

Role Of Customer Operant Social Resource In Customer Firm Resource Integration. An Exploratory Study In Online Grocery.

Malabika Purkayastha^{1*}, Chandra Sen Mazumdar²

^{1*}Research Scholar, Faculty of Management & Commerce, M S Ramaiah University of Applied Sciences, Bangalore, India, ORCID ID 0009-0008-5485-9642, Email: smalabika@gmail.com

²Associate Professor, Faculty of Management & Commerce, M S Ramaiah University of Applied Sciences, Bangalore, India, ORCID ID 0000-0003-2366-1496, Email: chandrasen.ms.mc@msruas.ac.in

Citation: Malabika Purkayastha, (2023) Role of Customer Operant Social Resource In Customer Firm Resource Integration. An Exploratory Study In Online Grocery, *Educational Administration: Theory And Practice*, 29(4), 842 - 854
Doi: 10.53555/kuey.v29i4.5921

ARTICLE INFO

ABSTRACT

Service dominant logic has pioneered the concept of value co-creation based on the principle of resource integration. Customer operant resources are considered to be crucial for value co-creation to materialise. Although prolific research has taken place in the area of value co-creation, customer resource related research investigations are still inadequate that needs additional research focus. The empirical research carried out in online grocery buying context is a step towards this end. It seeks to explore different customer resource dimensions and examine the possible interrelationship between operant resources. The present research focus is primarily on understanding the dynamics of customer's operant social resource and its role in intra-customer and firm-customer resource integration instrumental for value co-creation. Snowball sampling was used for the PLS-SEM study. The intra-customer operant resource integration along with the manifestations of resource highlighted in the research work is a novel contribution to co-creation and resource integration literature.

Keywords: Customer operant resource, social resource, physical resource, resource-based capability, resource integration, value co-creation, service dominant logic, PLS-SEM

Introduction

Retail landscape globally has undergone a phenomenal transformation with the growing popularity of internet shopping. Online shopping has become a regular feature of modern living as at least one member in almost every household engages in online buying activities (Timotius & Octavius, 2021). However, the pattern of shopping depicts a palpable change as there is rising demand for online consumer goods including grocery and personal care. This is unlike the recent past trends when online platforms were more in vogue for buying services like air tickets or for reserving hotel rooms (Dhanapal et al., 2015). It is projected that the size of the global ecommerce market would be a \$62415 billion by the year 2030 assuming double digit growth rate of 11% during the period 2023 to 2030 (Singh et al., 2024). Further, the online grocery business is estimated to grow globally at an annual compound growth rate of 26.8% from 2023 to 2030 (Grandview Research). It is projected that India is set to witness an annual growth rate of 20.30% (CAGR 2024-2028) in online grocery, with a market volume of INR US\$64.20bn by 2028 (Statista). In India, grocery is claimed to be one of the most attractive retail business categories (Prasad & Aryasri, 2011) and online grocery although presently at a nascent stage has huge potential (Tomar, 2024). The growth of self-service technologies including ecommerce and online grocery mandates vital customer participation that solicits valuable customer resource commitment instrumental for value co-creation (Agarwal & Rahman, 2015). The paradigm of value co-creation and customer resource integration was pioneered by Vargo and Lusch (2004) in their exposition of Service Dominant Logic (S-D logic). Closely related philosophies to SDL are service logic and customer dominant logic propounded by Christian Gronroos (2006) and Heinonen et al. (2010) have also contributed in fostering and celebrating customers' value creation role. S-D Logic philosophy has ushered in a new perspective towards understanding the concept of value as it shifts the focus from firm created value-in-exchange to customer created value-in-use (Hau et al., 2017). Departing from the traditional Goods

Dominant Logic, s-d Logic emphasises the indispensable role of customers as the social and economic integrators of resources as etched in the Service Dominant Logic Axiom 4 “Value is always uniquely and phenomenologically determined by the beneficiary” (Vargo et al., 2020 p.17). Moreover, with the shift in focus from market to customer, higher importance is placed on the quality of customer-firm interaction rather than the transaction aspect that indicates the growing recognition of value co-creation (Melović, 2021). Baron & Harris (2008) emphasised the unequivocal role of customers in value co-creation with their statement “The customer is always a co-creator of value.” It is noteworthy that previous research studies have examined the contextual implication of value co-creation and resource integration (Hughes et al., 2018). Particularly in technology adoption and usage contexts, lack of adequate customers’ personal resource can pose to be an inhibiting factor (Lissitsa & Laor, 2021). Also, it is posited that quality of personal resource depends on one’s level of involvement, expertise and dexterity in role performance (Baron & Harris, 2008). For instance, customer involvement and enthusiasm are relatively low in grocery buying whether online or offline. Grocery buying is generally perceived to be boring and mundane (Nakano, 2023; Raijas, 2002) where the major concern is economy of time and effort (Driediger & Bhatiasevi, 2019). Universally, online grocery is yet to be perceived as an alternative to store-based grocery shopping (Harris et al., 2017). Although plethora of research initiatives have been directed to examine grocery shopping behaviour, research focus to understand customer resources with respect to value co-creation has not been undertaken. The present exploratory study seeks to address this research gap. Although s-d Logic and co-creation has garnered immense attention from academic scholars and researchers worldwide, yet for a digitally pervasive growing economy like India the study can unravel valuable insights contributing to the fraternity of both researchers as well as practitioners. The research questions sought to be addressed in the study are as follows

RQ1. How does online grocery stores’ marketing resource-based capability effect customer resource contribution?

RQ2. Does customer social resource have any mediating effect between store’s resource-based capability and customer physical resource and customer loyalty?

The remaining part of the research paper consists of sections comprising of literature review and hypothesis formulation, methodology and data analysis, results and discussions, theoretical and managerial implications, limitations and future research and conclusion.

2. Literature Review & Hypothesis Formulation

Resource Based Capability

Shift in focus from Market Based View to Resource Based View heralded a new organizational perspective towards growth and competitive advantage (Cho and Linderman, 2020). Resource and capabilities provide the foundation for the development and maintenance of a firm’s competitive advantage (Frempong, 2019). There are diverging views regarding the interpretation of the terms resource and capability (O’Cass & Sok, 2014). Many researchers have used the two terms interchangeably (Barney et al., 2021) whereas others have distinguished between the two constructs (Gaudenzi et al., 2021). Resources include all tangible and intangible assets (Iyanna, 2016) while capabilities are contended to be “something beyond resources” (Ngo & O’Cass, 2000). Resources are labelled as the “carriers of capabilities” (Peters et al., 2014) although it is argued that it is a firm’s resource-based capabilities that truly determine firms’ efficiency and effectiveness in the long term. (Duah et al., 2024). Resource based capabilities (RBC) of a firm may pertain to any of its functional areas like innovation, production or marketing resource-based capability (Ngo & O’Cass, 2009). Some researchers have advocated the criticality of capability portfolio over independent or single capability as the underlining for firm’s performance and achievement (Jie et al., 2023). Marketing capability’s positive role in engendering firm performance has been substantiated by previous researchers (Jung & Shegai, 2023). Firms’ reputational marketing resource like product reputation and customer service reputation play a distinctive role in securing competitive advantage (O’Cass & Sok, 2014) and provides a basis for the entity’s relational resource like customer loyalty and building bonds with customers (Jung & Shegai, 2023; Kachouie et al., 2018; Vorhies et al., 2011). Hence, it can be inferred that for an online retail store, reputational marketing capabilities like customer service capability and assortment capability can positively influence customer loyalty leading to the following hypothesis.

H₁: Resource based capability of online grocery store influences customer store loyalty

Additionally, it is demonstrated that marketing capabilities in general can lead to positive word-of-mouth or WOM (Jung & Shegai, 2023) and service recovery capability of a firm in particular can potentially generate positive WOM (Orsingher et al., 2010). WOM (or e-WOM) is accorded as a type of social capital resource (Wang et al., 2019) and customers’ positive shopping experience engendered by the store’s resource and capability prowess stimulates e-WOM (Lai et al., 2014). It is debated that customer operant resources gets further strengthened and reinforced when synchronised with the competence and capability of the interacting focal firm (Alves et al., 2016). From the above we can infer that

H₂: Resource based capability of online grocery store influences customers’ social resource

Customer Resource

Service Dominant Logic (s-d Logic) has pronounced the uncompromising importance of customer resources in the value co-creation process. Value-in-use which is the cornerstone of s-d Logic cannot be delivered by the firm but it arises with customer experience and is contingent upon customer role and the surrounding social structure (Manh, 2018;). Customers are vouched as valuable operant resource that can be profitably leveraged by the firms (Prahalad, & Venkatramaswamy, 2004). Accordingly, customers who were presumed to be passive consumption units during the goods dominant logic have been donned with titles like “prosumers” and “partial employees” (Hilton et al., 2013). Arnould’s et al., (2006) threefold customer resource schema of physical, social and cultural resource has been widely used as the foundation for several subsequent resource studies (Frempong et al., 2020; Iyanna 2016; Baron & Warnaby, 2011). Customer physical resource pertain to his physical and physiological attributes like sensory motor endowment, energy emotions and strength. Customer social operant resource include social networks which may be referent groups like family, friends and close social circle that comprises bonding social capital and bridging social capital with weak social ties (Ahmad et al., 2023) and customer cultural resource embodies specialized knowledge, skills, cultural stock and imagination (Iyanna, 2016). It is argued that social expertise incubates within customers’ primary reference group and the larger virtual groups that can eventually influence individual customer’s cognitive physical resources (Paredes et al., 2014). Furthermore, e-WOM can positively influence customer loyalty and intentions to re-purchase (Perera et al., 2019). Therefore, it is inferred that

H₃: Customer social resource positively influence customer physical resource

H₄: Customer social resource positively influence customer store loyalty

H₅: Customer social resource mediates relationship between grocery store’s resource-based capability, customer physical resource and customer loyalty

Prior studies evidenced that feelings and emotions, the salience of individual physical resource can bear upon one’s sense of satisfaction and loyalty (Japutra et al., 2021). Similar results have been postulated for customer resources of cognitive absorption derived from flow and trust propensity as experience of flow during online purchase and higher perceived trustworthiness of seller subsequently leads to higher customer loyalty (Bilgihan, 2016). Accordingly, it is inferred that

H₆: Customer physical resource influence customer store loyalty in online grocery

H₇: Customer physical resource mediate the relationship between social resource and customer loyalty

3. Methodology & Data Analysis

The research study was conducted using mixed research methods. Qualitative *focus group discussions* (FGDs) were conducted to gather first hand insights on customer perspectives towards online grocery. Three rounds of FGDs were conducted ensuring that the participants belonged to multiple age groups including university post graduate students in their early and mid-twenties to the middle aged and senior adults nearing the age of superannuation with adequate experience in online shopping. Manual thematic coding and sub coding was done for content analysis purpose. Using triangulation method, the focus group discussions findings were validated with survey method that followed the focus groups (Van & Angehrn, 2017). The results from the focus group analysis together with extensive review of literature helped the researchers to identify the variables for the proposed conceptual model. Online survey was conducted after focus groups using snowball sampling method for gathering quantitative data. Before sharing the questionnaire, content validation was done by subject matter experts from the fields of academics and industry (Bujang et al., 2022). An offline pilot study with fifty sample size was undertaken to examine respondents understanding of the questionnaire and to identify the changes needed in the research instrument. The final survey was conducted in Bengaluru city of India and from the pool of 420 responses collected, 359 were used for data analysis purpose ensuring that the selected sample meets the respondent eligibility criteria. Anyone above twenty-one years of age and having completed minimum three rounds of online grocery purchases within the last six months preceding the date of survey was eligible to participate in the survey. All the items used for measuring the constructs were adapted from previous literature. A seven-point Likert scale with 1 as Strongly Disagree and 7 as Strongly Agree was used (Joshi et al., 2015). Structural equation modelling using Partial Least Square was done with the SmartPLS software for the data analysis purpose. Considering the requirements of the exploratory study and the advantages of variance based PLS over covariance-based SEM (Hiar & Alamar, 2022) partial least square was felt to be the more appropriate choice for the serial mediation resource integration study. It is evident from the extant literature that PLS SEM has found wide application in management related research studies (Benitez, et al., 2020). For the study purpose, the constructs *Resource Based Capability* and *Social Resource* are construed as higher order reflective-reflective constructs. Repeated indicators approach of *higher order component* (HOC) analysis was applied for the proposed conceptual model such that all the indicators of the lower order constructs were assigned to the higher order construct (Sarstedt et al., 2019) thereby simplifying interpretation task when compared to the two stage HOC approach (Acharya et al., 2023). Therefore, the indicators of assortment and customer service were assigned to higher-order resource-based capability and the indicators of subjective norm and e-WOM were assigned to the mediator variable customer social resource. Then the measurement model analysis was performed followed by the structural model analysis.

3.1 Preliminary Analysis

The preliminary analysis for the study was conducted with Bartlett's test for sphericity and the Kaiser Meyer Olkin (KMO) test. The Bartlett's test for sphericity was significant at $p < 0.001$ and the Kaiser Meyer Olkin (KMO) test matched threshold of 0.8 (Shrestha, 2021) Exploratory factor analysis was done using Principal Component method with varimax rotation and the items with factor loadings more than 0.6 were taken for further analysis.

3.2 Common Method Bias (CMB)

Considering that responses for both predictor and criterion variables were collected at the same point of time with the same research tool using uniform 7-point Likert scale and from the same respondent, common method variance test was deemed necessary. Common method bias was checked using Herman's single factor method. The results showed that variance explained by a single factor was 20.41 percent which was much lower than the single factor criterion of 50 percent suggested by Herman (Sreeram et al., 2017; see also. Harman, 1976) thereby ruling out the possibility of common method bias.

3.3 Descriptive Analysis

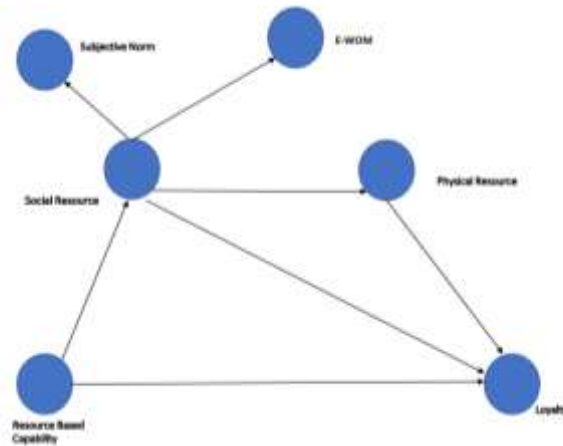
The demographic profile of the respondents in Table 1, shows that out of the 359 respondents 68% were females and 32% male. Highest number of participants were in the age group of 26-40 years (45%) with majority of the respondents being employed (63%). Maximum respondents belonged to nuclear families with family size of four or less than four members. Majority of the participants (41%) were experienced online grocery buyers with online grocery buying experience of five or more than five years. Further, only 3% of the grocery buyers stated that they buy grocery exclusively from online stores while majority (almost 85%) buy grocery online occasionally reaffirming Campo et al. (2021) multi format shopping preference and cross shopping behaviour in online grocery.

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

Two stage analysis is the hallmark of structural equation modelling. First the quality of the measurement model is examined through the reliability and validity parameters. Only after the measurement model is found to be satisfactory and acceptable, the structural model is analysed through path coefficients. The measurement model also called the outer model scrutinize the relationship between the unobserved latent construct(s) and their manifest/indicator variables whereas the structural model, also called the inner model analyse the relationship between the latent constructs.

Figure 1. Conceptual Model. Source: Authors



3.4 Measurement Model Analysis

The internal consistency, convergent validity and discriminant validity were examined with the help of Cronbach’s coefficient alpha (α) and confirmatory factor analysis (CFA) approach. The standard loadings for the constructs were all higher than 0.6 thereby satisfying standardized loading requirement (Rehman et al., 2022; see also Sarstedt et al., 2021). Composite reliability of the constructs was more than 0.7 and the AVE of each construct was more than 0.5 thereby satisfying the threshold requirements (Sarstedt et al., 2021)

Table 2. Construct reliability and factor loadings

Variable	Items	Factor Loadings	Composite reliability	AVE	Cronbach Alpha
Assortment	Assort1	0.659	0.842	0.517	0.764
	Assort3	0.752			
	Assort4	0.758			
	Assort 5	0.614			
	Assort 6	0.77			
Customer Service	CS2	0.738	0.866	0.52	0.813
	CS3	0.636			
	CS4	0.729			
	CS7	0.802			
	CS8	0.625			
	CS9	0.778			
e-WOM	E-WOM 1	0.759	0.862	0.61	0.786
	E-WOM 2	0.823			
	E-WOM 3	0.782			
	E-WOM 4	0.758			
Subjective Norm	SN1	0.689	0.846	0.525	0.772
	SN2	0.75			
	SN3	0.659			
	SN4	0.693			
Loyalty	Loyalty1	0.817	0.844	0.576	0.754

	Loyalty2	0.705			
	Loyalty4	0.706			
	Loyalty5	0.802			

Tests for Discriminant Validity

HTMT

Discriminant Validity was assessed using both HTMT and Fornell Larcker criterion. HTMT examines correlations between the study constructs. This criterion is based on the Multitrait-Multimethod (MTMM) matrix as developed by Campbell and Fiske (1959) and includes analysing the Heterotrait-Monotrait ratio of the correlations. Table 3 shows that the HTMT index are less than 0.9 meeting the threshold requirement (Henseler et al.,2015).

Table.3: HTMT Test

	1	2	3	4	5	6	9	10	11
Assortment (1)	-								
Cognitive Absorption (2)	0.362								
Customer Service (3)	0.723	0.239							
Loyalty (4)	0.706	0.463	0.668						
Self-efficacy (5)	0.656	0.242	0.757	0.68					
Subjective Norm (6)	0.256	0.289	0.161	0.26	0.17	0.36			
Trust Propensity (7)	0.487	0.325	0.580	0.53	0.37	0.46	0.545		
e-WOM (8)	0.352	0.312	0.379	0.36	0.41	0.54	0.466	0.246	-

Fornell and Larcker Criterion of discriminant validity

In Fornell Larcker method, the square root of AVE was compared to the constructs as proposed by Fornell and Larcker (1981). Accordingly, the diagonal square root of AVE values is expected to be higher than the corresponding latent variables in the corresponding rows and columns. Table 4 results suggest that all the square root values of AVE exceeded the correlation values, denoting no major concerns of discriminant validity violation.

Table.4: Fornell and Larcker Model

	1	2	3	4	5	6	7	8
Assortment (1)	0.851							
Cognitive Absorption (2)	0.276	0.762						
Customer Service (3)	0.595	0.194	0.961					
Loyalty (4)	0.542	0.348	0.547	0.75				
Self-efficacy (5)	0.527	0.190	0.626	0.53	0.79			
Subjective Norm (6)	0.193	0.217	0.094	0.18	0.03	0.755		
Trust Propensity (7)	0.388	0.252	0.478	0.43	0.30	0.417	0.793	
e-WOM (8)	0.279	0.243	0.310	0.28	0.33	0.370	0.196	0.78

3.5 Structural Model Analysis

In SEM, the structural model also called the inner model establishes relationships between the latent variables by estimating their path coefficients. Complying with the guidelines of Hair et al., (2017) bootstrapping method was used for examining the path coefficient significance. To measure the relational hypothesis, statistical significance of path coefficients was assessed with t values (should be greater than or equal to +/- 1.98) or p values (should be less than 0.05). The hypothesized relationship and the path coefficient of the structural model along with the t-statistics and the p-values are shown in Table 5

Table 5: Testing for direct effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
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**
Resource based capability -> Social Resource	0.171	0.174	0.069	2.479	0.013*
Social Resource-> e-WOM	0.819	0.82	0.025	33.027	0.000**
Social Resource-> Subjective	0.836	0.835	0.025	33.848	0.000**

Norms					
Social Resource -> Physical Resource	0.229	0.235	0.045	5.206	0.000**
Physical Resource -> Loyalty	0.389	0.391	0.069	5.653	0.000**
Social Resource-> Loyalty	0.008	0.007	0.05	0.165	0.869 ^{NS}

** $p < 0.01$, significant, * $p < 0.05$, Significant, NS- Not significant

Table 6: Testing for Indirect effects

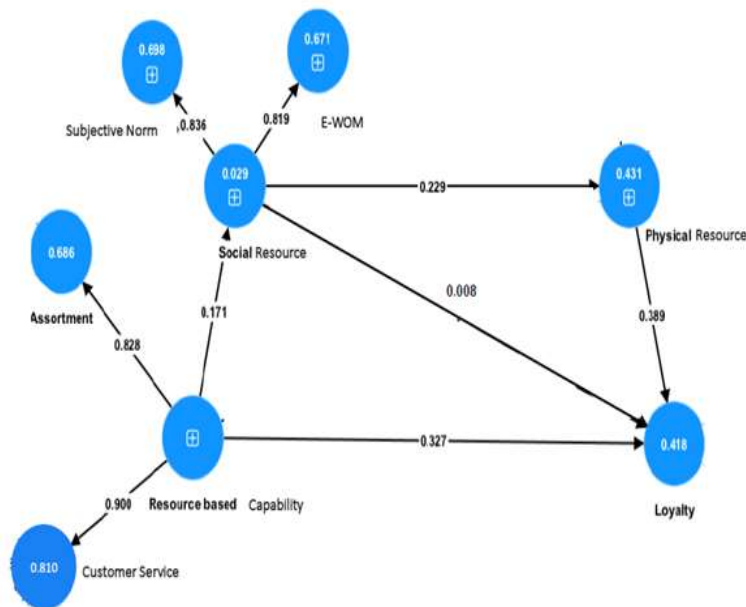
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Resource based capability -> Social Resource-> Loyalty	0.001	0.001	0.009	0.151	0.880 ^{NS}
Resource based -> Social Resource-> Physical Resource-> Loyalty	0.015	0.016	0.008	1.901	0.057*

** $p < 0.01$, significant, * $p < 0.05$, Significant, NS- Not significant

Mediation Analysis

The mediation analysis was done using the bootstrapping method wherein the mediation effect is analyzed in two steps. In the first step the direct effects without mediation are assessed and in the second step the mediation effects through the indirect bootstrapping results are computed (Hadi et al., 2016). Accordingly, from the bootstrapping results shown in Table 5 & Table 6 it can be deciphered that serial mediator social resource does influence physical resource between exogenous variable RBC and dependent variable loyalty (T value = 1.901 and P = 0.057 significant at 10% confidence level) while social resource fails to show any mediation effect between firm resource-based capability and loyalty as both p-value and t-value exceeds the threshold requirements. Further, the results of *variance accounted for* (VAF) (*indirect mediation effect divided by total mediation effect*) was calculated which shows there is no mediation effect of social resource on customer loyalty and only partial mediation (33%) effect is exercised between firm’s RBC and customer physical resource.

Figure 2. Model showing path coefficients. Source: Authors



R Squared

R squared determines the explanatory power of independent variable on the dependent variable. From Table7, it becomes clear that construct resource-based capability has very low explanatory power for customer social resource. Loyalty, the outcome variable in the study has an explanatory power to the extent of 41% meaning that the variables physical resource and resource-based capability put together were able to explain loyalty to an extent of 41%. R squared value of exogenous loyalty makes it evident that online grocery buyers’ store loyalty is influenced by other factors that are not within the scope of this study.

Table 7: R squared

	R-squared	R-square adjusted
Loyalty	0.418	0.412
Physical Resource	0.431	0.428
Social Resource	0.029	0.026

Table 8: f^2 – Effect size

	Physical Resource	Resource Based Capability	Social Resource
Assortment		2.178	
Customer Service		4.257	
Social Resource		0.029	
E-WOM			2.039
Loyalty	0.149	0.11	0
Physical Resource			0.629
Subjective Norm			2.323

In a structural model analysis, one variable can be affected or influenced by many other variables. Removing one of the exogenous variables may have an effect on the endogenous variable or outcome variable. The f^2 (F Squared) value determines the change in R squared value if one exogenous variable is removed from the model. Hence, the F Squared value provides the effect size according to rule given by Cohen (1988). If value of the F Squared is greater than or equal to 0.02, then the effect size is small, if it is greater than or equal to 0.15, then it is medium, and if it is greater than equal to 0.35, then it is large (Henseler, 2017). From Table 8 we can understand that the effect size is maximum for the construct customer service followed by subjective norm and electronic word of mouth or E-WOM.

4. Results & Discussions

The study results show that customer operant resource is an integral aspect of dyadic firm-customer value co-creation. This is a reinforcement of service dominant logic FP 6 (Foundational Premise 6) “The customer is always a co-creator of value” (Vargo & Lusch, 2008 p.7). The empirical study using reflective-reflective higher order component model, has explored and statistically validated potential manifestations of customer operant social resource. This marks a positive contribution to co-creation literature that examines possible antecedents and consequences of co-creation and resource integration. The bootstrapping results suggest that an online grocery store’s marketing resource-based capability has a significant relationship with customer social resource (H_2 supported). Individual’s social resource do not show any direct effect on customer loyalty (H_4 rejected) but mediates the relationship between firm resource capability and customer physical resource (H_5 supported). This can be justified from the fact that the empirical cross-sectional study was conducted on experienced online grocery shoppers instead of first-time online buyers as regular and repeat buyers prioritise shopping experience over the opinion of significant others and e-WOM. Customer physical resource manifested through cognitive absorption, self-efficacy, trust propensity exercises a positive influence on customer store loyalty (H_6 & H_7 supported) The discussion on the positive mediation effect of customer physical resource between resource-based capability and customer store loyalty and the validation of latent physical resource predictor variables has been demonstrated in previous research (Purkayastha & Majumdar, 2024).

5. Theoretical Implications

The study empirically demonstrates the crucial role of customer operant resource and the importance of firm’s marketing resource-based capability in affecting customer resource integration. This study is a reaffirmation of service dominant logic that customer and firm resource integration is instrumental for dyadic value co-creation (Vargo & Lusch 2008). The study provides an exposition to the inter-relatedness between customers’ operant resources at an individual level which is a novel contribution to co-creation literature. Previous studies have identified and tested factors like self-efficacy, expertise and bridging social capital as the antecedents of value co-creation (Alves et al., 2016). The present study has examined new dimensions of customer operant resources which were hitherto unexplored in co-creation context. The study demonstrates subjective norm and electronic word-of-mouth (e-WOM) as the dimensions of customer social resource. Further the study indicates that firm’s resource capability facilitates value co-creation and stimulates resource contribution by customers. The study suggests the positive effect of firm reputational marketing resource-based capability on value co-creation through resource integration leading to customer loyalty.

6. Managerial Implications

Considering the weightiness of operant social resource on customer physical resource for value co-creation purpose, online marketers and practitioners should be proactive in soliciting customer feedback and reviews. Online sellers can provide customer interaction platforms similar to chat rooms in their apps and webstores that allow customers to raise questions, clear doubts that may be either related or non-related to purchase issues on a real time basis. The online stores should encourage customers to voice concerns (if any) in an appropriate manner while ensuring that timely customer service and service recovery mechanism is promptly available. Also, firms should invest on social media research apart from marketing intelligence through techniques like customer and partner surveys to keep a tab on customer sentiments. Besides leveraging from the paid influencer marketing strategies, managers should also identify and reward the patrons and brand advocates who spread positive word of mouth both within and outside their immediate social circle.

7. Limitations & Future Research

The study is restricted to online grocery buying situations and therefore may not be an apt representation for non-utilitarian and high-involvement goods or service purchase scenarios. The cross-sectional study considered only two dimensions each for social resource and e-grocers marketing resource capability. This may be a potential limitation of the study as addition of more lower order latent variables can help to enhance the explanatory power of the conceptual model. Moreover, the sample for the study constituted solely of educated urbanites. As online grocery has penetrated even to the smaller cities and towns in India, future studies can be planned on a bigger scale with a more representative sample and with a wider research scope including omnichannel retailers of grocery as well as other industries.

Conclusion

Research investigations in the area of customer resources are markedly scarce. The empirical study using the online grocery settings is an endeavor to address this customer resources gap. The study findings endorse and extend the service dominant logic axiom that customer is an active contributor in value co-creation. The research initiative elucidates the dimensions of customer resource and highlights the intra customer operant resource integration which are novel contributions to value co-creation and resource literature. The study reiterates service dominant premise of dyadic customer-firm resource integration and indicates newer research opportunities for future researchers.

References

- [1] Acharya, N., Sassenberg, A. M., & Soar, J. (2023). The Role of Cognitive Absorption in Recommender System Reuse. *Sustainability*, 15(5), 3896. <https://doi.org/10.3390/su15053896>.
- [2] Agarwal, A.K. & Rahman, Z. (2015) Roles and Resource Contributions of Customers in Value Co-creation. *International Strategic Management Review*, Vol. 3, pp. 144–160. <https://doi.org/10.1016/j.ism.2015.03.001>.
- [3] Ahmad, Z., Soroya, S. H. & Mahmood, K. (2023) Bridging social capital through the use of social networking sites: A systematic literature review. *Journal of Human Behaviour in the Social Environment*, 33, pp.473-489.
- [4] <https://doi.org/10.1080/10911359.2022.2064025>.
- [5] Alves, H., Ferreira, J. J., & Fernandes, C. I. (2016). Customer's operant resources effects on co-creation activities. *Journal of Innovation & Knowledge*, 1(2), 69-80. <https://doi.org/10.1016/j.jik.2016.03.001>.
- [6] Arnould, E. J., Price L. L. and Malshe, A. (2006) 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
- [7] Azhar, & Bashir, M.A., (2018) Understanding e-Loyalty in Online Grocery Shopping. *International Journal of Applied Business & International Management*, 3(2), pp. 37-56
- [8] Barney, J. B., Ketchen Jr, D. J., & Wright, M. (2021). Resource-based theory and the value creation framework. *Journal of Management*, 47(7), 1936-1955. <https://doi.org/10.1177/01492063211021655>.
- [9] Baron, S., & Harris, K. (2008). Consumers as resource integrators. *Journal of marketing Management*, 24(1-2), 113-130. <https://doi.org/10.1362/026725708X273948>.
- [10] Baron, S., Patterson, A., Warnaby, G. and Harris, K. (2010) Service-dominant logic: marketing research implications and opportunities. *Journal of Customer Behaviour*, 9(3), pp. 253-64. <https://doi.org/10.1362/147539210X533179>.
- [11] Benitez, J., Henseler, J., Castillo, A., & Schubert, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information & management*, 57(2), 103168. <https://doi.org/10.1016/j.im.2019.05.003>.
- [12] Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. *Computers in human behavior*, 61, 103-113. <https://doi.org/10.1016/j.chb.2016.03.014>.

- [13] Bujang, M. A., Khee, H. Y., & Yee, L. K. (2022). *A step-by-step guide to questionnaire validation research*. Institute for Clinical Research, NIH, Malaysia.
- [14] Campo, K., Lamey, L., Breugelmans, E., & Melis, K. (2021). Going online for groceries: Drivers of category-level share of wallet expansion. *Journal of Retailing*, 97(2), 154-172. <https://doi.org/10.1016/j.jretai.2020.05.003>.
- [15] Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, 56(2), 81. <https://psycnet.apa.org/doi/10.1037/h0046016>.
- [16] Cho, S., Linderman, K., (2020) Resource-Based Product and Process Innovation Model: Theory Development and Empirical Validation. *Sustainability*, 12 pp. 913. <https://doi.org/10.3390/su12030913>.
- [17] Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Routledge. <https://doi.org/10.4324/9780203771587>.
- [18] Dhanapal, S., Vashu, D., & Subramaniam, T. (2015). Perceptions on the challenges of online purchasing: a study from “baby boomers”, generation “X” and generation “Y” point of views. *Contaduría y administración*, 60, 107-132. <https://doi.org/10.1016/j.cya.2015.08.003>.
- [19] Duah, F. A., Abeeku Bamfo, B., & Serbe Marfo, J. (2024). Marketing capability and firm performance: the mediating role of resource orchestration capability. *Cogent Social Sciences*, 10(1), 2318880. <https://doi.org/10.1080/23311886.2024.2318880>.
- [20] Driediger, F., & Bhatiasevi, V. (2019). Online grocery shopping in Thailand: Consumer acceptance and usage behavior. *Journal of Retailing and Consumer Services*, 48, 224-237. <https://doi.org/10.1016/j.jretconser.2019.02.005>.
- [21] Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>.
- [22] Frimpong, J., Chai, J., Ampaw, E.M., et al., (2019) 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. <https://doi.org/10.1016/j.jclepro.2019.119228>.
- [23] Gaudenzi, B., Mola, L., & Rossignoli, C. (2021). Hitting or missing the target: Resources and capabilities for alternative e-commerce pathways in the fashion industry. *Industrial marketing management*, 93, 124-136. <https://doi.org/10.1016/j.indmarman.2020.12.016>.
- [24] Grönroos, C. (2006). Adopting a service logic for marketing. *Marketing theory*. 6(3), 317-333. <https://doi.org/10.1177/1470593106066794>
- [25] Hadi, N. U., Abdullah, N., & Sentosa, I. (2016). Making sense of mediating analysis: A marketing perspective. *Review of Integrative Business and Economics Research*, 5(2), 62-76.
- [26] Hair, J., Hollingsworth, C.L., Randolph, A.B. and Chong, A.Y.L. (2017). An updated and expanded assessment of PLS-SEM in information systems research", *Industrial Management & Data Systems*, Vol. 117(3), pp. 442-458. <https://doi.org/10.1108/IMDS-04-2016-0130>.
- [27] Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>.
- [28] Harman, H. H. (1976). *Modern factor analysis*. University of Chicago press.
- [29] Harris, P., Dall’Olmo Riley, F., Riley, D., & Hand, C. (2017). Online and store patronage: a typology of grocery shoppers. *International Journal of Retail & Distribution Management*, 45(4), 419-445. <https://doi.org/10.1108/IJRDM-06-2016-0103>.
- [30] Hau, L. N., Tram Anh, P. N., & Thuy, P. N. (2017). The effects of interaction behaviors of service frontliners on customer participation in the value co-creation: a study of health care service. *Service Business*, 11, 253-277.
- [31] Heinonen, K., Strandvik, T., Mickelsson, K. J., Edvardsson, B., Sundström, E., & Andersson, P. (2010). A customer-dominant logic of service. *Journal of Service management*, 21(4), 531-548. <https://doi.org/10.1108/09564231011066088>.
- [32] Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135. <https://doi.org/10.1007/s11747-014-0403-8>.
- [33] Henseler, J. (2017). Bridging design and behavioral research with variance-based structural equation modeling. *Journal of advertising*, 46(1), 178-192. <https://doi.org/10.1080/00913367.2017.1281780>.
- [34] Hilton, T., Hughes, T., Little, E., Marandi, E., (2013) Adopting self-service technology to do more with less. *Journal of Services Marketing*, Vol. 27 (1), pp.3 – 12. <https://doi.org/10.1108/08876041311296338>.
- [35] Hughes, T., Vafeas, M., Hilton, T., (2018) Resource integration for co-creation between marketing agencies and clients. *European Journal of Marketing*, 52(5/6), pp.1329-1354. <https://doi.org/10.1108/EJM-10-2015-0725>.
- [36] Iyanna, S. (2016) Insights into Consumer Resource Integration and Value Co-Creation Process. *The Journal of Applied Business Research*, 32(3).

- [37] Japutra, A., Utami, A. F., Molinillo, S., & Ekaputra, I. A. (2021). Influence of customer application experience and value in use on loyalty toward retailers. *Journal of Retailing and Consumer Services*, 59. <https://doi.org/10.1016/j.jretconser.2020.102390>.
- [38] Jie, S., Harms, R., Groen, A. J., & Jones, P. (2023). Capabilities and performance of early internationalizing firms: A systematic literature review. *Journal of small business management*, 61(3), 1143-1173. <https://doi.org/10.1080/00472778.2021.1955124>.
- [39] Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British journal of applied science & technology*, 7(4), 396-403. <https://doi.org/10.9734/BJAST/2015/14975>.
- [40] Jung, S. U., & Shegai, V. (2023). The impact of digital marketing innovation on firm performance: Mediation by marketing capability and moderation by firm size. *Sustainability*, 15(7), 5711. <https://doi.org/10.3390/su15075711>.
- [41] Kachouie, R., Mavondo, F., & Sands, S. (2018). Dynamic marketing capabilities view on creating market change. *European Journal of Marketing*, 52(5/6), 1007-1036. <https://doi.org/10.1108/EJM-10-2016-0588>.
- [42] Lai, J. Y., Ulhas, K. R., & Lin, J. D. (2014). Assessing and managing e-commerce service convenience. *Information Systems Frontiers*, 16, 273-289. <https://doi.org/10.1007/s10796-012-9344-2>
- [43] Lissitsa, S., & Laor, T. (2021). Baby Boomers, Generation X and Generation Y: Identifying generational differences in effects of personality traits in on-demand radio use. *Technology in society*, 64, 101526. <https://doi.org/10.1016/j.techsoc.2021.101526>.
- [44] Manh, T. N. (2018). Co-creation from consumer resource Integration. *International Journal of Asian Business and Information Management (IJABIM)*, 9(3), 1-13.
- [45] Melović, B., Šehović, D., Karadžić, V., Dabić, M., & Ćirović, D. (2021). Determinants of Millennials' behavior in online shopping—Implications on consumers' satisfaction and e-business development. *Technology in society*, 65, 101561 <https://doi.org/10.1016/j.techsoc.2021.101561>.
- [46] Mortimer, G., Fazal e Hasan, S., Andrews, L., & Martin, J. (2016). Online grocery shopping: the impact of shopping frequency on perceived risk. *The International Review of Retail, Distribution and Consumer Research*, 26(2), 202-223. <https://doi.org/10.1080/09593969.2015.1130737>.
- [47] Nakano, S. (2023). Customer demand concentration in online grocery retailing: Differences between online and physical store shopping baskets. *Electronic Commerce Research and Applications*, 62, 101336. <https://doi.org/10.1016/j.elerap.2023.101336>.
- [48] Ngo, L. V., O'Cass, A., (2009) Creating value offerings via operant resource-based capabilities. *Industrial Marketing Management*, 38, pp.45–59. <https://doi.org/10.1016/j.indmarman.2007.11.002>.
- [49] O'Cass, A., & Sok, P. (2014). The role of intellectual resources, product innovation capability, reputational resources and marketing capability combinations in firm growth. *International Small Business Journal*, 32(8), 996-1018. <https://doi.org/10.1177/0266242613480225>.
- [50] Orsingher, C., Valentini, S., & De Angelis, M. (2010). A meta-analysis of satisfaction with complaint handling in services. *Journal of the academy of marketing science*, 38, 169-186. <https://doi.org/10.1007/s11747-009-0155-z>.
- [51] Paredes, M. R., Barrutia, J. M., & Echebarria, C. (2014). Resources for value co-creation in e-commerce: a review. *Electronic Commerce Research*, 14, 111-136. <https://doi.org/10.1007/s10660-014-9135-6>.
- [52] Peters, L. D., Löbler, H., Brodie, R. J., Breidbach, C. F., Hollebeek, L. D., Smith, S. D., ... & Varey, R. J. (2014). Theorizing about resource integration through service-dominant logic. *Marketing theory*, 14(3), 249-268. <https://doi.org/10.1177/1470593114534341>.
- [53] Perera, C. H., Nayak, R., & Long, N. V. T. (2019). The Impact of electronic-word-of mouth on e-loyalty and consumers'e-purchase decision making process: A Social media perspective. *International Journal of Trade, Economics and Finance*, 10(4), 85-91.
- [54] Prahalad, C.K., & Venkatramaswamy, V., (2004) Co-Creation Experiences: The Next Practice in Value Creation. *Journal of Interactive Marketing*, 18(3), pp.5-14. <https://doi.org/10.1002/dir.20015>.
- [55] Prasad, J. C., & Ramachandra Aryasri, A. (2011). Effect of shopper attributes on retail format choice behaviour for food and grocery retailing in India. *International Journal of Retail & Distribution Management*, 39(1), 68-86. <https://doi.org/10.1108/09590551111104486>.
- [56] Purkayastha, M. & Majumdar, C. S., (2024). Influence of customer physical resource on customer loyalty: A mediation study. *Journal of Information and Optimization Sciences*, 44(8), 1751-1763. <https://doi.org/10.47974/JIOS-1489>
- [57] Raijas, A. (2002). The consumer benefits and problems in the electronic grocery store. *Journal of Retailing and Consumer Services*, 9(2), 107-113.
- [58] Rehman, S. U., Bresciani, S., Ashfaq, K., & Alam, G. M. (2022). Intellectual capital, knowledge management and competitive advantage: a resource orchestration perspective. *Journal of Knowledge Management*, 26(7), 1705-1731. <https://doi.org/10.1108/JKM-06-2021-0453>.
- [59] Sarstedt, M., Hair Jr, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian marketing journal*, 27(3), 197-211. <https://doi.org/10.1016/j.ausmj.2019.05.003>

- [60] Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-57413-4_15.
- [61] Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11. DOI:10.12691/ajams-9-1-2.
- [62] Singh, C., Dash, M. K., Sahu, R., & Kumar, A. (2024). Investigating the acceptance intentions of online shopping assistants in E-commerce interactions: Mediating role of trust and effects of consumer demographics. *Heliyon*, 10(3) <https://doi.org/10.1016/j.heliyon.2024.e25031>.
- [63] Singh, R. & Rosengren, S., (2020) Why do online grocery shoppers switch? An empirical investigation of drivers of switching in online grocery *Journal of Retailing and Consumer Services*, Vol. 53 <https://doi.org/10.1016/j.jretconser.2019.101962>.
- [64] Sreeram, A., Kesharwani, A., & Desai, S. (2017). Factors affecting satisfaction and loyalty in online grocery shopping: an integrated model. *Journal of Indian Business Research*, 9(2), 107-132. <https://doi.org/10.1108/JIBR-01-2016-0001>.
- [65] Timotius, E., & Octavius, G. S. (2021). Global changing of consumer behavior to retail distribution due to pandemic of COVID-19: a systematic review. *Journal of Distribution Science*, 19(11), 69-80. <http://dx.doi.org/10.15722/jds.19.11.202111.69>.
- [66] Tomar, S. S. (2024). Factors Affecting Customer Satisfaction in Online Grocery Shopping: An Empirical Analysis. *Management*, 2(1), 63-81. DOI: 10.1177/ijim.231206620.
- [67] Van Eeuwijk, P., & Angehrn, Z. (2017). How To Conduct a Focus Group Discussion (FGD). Methodological Manual.
- [68] Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of marketing*, 68(1), 1-17. <https://doi.org/10.1509/jmkg.68.1.1.24036>.
- [69] Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of marketing Science*, 36, 1-10. <https://doi.org/10.1007/s11747-007-0069-6>.
- [70] Vargo, S. L., Koskela-Huotari, K., & Vink, J. (2020). Service-dominant logic: foundations and applications. In *The Routledge handbook of service research insights and ideas* (pp. 3-23). Routledge.
- [71] Vorhies, D. W., Orr, L. M., & Bush, V. D. (2011). Improving customer-focused marketing capabilities and firm financial performance via marketing exploration and exploitation. *Journal of the Academy of Marketing Science*, 39, 736-756. <https://doi.org/10.1007/s11747-010-0228-z>.
- [72] Wang, D., Li, Z., & Xiao, B. (2019). Social influence in first-time and upgrade adoption. *Electronic Commerce Research and Applications*, 34, 100834. <https://doi.org/10.1016/j.elerap.2019.100834>.

ANNEXURE

Measurement Item details

Construct	Item Statement	Item Code
Assortment	The package sizes available in the online grocery has lot of variety to choose from	Assort1
	The store provides lot of variety in quality ranges to choose from	Assort3
	The store provides lot of variety in brands to choose from	Assort4
	The store provides excellent assortment of products to choose from	Assort5
	Customers get appropriate personalised services in the online grocery store	Assort6
	Customer Service	It is convenient to do shopping in the online grocery store
	I can save time when I shop in the online store	CS3
	I find it easier to complete my transaction in the online store	CS4
	The customer support treats with sympathy and reassuringly whenever there is any issue	CS7
	Return and refund policy in the store is fair and reasonable	CS8
	My return or refund experience in the store has always been pleasant	CS9

Subjective Norm	<p>I often identify with people by buying from the same store that they purchase from</p> <p>I buy from this online store as people who are important to me think that I should buy from this store</p> <p>I rarely purchase grocery from an online store unless I am sure my family and friends approve of it</p> <p>I frequently take information from friends and family before I buy from any online store</p>	<p>SN1</p> <p>SN2</p> <p>SN3</p> <p>SN4</p>
e-WOM	<p>I read consumer reviews/comments before making purchase decision</p> <p>Online reviews are important for me</p> <p>Consumer reviews and comments are always helpful</p> <p>Reviews and comments influence my purchase decision</p>	<p>E-WOM 1</p> <p>E-WOM 2</p> <p>E-WOM 3</p> <p>E-WOM 4</p>
Loyalty	<p>I consider this site/app to be the best for online grocery buying</p> <p>I always ensure that I buy from this website/app whenever I do any grocery related shopping</p> <p>If the current service performance level remains unchanged, I will never switch to any other online grocery store</p> <p>This website is my first choice for any grocery related purchase</p>	<p>Loyalty1</p> <p>Loyalty2</p> <p>Loyalty4</p> <p>Loyalty5</p>