = 0.754, p < 0.001$) (He et al., 2016), NE had a positive effect on DJ ($\beta = 0.753, p < 0.001$), NE had a positive effect on PJ ($\beta = 0.706, p < 0.001$) (Kau & Loh, 2006) and NE had a positive effect on IJ ($\beta = 0.758, p < 0.001$) (Patterson et al., 2006). Customers or people in general, who are in a negative state tend to see things negatively (Clark & Isen, 1985; Matikiti et al., 2018), are very pessimistic and their behaviours reflect this negativity in their expectations (Dickinson-Delaporte et al., 2010; He et al., 2016). Fig. 2 is a summary of the fitted model with coefficients.

4.4. Mediation analysis

Mediation is an extension of simple linear regression in that it adds one or more variables to the regression equation (Cude et al., 2006). Simply defined, mediating variables are mechanisms through which R [Independent variable] influences S [Dependent variable] (Hayes, 2013). In mediation analysis, researchers assume that the Independent variable (R) affects the Mediator (T), which in turn, affects the Dependent variable (S). Mediation analysis was done using Sobel's test in this study. The Sobel's test uses the product of coefficients. In this study, emotional attachment mediates the relationship between every construct variable to corporate brand perception. The results are presented in Table 6.

Table 5
Structural Equation Modelling (SEM) results.

Hypothesis	Relationship	Coefficient	*p*-values	Decision
H_1	DI → CS	−0.163	<0.001	Supported and significant
H_2	DJ →CS	0.253	<0.001	Supported and significant
H_3	PJ → CS	0.419	<0.001	Supported and significant
H_4	IJ → CS	0.195	<0.001	Supported and significant
H_5	NE → CS	0.197	<0.001	Supported and significant
H_6	NE → DI	0.754	<0.001	Supported and significant
H_7	NE → DJ	0.753	<0.001	Supported and significant
H_8	NE → PJ	0.706	<0.001	Supported and significant
H_9	NE → IJ	0.758	<0.001	Supported and significant

P-value level of significance is less than 0.001.
Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

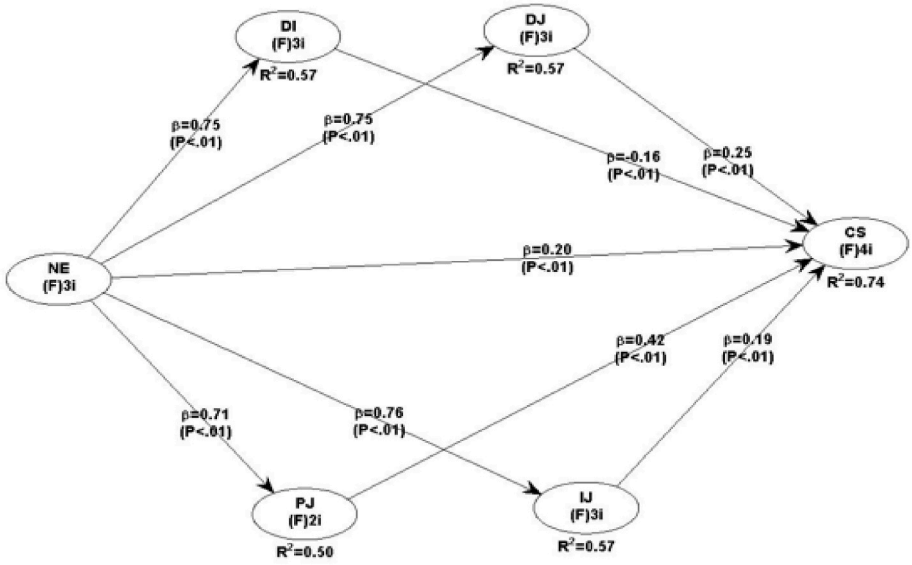

Fig. 2. Summary of the fitted model with coefficients.
Source: Field Data (2021)

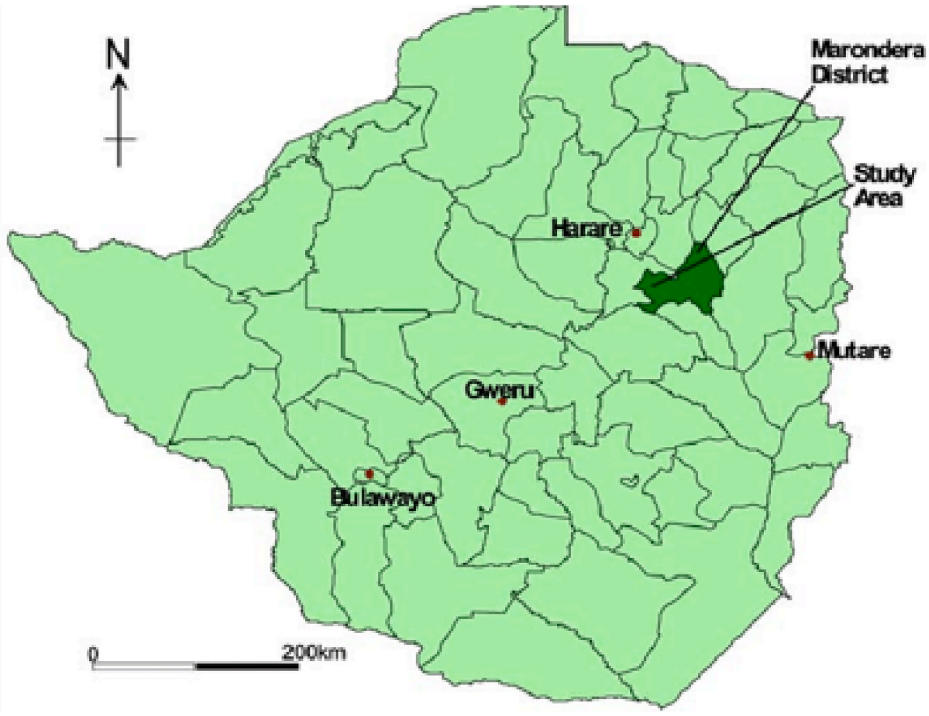

Image 1. Marondera District in Zimbabwean Geographical Map depicting the study area.
Source: Google Maps (2021)

Table 6
Mediating effect analysis via Sobel test.

Hypothesis	Path	Std Beta	Std Error	T Statistics	P Values	Decision	Bootstrapping confidence interval	
							95% CI LL	95% CI UL
H_{10}	NE→ DI→ CS	−0.12	0.124	2.293	<0.001	Supported	0.084	0.132
H_{11}	NE →DJ → CS	0.19	0.04	2.873	<0.001	Supported	0.106	0.251
H_{12}	NE→ PJ→ CS	0.30	0.021	2.306	<0.001	Supported	0.163	0.621
H_{13}	NE → IJ→ CS	0.13	0.082	8.644	<0.001	Supported	0.093	0.247

Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

In reference to Table 6, the path NE → DI → CS, there is the product of 0.75 and 0.16 which are beta values for NE→DI and DI → CS respectively that is 0.75 × 0.16 results in 0.12. Further to this, the relationship between negative emotions and customer satisfaction is significantly mediated by disconfirmation ($\beta = 0.12$, $p < 0.001$), the relationship between negative emotions and customer satisfaction is significantly mediated by distributive justice ($\beta = 0.19$, $p < 0.001$) and the relationship between negative emotions and customer satisfaction is significantly mediated by interactional injustice ($\beta = 0.13$, $p < 0.001$). Mediation effect may result in some of the relationship between the variables being statistically insignificant whilst some remain significant. From the analysis, it shows in both a direct and indirect relationship that there was no change in terms of the significance of the constructs. The confidence interval also confirms the results since the interval of the beta value excludes zero.

It is important to note the magnitude of the indirect effects, the variance accounted for (VAF). Hair, Hult, Ringle, and Sarstedt (2017) suggested that VAF >80% indicates full mediation, 20% ≤ VAF ≤ 80% partial mediation and VAF <20% indicates no mediation. The formula for VAF helps to know how the independent variables contribute in explaining the variation in the dependant variable through the mediator. VAF formula was used:

$$VAF = \frac{\text{Indirect effects}}{\text{Total effects}}$$

From the results displayed in Table 7, it can be concluded that the disconfirmation, distributive justice, procedural justice and interactional justice played the role of mediating between negative emotions and customer satisfaction.

4.5. Evaluation of the structural model

After the recognition that the measurement model was valid and reliable, the next step was to measure the structural model outcomes. This included examining by the Variance Inflation Factor (VIF), Coefficient of determination (R^2), Effect size (f^2) and the Predictive Relevance of the model (Q^2).

4.5.1. Collinearity of structural model

Multicollinearity is one of the assumptions of structural equation modelling. Before judging the structural interactions, collinearity must be studied to make sure it does not bias the results. The Variance Inflation Factor (VIF) and tolerance is often used to evaluate collinearity of the predictors. Hair, Sarstedt, Ringle, and Mena (2011) noted that VIF values of 5 or above indicate critical collinearity issues among the variables whilst Field (2012) noted that tolerance values (>0.10) are desirable. However, collinearity issues can also occur at lower VIF values of 3 (Becker, Ringle, Sarstedt, & Völckner, 2015). Ideally, the VIF values should be close to 3 and lower. From the model results, VIFs values of the most variables (Table 8) were below the rules of thumb of 5 and tolerance values were ranging from 0.26 to 0.5 which moderately approves the multicollinearity assumption.

Table 7
Variance Accounted displayed.

Path	VAR	Ranking
NE→ DI→ CS	0.375	Partial mediation
NE →DJ → CS	0.487	Partial mediation
NE → PJ→ CS	0.6	Partial mediation
NE → IJ→ CS	0.394	Partial mediation

Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

Table 8
Collinearity.

Exogenous Variables	VIF	Tolerance
NE→DI	2.33	0.43
DI→CS	3.85	0.26
NE →DJ	2.33	0.43
DJ→CS	3.85	0.26
NE→PJ	2	0.5
PJ→CS	3.85	0.26
NE→IJ	2.33	0.43
IJ→CS	3.85	0.26

Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

4.5.2. Coefficient of determination (R^2)

Schumacher, Erol, and Sihn (2016) define R^2 value as the percentage of variance in the variable that is accounted for by association in the independent variable groups. R^2 values of 0.75, 0.5 and 0.25 can be considered substantial, moderate, and weak respectively (Hair et al., 2011). Very high values of R^2 may result in the model overfitting the data and may result in a spurious relationship provided the R^2 value is greater than the Durbin Watson. In the current study, disconfirmation has an R^2 value of 0.57 which is explained by negative emotions. The predictor has a direct effect towards disconfirmation. The distributive justice has an R^2 value of 0.57, contributed by negative emotions. Moreover, the procedural justice has an R^2 value of 0.50. The interactional justice has an R^2 value of 0.57 which is explained by negative emotions. The customer satisfaction has an R^2 value of 0.74 which is explained by negative emotions, interactional justice, procedural justice, distributive justice, and disconfirmation. Overall, the developed model has a moderate explaining power.

4.5.3. The effect size (F^2)

Effect size (f^2) (shown in Table 9) is a measurement that tells the impact of change in the R^2 value when a specified exogenous construct is ignored in the model. (Hair et al., 2011). An effect size $f^2 \leq 0.30$, $0.3 < f^2 \leq 0.50$ and $f^2 > 0.50$ is thought to represent a weak, moderate, and strong effect respectively (Bliwise, 2006).

Effect size is calculated using the following equation:

$$Effect\ size = \frac{R^2}{1 - R^2}$$

where, R^2 is the coefficient of determination.

The effect size calculated from the model shows a strong effect as depicted by Bliwise (2006).

4.5.4. The predictive relevance (Q^2)

In addition to R^2 as a predictive criterion, Hair et al. (2017)

Table 9
Effect size.

Exogenous Latent Variables	Effect Size	Total Effect
NE→DI	1.33	Strong
DI→CS	2.85	Strong
NE →DJ	1.33	Strong
DJ→CS	2.85	Strong
NE→PJ	1	Strong
PJ→CS	2.85	Strong
NE→IJ	1.33	Strong
IJ→CS	2.85	Strong

Key: *Disconfirmation (DI), Distributive Justice (DJ), Procedural Justice (PJ), Interactional Justice (IJ), Negative Emotions (NE) and Customer Satisfaction (CS). More details on these are found in Appendix 1.*
Source: Field Data (2021)

recommend that researchers examine Q^2 to assess the predictive relevance of the structural model. Chin (1998) mentions that the predictive relevance of constructs must be positive and with values greater than zero; so also, Hair et al. (2011). The size of the Q^2 effect allows the evaluation of how an exogenous construct contributes to an endogenous latent construct Q^2 as a measure of predictive relevance, which can be small (0.02), medium (0.15) or large (0.35). The Q^2 values for this study model was 0.532 which was higher than the threshold limit and supports that the path model's predictive relevance was adequate for the endogenous construct.

The Standardised Root Mean Square Residual (SMRMR) is an index of the average of standardised residuals between the observed and the hypothesised covariance matrices (Chen, 2007). SRMR is a measure of the estimated model fit. When SRMR $\leq$ 0.08, then the study model has a good fit (Hu, 1998), with a lower SRMR being a better fit. According to Table 10 results, the SRMR value for the fitted model is 0.063 which is less than the threshold value of 0.08, suggesting that the model can be accepted. Furthermore, the NFI value for the model is 0.804 which is slightly above the recommended threshold value of 0.9. These results suggest that the fitted model is a good model, whereas the Chi-Square was equal to 3482.826.

4.6. Overall assessment

Goodness of Fit (GoF) is defined as the geometric mean of both average variances extracted (AVE) and the average of R^2 of all endogenous variables (Akter, D'Ambra, & Ray, 2011). PLS results can be assessed globally for the overall mode and locally for the measurement model and the structural model (Henseler, 2017). The formula for calculating GoF was adopted from Akter et al. (2011) as follows:

$$GoF = \sqrt{AVE \times R^2}$$

The criteria of GoF (in Table 11) to decide whether GoF values are not fit, small, medium, or large to be considered as globally valid PLS model are given by Akter et al. (2011) as GoF less than 0.1 (not fit), GoF between 0.1 and 0.25 (small), GoF between 0.25 and 0.36 (medium) and GoF greater than 0.36 (large). Therefore, the GoF value for this study is 0.642 which is above 0.36 as indicated (Akter et al., 2011). This proves that the developed model is large in explaining emotions' influence on customers' *e*-banking satisfaction evaluation in *e*-service failure and *e*-service recovery circumstances.

5. Discussion

The results depicted that Disconfirmation (DI) had a negative effect on Customer Satisfaction (CS). This is due to the fact that *e*-banking service recovery response can negatively disconfirm expectations which may reduce customer satisfaction (Varela-Neira et al., 2008). Distributional Justice (DJ) had a positive effect on Customer Satisfaction (CS). Customer evaluative judgements' formation on a bank's responses to *e*-service failure have indicated that perceived justice is an integral concept, in prior research (Homburg & Furst, 2005). Procedural Justice (PJ) had a positive effect on Customer Satisfaction (CS) and Interactional Justice (IJ) had a positive effect on Customer Satisfaction (CS) (Blodgett et al., 1997). It can be further noted that Negative Emotions (NE) had a positive effect on Customer Satisfaction (CS). For customers and other stakeholders to be able to evaluate the level of satisfaction in the *e*-service offered via *e*-banking platforms (Nyagadza et al., 2021cortant role (Bagozzi et al., 1999). Negative Emotions (NE) had a positive effect on Disconfirmation (DI) (He et al., 2016), Negative Emotions (NE) had a positive effect on Distributional Justice (DJ), Negative Emotions (NE) had a positive effect on Procedural Justice (PJ) (Kau & Loh, 2006) and Negative Emotions (NE) had a positive effect on Interactional Justice (IJ) (Patterson et al., 2006). Customers or people in general, who are in negative state tend to see things negatively (Clark & Isen, 1985), are very pessimistic and their behaviours reflect this negativity in their expectations (Dickinson-Delaporte et al., 2010; He et al., 2016). Thus, emotions affect customer *e*-banking satisfaction evaluations directly (Nyagadza, 2022; Varela-Neira et al., 2008). The better the customers' evaluation, the more they are satisfied and become loyal to their banks. As such, the way complaints are solved has an important signal in constructing future long-term relationships between the banks and their customers.

Table 10
Goodness of Fit (GoF) results.

	Estimated Model
SRMR	0.063
d_ULS	11.483
d_ G	15.905
Chi-Square	3482.826
NFI	0.804

Source: Field Data (2021)

Table 11
Goodness of Fit index calculation.

Construct	AVE	R^2
NE	0.634	
DI	0.687	0.57
DJ	0.694	0.57
PJ	0.826	0.50
IJ	0.653	0.57
CS	0.702	0.74
AVE	0.699	
AVE $\times$ R^2	0.412	
GoF	0.642	

Source: Field Data (2021)

6. Conclusion

Major lesson learnt in the current study points to the fact that general errors committed during the *e*-banking service are unavoidable due to complications in the *e*-delivery process of the promise as a consequence of alternating customer expectations, simultaneous production and consumption of the *e*-banking service. Therefore, banks' leaders are encouraged to understand customers' cognitive and affective psychological needs in order to counter competition efficiently. The importance of the current study is that it closes gaps and adds value to the existing *e*-banking, services marketing and justice theory literature and body of knowledge. Customers may experience proper satisfaction if the bank's feedback on *e*-banking is in tandem with their expectations. The judgement formed by customers in line with e-service recovery process have a direct impact on customers' satisfaction. As the world drives towards digitalisation of work life, as a result of the dynamics of the Fourth Industrial Revolution (4IR) and the rise of the dangerous pandemics, banks are pushing for the agenda of adopting *e*-service via *e*-banking to minimise direct contact with customers, despite the costs in *e*-banking service recovery. Theoretical, practical, and future research implications as well as limitations of the study are discussed in the following section.

7. Theoretical implications

The study contributes to theory as it supports the use of Justice Theory in explaining the complexity of the *e*-banking service recovery process. Since the Justice Theory has been used in service recovery studies to understand customer satisfaction, this study takes a step further in also investigating customer satisfaction in *e*-banking service, together with the negative effect initially on customers. The dimensions of Justice Theory (distributive, procedural and interactional justice) have not been widely used in the *e*-banking service failure and *e*-banking

service recovery. There is a paucity of theoretical and empirical research studies in Zimbabwe on emotions' influence on customers' *e*-banking satisfaction evaluation in *e*-service failure and *e*-service recovery. This current study was carried out in order to fill this gap of knowledge. Prior studies have made inquiries on general service recovery on customer satisfaction (for example, Blut, 2016; Budianto, 2019; Chiou et al., 2020; Firend & Abadi, 2014). Due to the support of all the research study hypotheses, this proposes the direct link between the emotions' influence on customers' *e*-banking satisfaction evaluation in *e*-service failure and *e*-service recovery circumstances. Thus, this study extends the current body of knowledge on justice theory by depicting that emotions positively affect customers' *e*-service failure and recovery evaluations (Matikiti et al., 2018), no matter the changes that may take place in any banking environment. The research shows that disconfirmation of expectations and perceived justice in *e*-banking service recovery (cognitive antecedents) and negative emotions experienced, to a greater extent, are as a result of *e*-banking service failure (affective antecedents), and that there is a link between cognitive and affective antecedents (Kuo & Wu, 2012). The model developed in the current study depicts this.

8. Practical implications

From a practical perspective, the study contributes by incubating insights to banks in developing and emerging economies to have an improved understanding of how Justice Theory can strengthen customer satisfaction through effective *e*-banking service delivery during the recovery process. Further to this, banks are urged to offer the proper *e*-banking customer services to timeously resolve any *e*-service failure, in a bid to build satisfaction and loyalty. To improve procedural justice, practices, senior bank managers and customer service employees need to focus their efforts on superior-quality *e*-banking service delivery. Appropriate interactional justice for *e*-service recovery may call for making online apologies, empathising, attentiveness, courteous appearance, and being respectful to the affected customers. Where possible, offering compensation as a form of distributive justice, is essential. Further to this, attending to queries on time when they are needed will reduce disloyalty and general negative emotional brand attachment. Investing in *e*-banking quality is absolutely necessary by targeting the *e*-service elements as proposed by Lovelock and Wirtz (2011). Improper and ineffective *e*-banking service handling results in further *e*-banking service failures, worsening customer dissatisfaction, customer switching, negative word-of-mouth, reducing trust and double deviance. Loyalty *e*-programmes are also necessary in shaping customers satisfaction in *e*-banking service. On the other hand, higher probability of *e*-banking service failure causes an increase in customers' risk perception. Managers are also encouraged to provide for the requisite training and development on dealing with *e*-banking service failures for a sustainable *e*-service recovery process.

9. Study limitations

The study has limitations which may affect the generalisability of the results, since they can only be applied to the population studied. Complementary research studies can be done in other parts of the world to be able to come up with cross-cultural comparisons, as well as methodological validation.

10. Future research implications

In future, longitudinal research studies can be made in order to check different variations of economic situations in other relevant studies. Future research studies can include evaluating other relevant theoretical frameworks in *e*-service failure and recovery than Expectations Disconfirmation theory. Despite the limitations of the current study, the results have contributed to the better understanding of *e*-service failure and recovery in *e*-banking. The results hopefully may influence further future research study inquiries.

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CRediT authorship contribution statement

Brighton Nyagadza: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Gideon Mazuruse:** Data curation, Formal analysis, Investigation, Methodology, Software, Visualization. **Asphat Muposhi:** Conceptualization, Writing – review & editing. **Tinashe Chuchu:** Conceptualization, Writing – review & editing. **Tendai Makoni:** Data curation, Formal analysis, Methodology, Software, Validation, Visualization. **Brain Kusotera:** Data curation, Formal analysis, Methodology, Software, Validation, Visualization.

Declaration of interest statement

The researchers declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Measurement Instrument Appendices

Appendix 1. ***Items to measure Negative Emotions****Think about the way you felt when the problem aroused. Indicate the degree to which you have experienced the following emotions. (Likert: 1 = not at all, 7 = very much)*

		1	2	3	4	5	6	7
EM1	Angry							
EM2	Humiliated							
EM3	Disappointed							

Source: Liljander and Strandvik (1997), Dean (2001), and Varela-Neira et al. (2008).

Appendix 2. ***Items to measure Disconfirmation of Expectations****Indicate your agreement level with the following statements (Likert: 1 = much worse, 7 = much better)*

Code	Construct	1	2	3	4	5	6	7
DE1	Bank's response in this occasion has been ———— than expected.							
DE2	I expected something ———— than the *e*-banking service I have obtained from the bank in this particular occasion.							
DE3	When I compare this experience with the bank with my expectations, I believe the *e*-banking service experience has been ————.							

Source: Hess et al. (2003), Smith and Mpinganjira (2018), Smith et al. (1999).

Appendix 3. ***Items to measure Distributive Justice*** *Indicate your agreement level with the following statements (Likert: 1 = total disagreement, 7 = total agreement)*

Code	Construct	1	2	3	4	5	6	7
DJ1	Given the inconvenience caused by the problem and the time lost, the response (*e*-banking service) I received from the bank has been correct.							
DJ2	The bank has been quite fair when solving the problem.							
DJ3	The outcome I received from the bank in response to the problem in the *e*-banking service performance has been adequate.							

Source: Homburg and Furst (2005), Matikiti et al. (2018) and Maxham and Netemeyer (2003).

Appendix 4. ***Items to measure Procedural Justice*** *Indicate your agreement level with the following statements (Likert: 1 = total disagreement, 7 = total agreement)*

Code	Construct	1	2	3	4	5	6	7
PJ1	The bank has given me the opportunity to explain my point of view of the problem.							
PJ2	The bank has fair policies and practices to handle the problem.							
PJ3	The bank has shown adequate flexibility in dealing with the problem.							

Source: Homburg and Furst (2005), Maxham and Netemeyer (2003) Smith and Mpinganjira (2018) and Smith et al. (1999).

Appendix 5. ***Items to measure Interactional Justice*** *Indicate your agreement level with the following statements (Likert: 1 = total disagreement, 7 = total agreement)*

Code	Construct	1	2	3	4	5	6	7
IJ1	In response to the problem, the bank personnel via e-banking service platform has treated me with courtesy.							
IJ2	Bank employees' communication and care via e-banking service when solving the problem has been appropriate.							
IJ3	Bank employees' have been honest and ethical via e-banking service when solving the problem.							

Source: Homburg and Furst (2005), Matikiti et al. (2018), Maxham and Netemeyer (2003), Smith et al. (1999), and Varela-Neira et al. (2008).

Appendix 6. Items to measure ***Customer*** *Satisfaction* ***Indicate your agreement level with the following statements (Likert: 1 = strongly disagree, 7 = strongly agree)***

Code	Construct	1	2	3	4	5	6	7
CS1	I am satisfied with e-banking services provided this bank.							
CS2	I am satisfied with my decision of choosing this bank.							
CS3	I am satisfied with my e-banking service relationship through time with this bank.							
CS4	I am satisfied by my bank's adequate e-banking services.							
CS5	I am satisfied by my bank's promise fulfilment.							

Source: Makanyeza and Chikazhe (2017), Yu and Dean (2001), Maxham and Netemeyer (2003), Smith and **Mpinganjira** (2018), Oliver (1997), and Varela-Neira et al. (2008).

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