

Influence of customer physical resource on customer loyalty : A mediation study

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Abstract

The notions of resource integration and value co-creation have become popular after the emergence of the Service-Dominant Logic. Several research investigations have been made to understand organizational resources and capabilities but research initiatives in the field of customer resources have been relatively scarce. Moreover, discussions on resource based capabilities have been mostly confined to strategic management and never explored with respect to marketing or consumer behaviour. This study by considering resource based capabilities as the exogenous variable and customer loyalty as the endogenous variable explores whether strategic resource capabilities have any implications in the domain of consumer behaviour. Based on Eric Arnould's customer resource classification, this study investigates whether the higher order customer physical resource reflected through cognitive absorption, trust propensity and perceived self-efficacy can mediate between online grocers' resource based capability and the customers' store loyalty. The study was conducted in the Bengaluru city of India using snowball sampling technique and the data were analysed using PLS SEM. The result suggests that customer physical resource does mediate between online grocery store's resource based capability and store loyalty. This research initiative has brought forth an altogether new perspective in understanding customer loyalty. Loyalty does not only depend on the value which is delivered by the firms but it is also influenced by the level of resource contributed by the customers' themselves during the shopping process. Also, this study for the first time has demonstrated that cognitive absorption, trust

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propensity and perceived self efficacy can be the manifestations of personal resource which is a contribution to the extant literature.

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1. Introduction

With the advent of the various self service technologies, the scope of customers' role has remarkably widened as they have to act both as the co-creator and the assessor of value. The co-creation of value by the participants of the value network was established by the authors Stephen L. Vargo & Robert F. Lusch in early 2000 when they pioneered the Service Dominant Logic (S-D Logic) of marketing (Vargo & Lusch, 2004). In the changed marketing paradigm, the focus is more on the customer generated value-in-use rather than the old school notion of value-in-exchange. Firms now uphold that customers are one of the chief productive resources with immense intangible competence. Customers are "connected, empowered, informed and active" (Prahalad & Venkatramaswamy, 2004) who act as partial employees (Hilton et. al., 2013; Baron et. al., 2010; Bitner et. al., 1997) and 'part time employees' or behalf of the firms. However, customer participation and customer involvement is contingent upon the resources that customers possess and are ready to commit for the resource integration purpose. Customer resources have been popularly classified into physical resource, social resource and cultural resource (Arnould et. al., 2006). Traditionally, research focus has been centered more on understanding firm resources while studies investigating customer resources is relatively sparse. This may be attributed to the erstwhile supremacy of the goods dominant logic in value creation (Purkayastha & Mazumdar, 2018)

The empirical study attempts to plug this research gap by exploring the possible mediation effect of customers' physical operant resource between an online grocery store's resource-based capabilities and the store loyalty. The study aims to understand the online grocery purchase behavior of consumers considering their physical resource commitment during the online buying process. In this study, Resource Based Capabilities (RBC), a key concept in the domain of strategic management, is considered as the exogenous second order latent construct while store loyalty is viewed as the endogenous construct. Customer physical resource is the

mediator variable investigated in the study. The remaining part of the paper is divided into sections comprising of the review of literature, methodology followed with results, discussion and implication, recommendations, limitations and future research and finally ending with the conclusion.

2. Review of Literature

2.1 Resource Based Capabilities

The paradigmatic shift in marketing that emphasises customer focus instead of market focus is a likely consequence of the emergence of the Service Dominant Logic (Hughes, Vafeas & Hilton, 2018). Also, from firms' perspective, there is a shift in the strategic orientation from the Market Based View (MBV) to the Resource Based View (RBV) for attaining strategic growth and competitive advantage (Cho and Linderman, 2020). Resource and capabilities possessed by a firm is increasingly acknowledged as the key pre-requisite for firms' long term competitive edge (Ngo & O' Cass, 2007; Frempong, 2019; Cho, and Linderman, 2020). The RBV asserts that resource heterogeneity and resource immobility are the two underlying factors that provides singularity to a firm's resources (Cho and Linderman, 2020). Importantly, resource and capabilities are not interchangeable terms. While resources have been categorised in various ways as cited in the resource literature, capabilities gets manifested through the numerous business processes of the firm, whether be it an operational process or any strategic process. However, capabilities are subject to firms' resource stock (Collis, 1994) and in this context particularly important are the operant resources that are dynamic and evolving like competence, dexterity, knowhow etc. (Boateng et. al., 2010) when compared to the firms' fixed and tangible operand resources. 'Authoritative capabilities' are deployed for operant resources whereas 'allocative capabilities' are exercised in using operand resources (Campbell et. al., 2012). Capabilities are the integrative processes that combine, synthesize and transform firms' resources to develop and deliver the value offering of the firm (Ngo & O'Cass, 2007). Collis (1994) demonstrated that higher degree capabilities are relevant for firms' performance in dynamic settings whereas any organization's first-class capabilities are germane for its operational level processes. This study relates to the first class capabilities of online grocery firm which is gauged by its efficiency in terms of assortment and customer service.

2.2 *Assortment*

Assortment planning is a critical aspect for any retail business (Koç, Fisher & Vaidyanathan, 2015). Like pricing and promotion, retailers' success and performance is a function of its assortment mix (Ruiz-Real et. al., 2017). A well thought out compartment oriented technique akin to the SIR model i.e. Suspected, Infected, Removed model as applied in the field of epidemic evolution (Lerche, 2022) may be improvised to handle category management for merchandise and assortment planning. Remarkably more than actual assortment, it is the perceived assortment size and variety that is crucial (Kahn & Warsink, 2004). Notwithstanding the conflicting observations offered in the extant assortment literature (Iyenger & Lepper, 2001; Ruiz-Real et. al., 2017), it has been established that customers' favourable assortment perception can be a decisive factor influencing store loyalty and store patronage (Kahn & Warsink, 2004).

2.3 *Customer Service*

Customer service is one of the determinant factors influencing customer satisfaction and loyalty in online grocery (Singh & Soderlund, 2019). Grocery buying is construed as utilitarian buying where buying convenience and buying efficiency are the guiding factors (Partal & Benito, 2013; Savelli et. al., 2017). In online shopping contexts seamless navigation facilitating easy product search and user friendly interface enhances customers shopping convenience. The advanced features of Robotic Process Automation can be leveraged (Khan et. al., 2022) by the online retailers to elevate customer service experience to higher levels. Also, to imbue enthusiasm and spontaneity amidst the manpower engaged with retail organizations, job satisfaction through right work environment and leadership needs to be ensured (Shirina et. al., 2022) that can directly or indirectly influence customers' service expectations fulfilment. With reference to the SERVQUAL framework (Parasuraman et. al., 1985) presence of a developed shopping web atmospherics is a salience of the service tangibility. Also superior service recovery and complaint handling along with personalised customer service is a manifestation of firms' reliability and empathy providing assurance and reliability in the customers' minds. To understand the pattern of customer complaints and their resolution, simulation techniques assuming extended exponentiated distributions for the two can be adopted (Kamari and Alizadeh, 2022).

2.4 Customer Loyalty

Retaining customers is the biggest challenge faced by retailers. Especially online grocery is becoming fiercely competitive (Azhar & Bashir, 2018) with the surge in the number of quick commerce companies delivering door step grocery in minutes ("How to boost your online sales", 2021). A five percent rise in the customer retention figure can increase a company's profitability by an overwhelming twenty five to ninety five percent increase (Pitta, Franzak & Fowler, 2006). Studies posit that the cost of serving loyal customers is relatively lesser than new customers (Al-Adwan and Al-Horani, 2019). Prior retail loyalty studies suggest that customer loyalty largely depends on the retailers' customer service (Singh & Soderlund, 2019; Blut et. al., 2015; Ramus and Asger Nielsen, 2005) and the perception about assortment variety (Bauer et. al., 2011, Singh & Soderlund, 2019, Pan and Zinkhan, 2006). Further, based on the findings of the previous research, we consider customer service and assortment variety as the lower order constructs for Resource Based Capabilities (Purkayastha & Sen Mazumdar, 2023). Hence it is inferred that

H₁. Resource Based Capabilities (RBC) of an online grocery firm has significant influence on customer loyalty

2.5 Customer Physical Resource

Customers and co-customers in any service consumption and service delivery process are the key resource integrators who contribute their physical, social and cultural resources (Baron et. al., 2010; Arnould et. al., 2006) in creating their unique value experience. The most fundamental classification of customer resources was given by Arnould, Price and Malshe (2006) as physical resource, social resource and cultural resource. Customers' physical resources refer to their sensory, mental and emotional endowments that vary between individuals while customers' social resources signify their existing and potential social capital and social network. Shilpa Iyanna (2016) advocate that co-creation of value is not feasible without the contribution of customer physical resource. Customer resource contribution is context driven (Hilton et. al., 2013) and depends on customers' involvement and role performance (Baron et. al., 2010). Available self service technologies mandate customer participation in varied degrees and therefore, we can infer that customer physical resource can mediate the relationship between RBC and customer loyalty. Customer physical resource is treated as a second order reflective construct with its

three manifest variables cognitive absorption, self efficacy and propensity to trust. In order to examine the mediation effect of physical resource, the following two hypotheses are generated

H₂: There is significant influence of resource-based capability (RBC) on customers' physical resource

H₃: There is significant influence of customers' physical resource on customer loyalty

2.6 Cognitive Absorption

The concept of Cognitive Absorption (CA) expounded by Agarwal and Karahanna (2000) delves on the trait of absorption (Jumaan et. al., 2020). It signifies deep and profuse concentration, involvement and focus (Agarwal and Karahanna, 2000). CA is perceived both as a state and trait characteristic (Luo et. al., 2019) reflecting the inter-individual variability whereby a person's entire consciousness is cantered on the focal activity that nothing else matters (Agarwal and Karahanna, 2000). The construct of CA has originally emerged in the realm of individual psychology and pertains to three associated sub-concepts namely temporal dissociation, focussed immersion and heightened enjoyment (Agarwal and Karahanna, 2000). It is an attribute of intrinsic motivation (Jumaan et. al., 2020; Venkatesh et. al., 2012; Matemba et. al., 2018) for a person involved with a task irrespective of the availability or unavailability of any extrinsic reward (Agarwal and Karahanna). CA embodies the trait of absorption, flow and cognitive engagement (Jumaan et. al., 2020; Agarwal and Karahanna, 2000). To quote Roche & McConkey (1990), trait of absorption relates to the "readiness for experiences of deep involvement, a heightened sense of attention, an imperviousness to normally distracting events and an appraisal of information in unconventional and idiosyncratic ways". Investigations in CA have been done in areas related to technology-oriented behaviour (Agarwal and Karahanna, 2000), internet-based learning system and video games (Saade and Bahli, 2004; Agarwal and Karahanna, 2000) apart from the Technology Acceptance Model (Saade and Bahli, 2004; Davis, 1989). It is argued that information technology users behavioural intention and continuance decisions are similar to the customers repurchase decisions (Agarwal and Karahanna, 2000; Bhattacharjee, 2001) thus indicating a positive relationship between cognitive absorption and behavioural loyalty.

2.7 *Self-efficacy*

Consumer characteristics is one of the various factors affecting online shopping and individuals' perceived self-efficacy is held as a pertinent attribute of customer characteristics (Keisidou et. al., 2011). The concept of self-efficacy was pioneered by Albert Bandura in his Social Cognition Theory in 1986 (Hernandez et. al., 2009). Self efficacy is conceptualised as ones "capabilities to organize and execute the courses of action required to produce given attainments" (Hsu & Chiu, 2003). Bandura's understanding of self-efficacy comprises of three dimensions namely magnitude of ability, strength of the belief and generalisability of the ability. While the first two have received considerable researchers' interest, the third factor has been deprived of much research attention (Dishaw et. al., 2002). In the context of technology adoption, Ajzen has posited Perceived Behavioural Control (PBC) as an important antecedent of intention-behaviour explanation. While some researchers, including Ajzen have linked PBC to Bandura's self-efficacy (Sparks et. al., 1997). it is argued that PBC depends on internal factors like skill, abilities, will power, motivation as well as external factors like time, resources and opportunities while self-efficacy is more internally focused (Sparks et. al., 1997, Armitage & Conner, 2001; Terry et al, 1999; Bandura, 1986, 1992) Self-efficacy highers the level of performance by allowing the individual to select the tasks to be performed and motivates him to exert higher degree of efforts and increasing levels of perseverance (Ajzen, 1999). Implications of self-efficacy have been explored in several areas like academic excellence, career choice, vocational and entrepreneurial initiatives and sports performance (Kim & Buric, 2020) apart from the studies in the fields of computer self-efficacy and the web-based self-efficacy (Hsu & Chiu, 2004; Eastin, 2002). Perceived self-efficacy can influence a person's thoughts, emotions and behaviours across multiple domains (Stajkovic et. al., 2018).

2.8 *Trust Propensity*

Trust, according to the Social Exchange Theory provides the bedrock for any business exchange (Chen et. al., 2015; Benassi, 1999). However, trust has been variedly construed by different researchers such that it is conspicuous by the lack of any consistent and unified understanding of the construct. Psychologists have emphasised on the personality aspect of trust, sociologists popularised the social structural aspect and the economists focused on the logical aspect of trust (Mc. Knight & Chevraney, 2001). Trust as a dispositional trait is in contrast to the history based trust

which is determined by previous experiences gained (Merritt and Ilgen, 2008). In the context of man machine interactions, trust is considered to be a function of the machine characteristics like its competence, responsibility, predictability and dependability (Merritt and Ilgen, 2008). Trust as individual difference characteristic reflects the willingness of a person to depend on the focal object even if there is no past interaction with the latter (Chen et al, 2015; Mc. Knight & Chevrand, 2001)

3. Methodology

Quantitative research design is used for the purpose of the study. Data for the study was collected through online survey using the snowball sampling technique. A pilot study was carried out with fifty respondents to check the accuracy and understandability of the questionnaire. After minor changes in the wordings, the final questionnaire was administered by sharing Google link on WhatsApp messenger and as email attachments. A total of 359 responses out of the 500 responses collected were considered for data processing and analysis. The data were collected from online grocery buyers of the Bengaluru city in India. All the items for the constructs used in the questionnaire were adapted from previous studies. Accordingly items to measure assortment variety were taken from J.C Bauer et. al. and Azhar & Bashir. Customer Service items were adapted from Singh & Resengren, Azhar & Bashir & Singh & Soderlund. Items for measuring cognitive absorption were adapted from the works of Saade & Bahli & Novak & Hoffman. Items to measure self efficacy were adopted from Rakhi Thakur while the measures for trust propensity were adopted from McKnight et. al. and lastly loyalty measures were adapted from the works of Ha et. al. (2008) and Toufaily et. al. (2013). Seven-point Likert interval scale was used for measuring the items with 1 for 'Strongly Disagree' and 7 for 'Strongly Agree'. For data analysis, partial least squares structural equation modelling was done with consistent partial least squares (PLSc) using the SmartPLS software.

3.1 Data Analysis

3.1.1 Demographic profile of respondent

Out of the 359 responses considered for analysis, 242 were females while 117 were males. Majority of the respondents in the chosen sample were in the age group 26-40 years and the minimum numbers of respondents were under 25 years. With respect to occupation, sixty three

percent of the respondents were employed; nineteen percent homemakers, seven percent either from business or self employed and eleven percent were students. Majority of the respondents lived in a nuclear family with a family size of four or lesser than four. Very few respondents stated that they always buy grocery online and also most respondents observed that they use the online grocery shopping apps and sites rarely or occasionally indicating the preference for offline grocery compared to the online mode. The Table 1 below gives the demographic details of the respondents.

Table 1
Demographic Characteristics

Characteristics	Category	Frequency (n=359)	Percentages (%)
Gender	Male	117	32.5
	Female	242	68.2
Age	< 25 years	17	4.7
	26-40 years	163	45.4
	41-55 years	137	38.1
	56- 70 years	42	11.6
Occupation	Student	40	11.1
	Employed	227	63.2
	Business/ Self Employed	26	7.24
	Homemaker	66	18.38
Number of family members	2 or less than 2	52	14.48
	4 or less than 4	237	66.0
	> = 6	70	19.5
Frequency of online grocery shopping	Rarely	153	42.6
	Sometimes	152	42.3
	Often	43	11.9
	Always	11	3.0

3.1.2 Measurement Model Analysis

Variance based PLS SEM, when compared to the covariance based SEM uses the ordinary least square (OLS) regression method of analysis. The outer model also called as the measurement model is measured with the help of outer loadings and the path coefficients. Reliability and validity

testing of the constructs are done with the help of Cronbach's alpha value, composite reliability values and the Average Variance Extracted (AVE). Fornell and Larcker criterion was used for the discriminant validity testing. The inner model also called the structural model was measured with the help of R squared values. The significance testing is done with p values and path coefficient values. Table 2 below gives the results of reliability and validity testing and Table 3 shows the outer loading estimates

Table 2
Construct reliability and validity

	Cronbach's α	Composite Reliability	Average Variance Extracted (AVE)
Assortment	0.842	0.517	0.764
Customer Service	0.866	0.52	0.813
Cognitive Absorption	0.845	0.578	0.755
Self-efficacy	0.842	0.576	0.75
Trust Propensity	0.851	0.534	0.781

Table 3
Outer path loading

Latent Variable	Code	Indicator	Loading factor
Assortment	Assort1	Variety in package sizes	0.659
	Assort3	Range of quality.	0.752
	Assort4	Variety in brands	0.758
	Assort5	Personalised services	0.614
	Assort6	Excellent assortments of products	0.77
Customer Service	CS2	Speedy complaint handling	0.738
	CS3	Easy Navigation	0.636
	CS4	Understanding & supportive customer support	0.729
	CS7	Easy return & refund policy	0.802

	CS8	Fast and easy transaction	0.625
	CS9	Can talk to customer support in case of any problem	0.778
Cognitive Absorption	CA2	Never get distracted during online grocery shopping	0.739
	CA3	Totally immersed in the buying activity	0.834
	CA4	Tend to forget one's immediate surroundings	0.706
	CA5	Fully attentive when buying grocery online	0.756
Self Efficacy	SE2	Confidence level in online buying expertise	0.758
	SE3	Knowledge of internet shopping	0.782
	SE4	Ability to assess quality of shopping site and app	0.795
	SE5	Ease and comfort in online shopping	0.687
Trust Propensity	TP1	In general people are helpful	0.723
	TP2	Most people behave honestly	0.817
	TP3	Most people try to back up their words with needed actions	0.708
	TP4	In general, people keep their promises	0.693
	TP5	In general people is considerate about others' problems	0.707
Loyalty	Loyalty1	Best site/app for buying grocery	0.817
	Loyalty2	Always use this site/app	0.705
	Loyalty4	Will not switch to any other online store if this online grocery store continues to provide the same customer service performance	0.706
	Loyalty5	First choice whenever buying grocery online	0.802

According to the criterion of PLS SEM, the outer loadings of the measurement items must be above 0.6 that is considered ideal for further

statistical analysis. From the above table, we can say that the outer loadings were all above 0.65. According to Hair et. al., (2017), Cronbach's alpha and composite reliability score has to be above 0.7 and the average variance extracted score has to be above 0.5 and Table 2 shows the value scores were well above the threshold values. Hence the scale fits the requirement of internal consistency and reliability. After the reliability check, the discriminant validity was tested that shows the extent to which the measures of different constructs are unrelated to each other. The results of the discriminant validity testing are shown below in Table 4.

Table 4
Discriminant validity with Fornell Larcker criterion

	1	2	3	4	5	6
1. Assortment	0.719					
2. Cognitive Absorption	0.314	0.76				
3. Customer Service	0.544	0.237	0.721			
4. Loyalty	0.486	0.387	0.451	0.759		
5. Self Efficacy	0.434	0.237	0.563	0.463	0.757	
6. Trust Propensity	0.353	0.33	0.375	0.407	0.212	0.731

According to Fornell Larcker method, the square root of average variance extracted values of individual construct must be greater than the inter-construct correlation value of other constructs in the study. This is clear from Table 4 above. The diagonal cells that are highlighted are the square root of AVE values which are greater than all other values in the matrix. Hence, we can conclude that the criterion of discriminant validity is met and the data can be further processed for other statistical analysis.

3.1.3: Structural Model Analysis

In SEM, the structural model also called the inner model establishes relationships between the latent variables by estimating their path coefficients as shown in Figure 1. The structural model is mainly assessed with the significance of path coefficients, coefficient of determination (R^2) and effect size F-Squared.

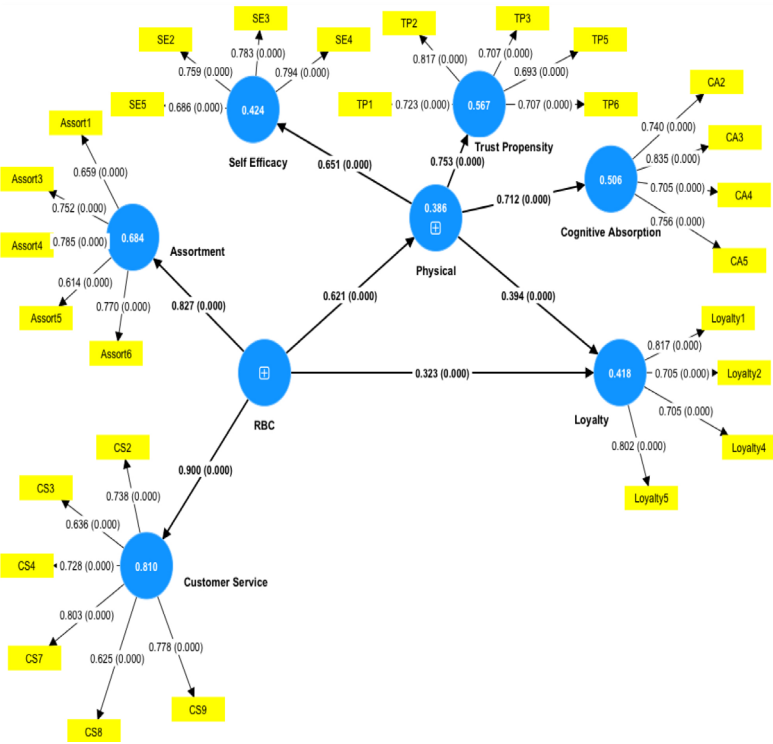


Figure 1
Research framework

Table 5
Bootstrapping Estimates with mediation

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Resource based Capability -> Physical Resource	0.578	0.58	0.045	12.856	0.000**
Physical Resource-> Cognitive Attention	0.716	0.717	0.042	17.016	0.000**
Physical Resource -> Self Efficacy	0.639	0.641	0.054	11.747	0.000**
Physical Resource -> Trust Propensity	0.759	0.76	0.043	17.844	0.000**

Contd...

Physical Resource -> Loyalty	0.389	0.391	0.069	5.653	0.000**
Resource based capability -> Assortment	0.828	0.829	0.022	36.804	0.000**
Resource based capability -> Customer Service	0.9	0.9	0.012	72.968	0.000**
Resource based capability-> Loyalty	0.327	0.328	0.069	4.767	0.000**

**p<0.01, significant

3.1.4 Bootstrapping results

Once the measurement model is identified and the construct is tested for reliability and validity, the structural model is measured with the help of bootstrapping results shown in Table 5. To measure the relational hypothesis, the path coefficient values were noted, and the t statistics and p values were measured, and statistical significance were interpreted keeping these values for reference. If the t value greater than or equal to +/- 1.98 or p values less than 0.05, then the statistical significance is met. The significance influence of independent variable on the dependent variable is measured with the help of these values. Accordingly, the Table 4 above shows that there is significant influence of construct resource-based capability on customer physical resource and also significant influence of construct physical resource on loyalty at 1% level of significance. Hence it can be observed that customer physical resource does mediate between an online grocery store's resource based capability and customer loyalty. To evaluate the quality of the model, the coefficient of determination (R squared) is estimated in Table 6 below.

Table 6
Coefficient of Determination (R squared)

	R-squared	R-square adjusted
Loyalty	0.418	0.412
Physical Resource	0.386	0.384

R-squared determines the explanatory power of independent variable on the dependent variable. In the research model, customer loyalty which

is the outcome variable in the study is explained to an extent of 42% by the two independent variables Resource Based Capabilities and customers' physical resource. This tells that the variables physical resource and resource based capability put together were able to explain loyalty to an extent of 41%. It indicates that there are other variables which determine customer loyalty besides RBC and physical resource. Similarly, 38.6% of the variance in the mediator variable customer physical resource is explained by the proposed research model. The slight difference between the R-square and adjusted R-square values in all cases suggests that the model is manageable with unnecessary predictors (Henseler et. al., 2009; Hair et. al., 2014)

Table 7
f square results

	Physical Resource	Resource Based Capability
Loyalty	0.149	0.11
Physical Resource		0.629

In a structural model analysis, one endogenous variable can be affected or influenced by several exogenous variables. Removing one of the exogenous variables may have an effect on the endogenous variable or outcome variable. The f-square value determines the change in R squared value if one exogenous variable is removed from the model. Hence, the f-square value provides the effect size according to the rule given by Cohen (1988). The effect size is considered small if value of f-square is greater than or equal to 0.02, medium if it is greater than or equal to 0.15 and effect size is large if f-square is greater than equal to 0.35. Therefore, from Table 7, it can be inferred that physical resource has medium effect on loyalty.

4. Results

The study empirically proves that customers play a crucial role in resource integration process when they combine their personal resources with the operand or operant resources of the firms. This reinforces the fundamental proposition of the Service Dominant Logic that customer operant resources are invaluable and customer plays a pivotal role in the co-creation of value (Hilton et. al., 2013). This study supports the extant literature that asserts the facilitating role of supplier organizations in customers' value co-creation efforts (Alves et. al., 2016). The study shows

that individual differences in personal endowments do mediate between firms' resource factors. Further, the study contributes to existing co-creation literature that customer co-creation of value leads to positive consequences not only for the customers like higher levels of personalization and improved service perception but also contributes to organizational intangible resource and asset development in the form of higher customer loyalty. This study reaffirms the views of Nuttavuthisit (Alves et. al., 2016; Nuttavuthisit, 2010) which states that customer participation can reap benefits for both the customer and the supplier involved in co-creation.

5. Discussion & Implications

The present study with respect to online grocery buying tries to unravel the possible effect of customer resources in influencing customer loyalty while integrating their own resources with the resource oriented capabilities available in the online grocery store. Existing discussion on customer loyalty has been more in the light of the market and service offerings of a firm where as this study tries to understand the possible effect of customers' own physical resources as the mediator between online stores resource based factors and loyalty. Customer physical resources are the individual differences in terms of attributes of cognitive absorption, self efficacy and trust propensity. The study shows that individual differences in personal endowments do mediate between firms' resource factors and loyalty. This aligns with previous self efficacy studies that posit higher the level of faith and confidence on ones abilities, greater the likelihood of positive estimation of outcome (Hsu & Chiu, 2003). Also it reinforces previous trust studies that emphasises higher trust is instrumental in more favourable assessment of any activity and its outcome.

6. Recommendation

The study indicates that customers' individual differences and personal characteristics can significantly influence customer loyalty. Individuals differ in terms of their perceived self efficacy and trust propensity and their levels of cognitive absorptive capacity also vary amongst one another. The salience of grocery buying is convenience and utility. Practitioners and online retailers can initiate steps towards enhancement of customers' perceived self efficacy. Interactive and user friendly interface, delightful seamless navigation experience, thoughtfully

designed grocery website and apps, easy and secured payment options can help to boost customer self confidence and efficacy through the hassle free shopping experience. Aesthetic and tasteful websites and apps can trigger a feeling of fun, intrigue and delight that paves for customer engagement and higher levels of concentration and cognitive absorption. In a similar manner, customers trust disposition towards online grocery shopping in general and the online store in particular can be strengthened by investing on trust signalling attributes like providing deep and attractive assortment and through prompt service recovery and complaint handling mechanisms

7. Limitations & Future Research

The study is based on a single business category i.e. online grocery which is actually representative of the utilitarian buying behaviour. In this sense, the findings from the study may not be apt to extrapolate for high involvement and risky purchase situations like jewellery and durable electronic goods where the effect of social factors, subjective norm and word-of-mouth may be higher. In this study, only three dimensions of physical resource were considered. Additional variables like innovativeness, playfulness and social class can possibly increase the explanatory power of the proposed model. Moreover, the sample constituted of only the educated urbanites in the metropolitan city of Bengaluru. As online grocery has penetrated even to the small towns and villages in India, future studies can be planned on a bigger scale with a more representative sample.

8. Conclusion

The study has significant implications for both resource integration and online buying behaviour. While the extant literature demonstrates the mutual dependency between organizational resource and customers' operant resource, this study brings forth the relevance of customer physical resources like cognitive absorption, trust disposition, and self efficacy in understanding customer resource and online buying behaviour. The previous research studies have not much highlighted the inter-linkage between customer operant resources. The present study makes it clear that the effect of firm resources based capabilities on customer loyalty is actually mediated by customer resources. This aspect is a new revelation and therefore the study contributes to better understanding of resource

integration and value co-creation. The study has relevance both in co-creation and consumer behaviour literature as well as implications for strategic management capability studies.

References

- [1] Agarwal, R., and Karahanna, E., Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage. *MIS Quarterly*, 24 (4) pp. 665-694 (2000).
- [2] Ajzen, I., The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 50, pp. 179-211 (1991).
- [3] Al-Adwan, A.S., and Al-Horani, M.A., Boosting Customer E-Loyalty: An Extended Scale of Online Service Quality. *Information*, 10(12), pp. 380 (2019).
- [4] Alves, H., Ferreira, J. J., & Fernandes, C. I., Customer's operant resources effects on co-creation activities. *Journal of Innovation & Knowledge*, 1(2), 69-80 (2016).
- [5] Armitage, C. A., & Conner, M., Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology*. 40, pp. 471-499 (2001).
- [6] Arnould, E. J., Price L. L. and Malshe, A., Toward a Cultural Resource-Based Theory of the Customer. In: Lusch, R. F. and Vargo, S. L. (eds.), *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions*, Armonk, NY: ME Sharpe, pp. 320-333 (2006).
- [7] Azhar, & Bashir, M.A., Understanding e-Loyalty in Online Grocery Shopping, *International Journal of Applied Business & International Management*, 3(2), pp. 37-56 (2018).
- [8] Bandura, A., *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall (1986).
- [9] Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C., Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology*, 71(2), 364 (1996).
- [10] Baron, S., Patterson, A., Warnaby, G. and Harris, K., Service-dominant logic: marketing research implications and opportunities, *Journal of Customer Behaviour*, 9(3), pp. 253-64 (2010).
- [11] Bauer, J.C., Kotouc, A. J., Rudolph, T., What constitutes a "good" assortment"? A scale for measuring consumers perceptions of an

- assortment offered in a grocery category. *Journal of Retailing and Consumer Services*, 19(1), pp. 11–26 (2012).
- [12] Benassi, P., TRUST: An online privacy seal program. *Communications of the ACM*, 42(2), pp. 56–59 (1999).
- [13] Bhattacharjee, A., Understanding information systems continuance: an expectationconfirmation model, *MIS Quarterly*. 25(3), pp. 351–370 (2001).
- [14] Bitner, M.J., Zeithaml, V., Hubbert, A.R. and Faranda, W.T., Customer contributions and roles in service delivery. *International Journal of Service Industry Management*, 8 (3), pp. 193-205 (1997).
- [15] Blut, M., Chowdhry, N., Mittal, V., & Brock, C., E-service quality: A meta-analytic review. *Journal of Retailing*, 91(4), 679-700 (2015).
- [16] Boateng, R., Hinson, R., Heeks, R., and Mbarika, V., A Resource-Based Analysis of E-Commerce in Developing Countries. *ECIS 2010 Proceedings*. 137 (2010).
- [17] Campbell, N., O'Driscoll, A., Saren, M., Reconceptualising Resources: A Critique of Service-Dominant Logic. *Journal of Macromarketing*, 33(4), pp.306-321 (2012).
- [18] Chen, Y., Yan, X., Fan, W., & Gordon, M., The joint moderating role of trust propensity and gender on consumers' online shopping behavior. *Computers in Human Behavior*, 43, 272-283 (2015).
- [19] Cho, S., Linderman, K., Resource-Based Product and Process Innovation Model: Theory Development and Empirical Validation, *Sustainability*, 12 pp. 913 (2020).
- [20] Cohen, J. Set correlation and contingency tables. *Applied of Psychological Measurement*, 12(4), 425-434 (1988).
- [21] Collis, D. J., Research Note: How valuable are organizational resources? *Strategic Management Journal*, 15, pp. 143-152 (1994).
- [22] Davis, D.F., Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly* 13 (3), pp. 319–339 (1989).
- [23] Dishaw, M.T., Strong, D. M., Bandy, D. B., Extending the task-technology fit model with self-efficacy constructs. *The Data Base for Advances in Information Systems*. 37(2-3), 96–107 (2002).
- [24] Eastin, M.A. Diffusion of e-commerce: an analysis of the adoption of four e-commerce activities. *Telematics and Informatics* 19 (3), pp. 251 – 26 (2002).

- [25] Frempong, J., Chai, J., Ampaw, E.M., et. al., The Relationship among Customer Operant Resources, Online Value Co-creation and Electronic-Word-of-mouth in Solid Waste Management Marketing, *Journal of Cleaner Production*, 248 (2019).
- [26] Hilton, T., Hughes, T., Little, E., Marandi, E., Adopting self-service technology to do more with less. *Journal of Services Marketing*, Vol. 27 (1), pp.3 – 12 (2013).
- [27] Hernandez, B., Jimenez, J., M., Martin, M.J., The impact of self-efficacy, ease of use and usefulness on e-purchasing: An analysis of experienced e-shoppers. *Interacting with Computers*. 21 pp. 146–156 (2009).
- [28] Hilton, T., Hughes, T., Little, E., Marandi, E., Adopting self-service technology to do more with less. *Journal of Services Marketing*, Vol. 27 (1), pp.3 – 12 (2013).
- [29] Hsu, M.H. & Chiu, C.M., Internet Self-Efficacy and Electronic Service Acceptance. *Decision Support Systems*. 38(3), 369-381 (2004).
- [30] Hughes, T., Vafeas, M., Hilton, T., Resource integration for co-creation between marketing agencies and clients, *European Journal of Marketing*, 52(5/6), pp.1329-1354 (2018).
- [31] Iyanna, S. (2016) Insights into Consumer Resource Integration And Value Co-Creation Process. *The Journal of Applied Business Research*, 32(3)
- [32] Iyengar, S.S., & Lepper, M., When Choice is Demotivating: Can One Desire Too Much of a Good Thing? *Journal of Personality and Social Psychology*, 79(6), pp. 995-1006 (2001).
- [33] Jumaan, I.A., Hasim, N.H., Al-Ghazali, B.M., The role of cognitive absorption in predicting mobile internet users' continuance intention: An extension of the expectation-confirmation model Ibrahim. *Technology in Society*, 63 (2020).
- [34] Kahn, B.E., and Wansink, B., The Influence of Assortment Structure on Perceived Variety and Consumption Quantities, *Journal of Consumer Research*, 30(4), pp. 519- 533 (2004).
- [35] Keisidou, E., Sarigiannidis, L., Maditinios, D., Consumer characteristics and their effect on accepting online shopping, in the context of different product types. *Int. Journal of Business Science and Applied Management*, 6(2) (2011).

- [36] Khan, S., Tailor, R. K., Pareek, R., Gujrati, R., & Uygun, H., Application of Robotic Process Automation in education sector. *Journal of Information and Optimization Sciences*, 43(7), 1815-1834 (2022).
- [37] Kim, L. E., & Burić, I., "Teacher self-efficacy and burnout: Determining the directions of prediction through an autoregressive cross-lagged panel model": Correction to Kim and Burić (2019) (2020).
- [38] Kök, A. G., Fisher, M. L., & Vaidyanathan, R., Assortment planning: Review of literature and industry practice. *Retail supply chain management: Quantitative models and empirical studies*, 175-236 (2015).
- [39] Lerche, I., Epidemic evolution: Source, lock-down and removal modifications to the SIR model. *Journal of Statistics and Management Systems*, 25(8), 1767-1780 (2022).
- [40] Luo, H., Andersson, B., Tang, J.Y.M, Wong, G.H.W. Applying Item Response Theory Analysis to the Montreal Cognitive Assessment in a Low-Education Older Population. Vol. 27 (2019).
- [41] Martos-Partal, M., & González-Benito, O., Studying Motivations of Store-loyal Buyers across Alternative Measures of Behavioural Loyalty. *European Management Journal* 31(4), pp. 348-358 (2013)
- [42] Matemba, E.D., and Li, G., Consumers' willingness to adopt and use WeChat wallet: an empirical study in South Africa, *Technology in Society*, 53, pp. 55–68 (2018)
- [43] Merritt, S. M., and Ilgen, D. R., Not All Trust Is Created Equal: Dispositional and HistoryBased Trust in Human-Automation Interactions. *HUMAN FACTORS*, 50 (2), pp. 194–210 (2008).
- [44] McKnight, H. D., Chervany, N. L., Trust and Distrust Definitions: One Bite at a Time. In: Falcone, R., Singh, M., Tan, Y.H. (eds) [Lecture Notes in Computer Science] *Trust in Cyber-societies.*, Springer, Berlin, Heidelberg (2001).
- [45] Ngo, L. V., O'Cass, A., Creating value offerings via operant resource-based capabilities. *Industrial Marketing Management*, 38, pp.45–59 (2007).
- [46] Novak, T.P., Hoffman, D.L., Yung, Y.F., Measuring the Customer Experience in Online Environments: A Structural Modeling Approach. *Marketing Science* 19(1) pp. 22-42 (2000).
- [47] Nuttavuthisit, K., If you can't beat them, let them join: The development of strategies to foster consumers' co-creative practices. *Business Horizons*, 53(3), 315–324 (2010).

- [48] Pan, Y., & Zinkhan, G. M., Determinants of retail patronage: A meta-analytical perspective. *Journal of retailing*, 82(3), 229-243 (2006).
- [49] Parasuraman, A., Zeithaml, V. A., & Berry, L. L., A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50 (1985).
- [50] Pitta, D., Franzak, F., Fowler, D., A strategic approach to building online customer loyalty. *Journal of Consumer Marketing*, 23(7):421-429 (2006).
- [51] Prahalad, C.K., & Venkatramaswamy, V., Co-Creation Experiences: The Next Practice in Value Creation, *Journal of Interactive Marketing*, 18(3), pp.5-14 (2004).
- [52] Purkayastha, M., & Mazumdar, C.S., Can assortment and customer service be determinants of customer loyalty? An empirical study of the online grocery industry. In U. Salunkhe, V.Kumar, D.N. Murthy, B. Rajan (Eds.) *Emergent Research on Business & Society An India Centric Perspective*. pp 49-68 (2023). Transnational Press London. <https://www.cceol.com/search/chapter-detail?id=1178021>.
- [53] Ramus, K., & Asger Nielsen, N., Online grocery retailing: what do consumers think?. *Internet research*, 15(3), 335-352 (2005).
- [54] Roche, S. M., & McConkey, K. M., Absorption: Nature, assessment, and correlates. *Journal of personality and social psychology*, 59(1), 91 (1990).
- [55] Ruiz-Real J.L., Abad J.C.G., Esteban-Millat I., Francisco J., Martínez-López F.J., The role of consumers attitudes in estimating consumer response to assortment composition: evidence from Spain. *International Journal of Retail & Distribution Management*, 45(2) (2017).
- [56] Saade, R., and Bahli, B., The impact of cognitive absorption on perceived usefulness and perceived ease of use in on-line learning: an extension of the technology acceptance model. *Information & Management* 42, pp. 317-327 (2004).
- [57] Savelli, E., Cioppi, M., & Tombari, F., Web atmospherics as drivers of shopping centres customer loyalty. *International Journal of Retail & Distribution Management*, 45(11), 1213-1240 (2017).
- [58] Shirina, S., Sharma, R., Agarwal, R. N., & Sao, A., Factors affecting employee engagement in higher education institution-An empirical study in NCR. *Journal of Information and Optimization Sciences*, 43(7), 1779-1800 (2022).

- [59] Singh, R., & Rosengren, S., Why do online grocery shoppers switch? An empirical investigation of drivers of switching in online grocery. *Journal of Retailing and Consumer Services*, 53, 101962 (2020).
- [60] Singh, R., Soduerlund, M., Extending the xperience construct: an examination of online grocery shopping. *European Journal of Marketing* (2020).
- [61] Sparks, P., Guthrie, C.A., & Shepherd, R., The Dimensional Structure of the Perceived Behavioral Control Construct. *Journal of Applied Social Psychology*, 27(5), pp. 418-438 (1997)
- [62] <https://www.storehippo.com/blog/how-to-boost-your-online-grocery-sales-with-smart-delivery-management-solutions> How To Boost Your Online Grocery Sales With Smart Delivery Management Solutions.
- [63] Stajkovic, A. D., Bandura, A., Locke, E. A., Lee, D., & Sergent, K., Test of three conceptual models of influence of the big five personality traits and self-efficacy on academic performance: A meta-analytic path-analysis. *Personality and Individual Differences*, 120, pp. 238-245 (2018).
- [64] Terry, D. J., Hogg, M. A., & White, K. M., The theory of planned behaviour: The effects of perceived behavioural control and self-efficacy. *British Journal of Social Psychology*, 38, pp. 225-244 (1999).
- [65] Thakur, R. The role of self-efficacy and customer satisfaction in driving loyalty to the mobile shopping application. *International Journal of Retail & Distribution Management*, 46(3), pp.283-303 (2018).
- [66] Vargo, S. L., & Lusch, R. F., Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1-17 (2004).
- [67] Venkatesh, V., Thong, J. Y., Xu, X. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36 (1) 157-178 (2012).