Exploring the role of antecedents of product innovativeness and corporate social responsibility in extending customer citizenship behavior

Wen Zuo, Mu Tiantian, Ahmad Zuhairi Abdul Majid, Zhu Guangyu and Xu Yang

ABSTRACT
In recent times, enhancing and extending the customer base is possible when organizations increase customer citizenship behavior among their consumers. Since the customers are much aware of firms’ social and environmental contributions thus, organizations take adequate measures to improve their product innovativeness and corporate social responsibility. Hence the current study is designed to ascertain the role of Corporate Social Responsibility (CSR) and product innovativeness in patronizing Customer Citizenship Behavior. Based on the survey research design, the current study applies structural equation modeling using Partial Least squares on the data set of 453 respondents. The results revealed that all proposed hypotheses were significant and positive. These findings imply that the service providers and manufacturers should increase transparency in the communication process through which CSR and innovativeness are effectively communicated to the customers, eventually assisting them in increasing their Customer Citizenship Behavior among customers. These results offer valuable policy insights.

ARTICLE HISTORY
Received 29 October 2021
Accepted 7 December 2021

KEYWORDS
Product innovativeness; corporate social responsibility; customer citizenship behavior; determinants; PLS-SEM

JEL CODES
M14; L15; O10

1. Introduction
The dynamics of customers’ tastes, demands, and requirements are reported to be changed rapidly, which eventually creates uncertainty in the market and urges the manufacturer to work on innovation and development to remain relevant and competitive (Whalen et al., 2016; Reibstein et al., 2009). The capability of sustaining the product innovativeness in such a scenario enhances the competitiveness of a particular firm. It destroys the level of effectiveness of the marketing mix that competitors devise to cater to the market (Karakaya & Yannopoulos, 2011; Sharif et al., 2020). In
addition to this, in the current competitive situation, a firm’s product offering can only survive when the customer perceives to be innovative and creative (Linder, 2015).

The concept of Product Innovativeness is a paradox in which the technological advancements are not considered innovative all of time, as advancements in the processor chips though is the advancement but may not be equally received by the customers (Mick & Fournier, 1998; Lee & O’Connor, 2003; Lingyan et al., 2021; Sun et al., 2021). Therefore, it can be assumed that a product that the company’s research and development team perceive as innovative need not necessarily be equally received by the customers as innovative (Sharma et al., 2016; Calantone et al., 2006; Langerak & Hultink, 2006). Though the literature discussing product innovativeness covers from the managerial perspective and ignores the participation of the customers, which is a side that needs further exploration as such leads to improve the level of belongings and association of the customer with the organization (Zhang et al., 2016; Sharif et al., 2021; Ozturk & Acaravci, 2013; Xuefeng et al., 2021).

In addition to Product Innovativeness, the current ever-changing market conditions also demand firms to rely on the social and environmental contribution made by the firms referred to as Corporate Social Responsibility (CSR) (Khan et al., 2021). Though CSR is made for contributing towards the social well-being and is considered the responsibility of the organizations, the more the company contributes to CSR, the more positive image it makes in the market (Brammer & Millington, 2006). There is no doubt that every stakeholder needs to contribute and behave ethically and responsibly (Najmi et al., 2021a; Zhuang et al., 2021; Razzaq et al., 2021), but the majority of the burden lies on the manufacturers and service providers (Armstrong & Kotler, 2005; Peloza & Shang, 2011).

On the other hand, for the manufacturer having a strong customer base is the need of time which are not just the initiator of the revenue stream for the value provider, but also the source of the information, feedback, improvement suggestion and so on which assist firms to improve better and accordingly deliver better (Groth, 2005; Bove et al., 2009). Customer being the source of knowledge while having an easy approach to the information technology, assists them in understanding their needs. Companies need to patronize them and develop citizenship behavior (Bartikowski & Walsh, 2011; Sung & Yang, 2009; An et al., 2021; Zhang et al., 2021).

Therefore, based on the discussion above, it is established that for an organization to have a higher customer base, they need to have a higher level of product innovativeness and a higher level of ethical and social contribution to society. This leads to enhancing the firm’s corporate reputation and improving its brand image in the market. On the other hand, when customers perceive an organization to be reputed enough, it increases their citizen behavior. Hence the current study is designed to ascertain the role of CSR and product innovativeness in patronizing Customer Citizenship Behavior.

2. Literature review

2.1. Product novelty and product innovativeness

Product Novelty refers to the level of uniqueness, originality, revolutionary and radical difference that is perceived by the organization while designing and

4760 W. ZUO ET AL.
conceptualizing any product with an intention to serve the latest and timely needs of the customer (Souder & Song, 1997; Rubera et al., 2010; Razzaq et al., 2021a). While relating it with the Product Innovativeness, the novelty of the product is also stated in terms of its specification, features covered, benefits offered, and the uniqueness perceived by the customers (Troy et al., 2000; Ali et al., 1995; Lee & O’Connor, 2003). Authors agree to consider novelty, newness, and uniqueness as an aspect that covers product innovativeness (Boisvert & Khan, 2020; Chen & Huang, 2018; Fu & Elliott, 2013). Different perspectives exist in the literature in terms of dimensions and the operational definition of novelty and newness (Moldovan et al., 2011; Goode et al., 2013; Stock et al., 2015). Like, the newness has been explained as compatibility of the newly designed product while linking it with the way of consumption and experiences of the customers (Salavou, 2005), whereas novelty not just covers the aspect of newness but also comprised of the element of originality, atypical and innovativeness (Boisvert & Khan, 2020; Goode et al., 2013). Despite of the fact that the aspects of newness and novelty are muddled by some of the researchers (Moldovan et al., 2011; Li et al., 2015), even though they agree in ascertaining it as the determining factor of product innovativeness (Boisvert & Khan, 2020; Fang, 2008; Sethi & Sethi, 2009). Therefore, it is proposed that:

H1: Product Novelty has a significant association with Product Innovativeness

2.2. Product effectiveness, cultural creative and product innovativeness

The extent of product innovativeness will not be justified if the product is not designed or fulfilled the aspects of appropriateness and effectiveness (Boisvert & Khan, 2020; Rubera et al., 2010). The effectiveness of any product has been explained in terms of functionality, usefulness, practicality, and appropriateness that the product is comprised of and is accordingly offered to the customers (Boisvert & Khan, 2020). The usefulness aspect of the newly designed product has been studied by various researchers, whereby it addresses the maximum value and benefits that the product meet and fulfills (Zeithaml et al., 2002; Msaed et al., 2017; Kulviwat et al., 2007). Although demand for cultural creative products is still exist in the society but despite of difference of terms that have been in the literature, the researchers agree that it covers the differentiating aspects that distinguish the product from the other competitive one, in terms of meaningfulness, utility, creativeness, and usefulness (Szymanski et al., 2007; Sethi & Sethi, 2009; Burroughs et al., 2011; Boisvert & Khan, 2020). Therefore, it is proposed that:

H2: Product Effectiveness has a significant association with Product Innovativeness

2.3. Usage friendliness and product innovativeness

The researchers often confuse usage friendliness as a novelty, whereas it is not (Szymanski et al., 2007; Li et al., 2015; Dahl et al., 1999; Sharif et al., 2020). Moreover, researchers also urged to differentiate the two factors as they both cover different aspects in driving product innovativeness (Im & Workman Jr., 2004; Im et al., 2015). Usage friendliness refers to ease and comfort that the
consumer perceives while consuming the product (Zeithaml et al., 2002; Dahl et al., 1999). Theoretically, it is similar to the phenomena of ease of use that Davis (1989) proposed and since then is being used across different researches (Msaed et al., 2017; Kulviwat et al., 2007). According to Park and Chen (2007), a product is said to be innovative when it meets the perceived requirement and is easy to use, manage, and consume. Hence a product will not said to be innovative unless it is user-friendly (Boisvert & Khan, 2020; Ling et al., 2021). Therefore, it is proposed that:

H3: Usage friendliness has a significant association with Product Innovativeness

2.4. Product aesthetics and product innovativeness

Product Aesthetics refers to the appearance, interface, look and display of the product, which is regarded as an important aspect while designing and developing any product (Boisvert & Khan, 2020). According to Zeithaml et al. (2002), the appeal, design, and profile of the product also signify the level of innovativeness of the product, whereas the association between innovation or creativity in terms of product and its respective aesthetics is regarded as a crucial element of the product (Hoyer & Stokburger-Sauer, 2012; Goode et al., 2013). Apart from product development, the use of aesthetics in relation to innovativeness from the marketing perspective is very often explored by the researchers (Talke et al., 2009; Mugge & Schoormans, 2012; Goode et al., 2013). Recently, Boisvert and Khan (2020) have explored the role of Product Aesthetics as an important element of product innovativeness and reported it is a significant determinant. Therefore, it is proposed that:

H4: Product Aesthetics has a significant association with Product Innovativeness

2.5. Customer’s CSR perceptions and product innovativeness

It is reported that during the evaluation process of the product, customers do evaluate the related information available, not just the product but also of the company that is manufacturing it (Brown & Dacin, 1997). Therefore, when a consumer gets the message that he is dealing with the company that is responsibly contributing to the society in terms of improving the well-being, equating the social imbalance, assisting the underprivileged people, and so on, then it will improve the overall image of the company (Schmeltz, 2012). Moreover, this also gives consumers to anticipate that the company will be following similar practices in designing and developing the product and consider it an element of innovation and development (Chen & Huang, 2018; Waddock & Graves, 1997; Frooman, 1997). On the other hand, researchers reported that the CSR initiatives lead the organizations to rethink the quality and innovation in the product (McWilliams & Siegel, 2001; Shrivastava, 1995), thus lead to improve the product innovativeness (Surroca et al., 2010; Porter & Kramer, 2006). Therefore, it is proposed that:

H5: Customer’s CSR perceptions have a significant association with Product Innovativeness
2.6. Customer’s CSR perceptions and customer’s citizenship behavior

As mentioned earlier, customers anticipate the ethics and responses of the companies while evaluating their products and services (Lin et al., 2016). The citizenship behavior is majorly discussed in the context of employees. In contrast, when organizations responsibly handle and manage their employees, then the employees are most likely to improve their citizenship behavior (Lin et al., 2012; Carmeli et al., 2007). In the context of consumer behavior, when organization increases its participation in CSR, the potential customers are more likely to enhance their reliance on that company (Bhattacharya & Sen, 2003). Moreover, such customers also started to support those companies, and they also increased their company-oriented good behavior due to the regular addressing of the social issues by that company (Park et al., 2017; Lii & Lee, 2012). Therefore, it is proposed that:

H6: Customer’s CSR perceptions have a significant association with Customer’s Citizenship Behavior

2.7. Product innovativeness and customer’s citizenship behavior

An individual’s behavior and attitudinal response are backed by his values, beliefs, and opinions (Ajzen & Fishbein, 2000; Najmi et al., 2021b; He et al., 2021). Likewise, while evaluating the companies to whom the customer is dealing, including the manufacturers, service providers, or any other market intermediary, the level of innovativeness is highly backed by the perception, beliefs, and values that the individual customer perceives of that company (Fu & Elliott, 2013). In addition to this, according to Getnet et al. (2019), when the company provides and meets the requirements and satisfaction, respectively, their subsequent reliance on the company is enhanced. Therefore, in such a situation, customers are more likely to keep the company updated in terms of the lacking and complaints while providing regular feedback to the companies (van Tonder et al., 2018v). Such kind of response of the customers is the outcome of their citizenship behavior which is also driven by product innovativeness (Kim et al., 2019a, Yen et al., 2020). Therefore, it is proposed that:

H6: Product Innovativeness has a significant association with Customer’s Citizenship Behavior

3. Methodology

The operationalization of the current study is being done by following the quantitative research approach, in which the survey research design is adapted for the purpose of data collection. In such research design, the questionnaire was developed by adapting the pre-developed measuring items as legitimate and ensuring their validity in the earlier research. During operationalizing the study, methodological guidelines discussed by Cooper et al. (2006) were followed. Nevertheless, the adopted measuring items following the studied variables mentioned in Figure 1 and their respective sources are mentioned in Table 1.

In terms of scales, the number of measuring items to measure the respective phenomena are already mentioned in Table 1. Moreover, in terms of nature of the...
statements, the statements for measuring ‘Product Novelty, Product Effectiveness, Usage Friendliness, Product Aesthetics, and Product Innovativeness’ were gauged on bi-polar seven point Likert scales where ‘1 – Totally Disagree, 2 – Disagree, 3 – Slightly Disagree, 4 – Do not Agree nor Disagree, 5 – Slightly Agree, 6 – Agree 7 – Totally Agree’. In addition to this, the statements for measuring ‘Customer’s CSR Perceptions and Customer’s Citizenship Behavior’ were gauged on five point Likert scales where ‘1 is for Strongly Disagree, 2 is for Disagree, 3 is for Neither Disagree nor Agree, 4 is for Agree and 5 is for Strongly Agree’.

In addition to this, due to the difference in the context of the current study and the validation and empirically studying of the measurements of the questionnaire, it validity was ensured which is called as ‘Face and Content Validity’. During this process, the questionnaire was assessment by a number of experts who ensured that the language and the statements are in accordance with the geographical context and easy to comprehend by the potential respondents. Precisely the validity was done by 2 language experts and 3 subject experts whereas they suggested specific recommendations, the incorporation of which lead to improvement in the comprehension of the questionnaire. After this process, the questionnaire was ready to go to be addressed to the potential respondents.
3.1. Common method variance

‘Common Method Variance’ (CMV) as can be understood by the name is the issue that has serious concerns by the methodological experts in operationalizing the studies especially in the context of social and management sciences (Podsakoff et al., 2003). Precisely, these are the variances and biases that are usually absorbed, which actually should not be, during conduction of the research especially during data collection, hence need to be taken care. There are several measures which was the CMV can be assessed and accounted accordingly. The recent guidelines for assessing and addressing are proposed by Podsakoff et al. (2012) who categorized the measures into two groups, namely procedural and statistical remedies. Both remedies are beneficial when they are operated at the right time. For instance, procedural remedies should be utilized during the questionnaire design and the phase of data collection, whereas the statistical remedies are basically for evaluating the extent of it by the help of different statistical tests.

For procedural remedies, in the current study two measured were utilized. Firstly, having easy to comprehend statements that are not just user friendly but also gives least possible stress to the respondents while filling out the survey form. This remedy was ensured by the experts during the phase of ‘Face and Content Validity’. Secondly, in accordance with the proposition of Podsakoff et al. (2012), different Likert Scales and type of statements were adopted. For instance, as mentioned earlier ‘Product Novelty, Product Effectiveness, Usage Friendliness, Product Aesthetics, and Product Innovativeness’ were gauged on bi-polar seven point Likert scales, whereas the statements for measuring ‘Customer’s CSR Perceptions and Customer’s Citizenship Behavior’ were gauged on five point Likert scales. Such kind of change, prevent the respondents while responding abruptly or responding without thinking.

Similarly, for statistical remedies, in the current study two measured were utilized. Firstly, Harman (1967)’s Single Factor test in which exploratory factor analysis is performed among the measuring items while keeping the rotation fixed to 1. Moreover, if the first emerged factor explains a significant portion of the variation, it leads to a higher possibility of having the CMV (Najmi & Ahmed, 2018). During the performing of the test in the current study, the revealed number did not lead to any sign of having CMV. Secondly, it is also assumed that when the correlation among the construct is so highly said greater than 0.9, it also leads to the higher possibility of having the CMV (Najmi et al., 2021a). Based on the values summarized in Table 5, the highest correlation was reported to be 0.545 between CSR and CCB. Thus there is no indication of CMV as per the values of the correlations as well.

4. Estimations and results

4.1. Data screening and demographic profile

After collecting the data and before applying any statistical techniques, the most crucial operation is data screening. This is the stage where the data set has been explored for the value that may be out of range, for instance, typo errors while entering the data; missing values where data is not entered or skipped; and the assessment of univariate and multivariate outliers, which are capable of altering the overall distribution
of data. The identification of univariate z-score value was used as the measure, whereas
for multivariate outliers, the assessment was done through the computation of Mahalanobis distance. Both the identification of univariate and multivariate outliers were made based on Hair, Black, Babin, and Anderson’s propositions (2010). In total, 500 survey forms were filled by the respondents. During the phase of data screening, 47 responses were excluded, leading to the final data set for the data analysis comprised of 453 respondents. Table 2 summarized the demographic profiles of the respondents.

4.2. Partial least square-structural equation modeling

‘Partial Least Square-Structural Equation Modeling’ (PLS-SEM) is the second generation ‘Ordinary Least Square’ based estimation technique that is superior to other conventional covariance-based estimated techniques in various ways which also justify the application of PLS-SEM in the context of the current study. According to Hair et al. (2019), PLS-SEM is capable of explaining more variation of the dependent variables while comparing with the traditional techniques, is immune to normality issues while predicting the relationships between predictors and criterion variables, and is competent to generate rigorous results when there is relatively less number of measuring items as in the current study, two of the variables are gauged through three measuring items each. Thus PLS-SEM is accordingly applied by the help of statistical software named Smart-PLS, the most famous and user-friendly software developed by Ringle et al. (2015) and has the maximum number of users who opt for applying the PLS-SEM. In addition to this, the application guidelines proposed by Hair Jr. et al. (2016) were followed, suggesting two-step procedure for the hypotheses testing and application of PLS-SEM. The procedure involves the assessment of the hypothesized model through two aspects: assessment of outer model and the inner model.

4.2.1. Outer model

The assessment of Outer Model involves evaluating the relationship between the measuring items with their respective latent variables (including both predictor and criterion variables). The Outer Model assessment is made by examining the further two aspects, namely convergent validity and discriminant validity.
Table 3. Measurement model results.

| Variables                  | Items | Factor Loadings | Cronbach’s Alpha | Composite Reliability | AVE  |
|----------------------------|-------|-----------------|------------------|------------------------|------|
| Product Novelty            | NVL1  | 0.796           | 0.823            | 0.778                  | 0.568|
|                            | NVL2  | 0.845           |                  |                        |      |
|                            | NVL3  | 0.718           |                  |                        |      |
|                            | NVL4  | 0.748           |                  |                        |      |
| Product Effectiveness      | EFF1  | 0.691           | 0.736            | 0.729                  | 0.560|
|                            | EFF2  | 0.737           |                  |                        |      |
|                            | EFF3  | 0.796           |                  |                        |      |
|                            | EFF4  | 0.789           |                  |                        |      |
| Usage Friendliness         | USG1  | 0.765           | 0.845            | 0.792                  | 0.500|
|                            | USG2  | 0.835           |                  |                        |      |
|                            | USG3  | 0.750           |                  |                        |      |
|                            | USG4  | 0.839           |                  |                        |      |
| Product Aesthetics         | AST1  | 0.671           | 0.744            | 0.770                  | 0.516|
|                            | AST2  | 0.724           |                  |                        |      |
|                            | AST3  | 0.808           |                  |                        |      |
|                            | AST4  | 0.843           |                  |                        |      |
| Product Innovativeness     | INN1  | 0.713           | 0.796            | 0.798                  | 0.564|
|                            | INN2  | 0.774           |                  |                        |      |
|                            | INN3  | 0.698           |                  |                        |      |
| Customer’s CSR Perceptions | CSR1  | 0.848           | 0.804            | 0.711                  | 0.595|
|                            | CSR2  | 0.709           |                  |                        |      |
|                            | CSR3  | 0.835           |                  |                        |      |
| Customer’s Citizenship Behavior | CCB1 | 0.693           | 0.814            | 0.785                  | 0.683|
|                            | CCB2  | 0.846           |                  |                        |      |
|                            | CCB3  | 0.821           |                  |                        |      |
|                            | CCB4  | 0.741           |                  |                        |      |
|                            | CCB5  | 0.784           |                  |                        |      |
|                            | CCB6  | 0.692           |                  |                        |      |

Source: Authors Estimation.

a. **Convergent validity**

‘Convergent validity’ means the ability of the measuring items in which they are so strongly interrelated that they eventually form a single latent variable (Mehmood & Najmi, 2017). According to Mehmood and Najmi (2017), such interrelation need to be higher among the measuring items of a single latent variable. There were four criteria by which the assessment of Convergent Validity is done. These include the value of Factor Loadings, of which Hair Jr. et al. (2016) suggested the threshold value of 0.7. As reported in Table 3, all of the factor loadings are greater than 0.7. In addition to this, the assessment of Convergent Validity is done through the values of Cronbach’s Alpha and Composite Reliability, of which Hair Jr. et al. (2016) suggested the threshold value 0.7. As reported in Table 3, all of the values of latent variables are greater than 0.7. Lastly, the assessment of Convergent Validity is done through the values of Average Variance Extracted (AVE), of which Hair Jr. et al. (2016) suggested the threshold value of 0.5. As reported in Table 3, all of the values of latent variables are greater than 0.5.

b. **Discriminant validity**

‘Discriminant validity’ means the ability of the measuring items in which they are so strongly intra related that they eventually form different latent variables (Mehmood & Najmi, 2017). According to Mehmood and Najmi (2017), in such intra relation, the factor loadings need to be higher among the measuring items of a single
latent variable, whereas it should be lower in another construct which are referred to cross-loadings. Moreover, according to Gefen and Straub (2005), the threshold of difference between factor loadings and the cross-loadings must be greater than 0.1. The generated outcome of the factor loadings and the cross-loadings are listed in Table 4.

Moreover, the second criteria that has been used for assessing the ’Discriminant Validity’ is the Fornell and Larcker (1981). As per this criteria, the correlation among the constructs must be lower than the values of square root of AVE. The assessment of Fornell and Larcker (1981) criterion is summarized in Table 5 in which the diagonal values reflects the square root of AVE whereas the values that are not the diagonal reflects the values of correlations among the constructs, whereas all of the values of the correlations are far lower than the values of square root of AVE.

Lastly, the assessment of ’Discriminant Validity’ is done through the values of ’Heterotrait-Monotrait Ratio of Correlations’ (HTMT) which is a newly proposed criterion, according to whom any value below the threshold of 0.85 confirms that the ’Discriminant Validity’ is presented in the data set. The assessment of HTMT criterion is summarized in Table 6.

### 4.2.2. Inner model

In the inner model, the tendency and quality of the explanation are assessed by the independent variables in the dependent variables. In other words, in the inner model, the model’s predictive relevancy and predictive accuracy are being gauged (Hair Jr.

---

**Table 4. Results of loadings and cross loadings.**

| Variable                      | NVL    | EFF    | USG    | AST    | INN    | CSR    | CCB    |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Product Novelty               | 0.796  | 0.408  | 0.290  | 0.253  | 0.401  | 0.286  | 0.257  |
|                               | 0.845  | 0.404  | 0.255  | 0.344  | 0.272  | 0.418  | 0.352  |
|                               | 0.718  | 0.282  | 0.357  | 0.319  | 0.447  | 0.326  | 0.444  |
|                               | 0.748  | 0.278  | 0.416  | 0.318  | 0.329  | 0.341  | 0.349  |
| Product Effectiveness         | 0.329  | 0.691  | 0.397  | 0.255  | 0.285  | 0.334  | 0.399  |
|                               | 0.407  | 0.737  | 0.369  | 0.312  | 0.368  | 0.316  | 0.300  |
|                               | 0.387  | 0.796  | 0.413  | 0.322  | 0.432  | 0.412  | 0.311  |
|                               | 0.301  | 0.789  | 0.444  | 0.265  | 0.325  | 0.373  | 0.292  |
| Usage Friendliness            | 0.268  | 0.403  | 0.765  | 0.368  | 0.326  | 0.308  | 0.311  |
|                               | 0.441  | 0.294  | 0.835  | 0.338  | 0.391  | 0.387  | 0.257  |
|                               | 0.429  | 0.290  | 0.750  | 0.359  | 0.412  | 0.414  | 0.276  |
|                               | 0.355  | 0.367  | 0.839  | 0.449  | 0.400  | 0.386  | 0.273  |
| Product Aesthetics            | 0.450  | 0.422  | 0.374  | 0.671  | 0.387  | 0.313  | 0.269  |
|                               | 0.354  | 0.337  | 0.439  | 0.724  | 0.262  | 0.381  | 0.355  |
|                               | 0.333  | 0.437  | 0.403  | 0.808  | 0.390  | 0.268  | 0.354  |
|                               | 0.364  | 0.404  | 0.266  | 0.843  | 0.326  | 0.332  | 0.381  |
| Product Innovativeness        | 0.419  | 0.379  | 0.394  | 0.424  | 0.713  | 0.320  | 0.272  |
|                               | 0.368  | 0.379  | 0.331  | 0.322  | 0.774  | 0.357  | 0.379  |
|                               | 0.271  | 0.289  | 0.444  | 0.358  | 0.698  | 0.350  | 0.295  |
| Customer’s CSR Perceptions    | 0.371  | 0.375  | 0.382  | 0.404  | 0.303  | 0.848  | 0.300  |
|                               | 0.281  | 0.316  | 0.275  | 0.439  | 0.257  | 0.709  | 0.415  |
|                               | 0.289  | 0.427  | 0.275  | 0.359  | 0.273  | 0.835  | 0.316  |
| Customer’s Citizenship Behavior | 0.382  | 0.372  | 0.365  | 0.256  | 0.361  | 0.350  | 0.693  |
|                               | 0.393  | 0.358  | 0.252  | 0.377  | 0.305  | 0.428  | 0.846  |
|                               | 0.283  | 0.310  | 0.331  | 0.382  | 0.393  | 0.287  | 0.821  |
|                               | 0.448  | 0.413  | 0.254  | 0.359  | 0.357  | 0.254  | 0.741  |
|                               | 0.354  | 0.429  | 0.297  | 0.353  | 0.396  | 0.327  | 0.784  |
|                               | 0.276  | 0.305  | 0.418  | 0.436  | 0.338  | 0.263  | 0.692  |

Note. Bold values are representing the main results description.  
Source: Authors Estimation.
et al., 2016). The measures of assessing the inner model are ‘coefficient of determination’ represented by R-square and ‘cross-validated redundancy’ represented by Q-square. For R-Square, though the higher value is dependent on the number of variables used to explain the criterion variable, however Cohen (1988) suggested that the value greater than 0.26 can be considered as substantial, whereas in the researches belong to social and management sciences, lower value of R-Square is also possible and acceptable. On the other hand, the acceptable value of Q-Square suggested by Hair Jr. et al. (2016) is greater than and equal to 0. The assessment of inner model is mentioned in Table 7.

### 4.3. Hypotheses testing

After assessing all of the required quality criteria for the application of PLS-SEM, the testing of the hypotheses was done, as discussed in Section 2. Firstly focusing the association between product novelty and product innovativeness, a significant at 1% level of significance and positive association was generated ($\beta = 0.256$, $p < 0.01$). It means that to improve product innovativeness by 25.6%, 1% improvement in product novelty is sufficient. In other words, when an organization emphasizes the novelty, newness, and uniqueness of the product, it considerably constitutes the product innovativeness by the customers. Secondly, focusing the association between product

### Table 5. Discriminant validity Fornell-Larcker criterion.

|       | NVL | EFF | USG | AST | INN | CSR | CCB |
|-------|-----|-----|-----|-----|-----|-----|-----|
| NVL   | 0.754 |     |     |     |     |     |     |
| EFF   | 0.486 | 0.748 |     |     |     |     |     |
| USG   | 0.367 | 0.351 | 0.707 |     |     |     |     |
| AST   | 0.422 | 0.395 | 0.408 | 0.719 |     |     |     |
| INN   | 0.384 | 0.449 | 0.420 | 0.448 | 0.751 |     |     |
| CSR   | 0.530 | 0.451 | 0.540 | 0.538 | 0.384 | 0.771 |     |
| CCB   | 0.420 | 0.458 | 0.542 | 0.511 | 0.535 | 0.545 | 0.827 |

Note: Bold values are representing the main results description.
Source: Authors Estimation.

### Table 6. Results of HTMT ratio of correlations.

|       | NVL | EFF | USG | AST | INN | CSR | CCB |
|-------|-----|-----|-----|-----|-----|-----|-----|
| NVL   |     | 0.712 |     |     |     |     |     |
| EFF   | 0.581 | 0.568 |     |     |     |     |     |
| USG   | 0.813 | 0.750 | 0.784 |     |     |     |     |
| AST   | 0.700 | 0.768 | 0.604 | 0.788 |     |     |     |
| INN   | 0.580 | 0.781 | 0.578 | 0.700 | 0.600 |     |     |
| CSR   | 0.756 | 0.660 | 0.629 | 0.765 | 0.729 | 0.752 | 0.809 |
| CCB   |     |     |     |     |     |     |     |

Source: Authors Estimation.

### Table 7. Predictive power of construct.

|       | R-Square | Q-Square |
|-------|----------|----------|
| INN   | 0.294    | 0.120    |
| CCB   | 0.187    | 0.014    |

Source: Authors Estimation.
effectiveness and product innovativeness, a significant at 1% level of significance and positive association was generated ($\beta = 0.150$, $p < 0.01$). It means, in order to have an improvement in the product innovativeness by 15%, 1% improvement in product effectiveness is sufficient. In other words, when an organization emphasizes the usefulness, legitimacy, and appropriateness of the product, it considerably constitutes the product innovativeness by the customers. Thirdly, focusing on the association between user friendliness and product innovativeness, a significant at 1% significance level and positive association was generated ($\beta = 0.291$, $p < 0.01$). It means that to improve product innovativeness by 29.1%, 1% improvement in user-friendliness is sufficient. In other words, when an organization emphasizes the ease of use, convenience, and ease of learning of the product, it considerably constitutes the product innovativeness by the customers. Fourthly, focusing on the association between aesthetics of the product and product innovativeness, a significant at 1% level of significance and positive association was generated ($\beta = 0.300$, $p < 0.01$). It means that to improve product innovativeness by 30%, 1% improvement in aesthetics of the product is sufficient. In other words, when an organization emphasizes the present ability, attractiveness, and appealing features, it considerably constitutes the product innovativeness by the customers. Fifthly, focusing the association between CSR done by the companies as perceived by customers and product innovativeness, a significant at 1% level of significance and positive association was generated ($\beta = 0.175$, $p < 0.01$). It means that to improve product innovativeness by 17.5%, 1% improvement in CSR done by the companies as perceived by customers is sufficient. In other words, when an organization emphasizes CSR-oriented initiatives, including working on social well-being, taking steps to preserve the environment and habitat, and rightfully performing its responsibility towards society, it is also considerably constituted as the product innovativeness by the customers along with the other aforementioned determinants (Table 8).

On the other hand, the relationship of product innovativeness and CSR did by the companies as perceived by customers were also studied with the customer citizenship behavior. Precisely, focusing on the association between product innovativeness and customer citizenship behavior, a significant at 1% level of significance and positive association was generated ($\beta = 0.305$, $p < 0.01$). It means, in order to have an improvement in the customer citizenship behavior by 30.5%, 1% improvement in product innovativeness is sufficient. This lead to the understanding that in the current competitive business market, an organization needs to consider that they cannot expect the consumer to stay satisfied and loyal to the company unless the customers

| Hypothesized Path | Path Coefficient | C.R | P-Value | Remarks |
|-------------------|------------------|-----|---------|---------|
| INN ← NVL         | 0.256            | 6.529| 0.000   | Supported |
| INN ← EFF         | 0.150            | 4.037| 0.000   | Supported |
| INN ← USG         | 0.291            | 6.214| 0.000   | Supported |
| INN ← AST         | 0.300            | 8.723| 0.000   | Supported |
| INN ← CSR         | 0.175            | 8.367| 0.000   | Supported |
| CCB ← INN         | 0.305            | 5.701| 0.000   | Supported |
| CCB ← CSR         | 0.298            | 7.799| 0.000   | Supported |

Note: Level of Significance (5% i.e., 0.050).
Source: Authors’ Estimation.
are regularly being provided innovative product, hence the burden to remain associated with the companies do not lie on the customers but actually, it falls on the companies. Lastly, focusing on the association between CSR done by the companies as perceived by customers and customer citizenship behavior, a significant at 1% level of significance and positive association was generated \((\beta = 0.298, p < 0.01)\). It means that to improve customer citizenship behavior by 29.8%, 1% improvement in CSR done by the companies as perceived by customers is sufficient. This relationship depicts the extent of the consumers’ awareness that they perceive CSR as an integral element of the product and will advocate and only consider the company when CSR is being done by it. This leads to the understanding that for the companies willing to have a larger customer base, they need to share their contribution and initiatives to the consumers. They will become able to increase citizenship behavior among the customers.

5. Conclusion and recommendations

In the current time where customers are not just technological savvy, their requirements and demand keep on changing over time. The organizations need to improve their product innovativeness and corporate social responsibility so that they can capitalize that into a customer through customer citizenship behavior. Hence the current study is designed with an objective to ascertain the role of Corporate Social Responsibility and product innovativeness in patronizing Customer Citizenship Behavior. Based on the survey research design, the current study applies structural equation modelling based on the framework of Partial Least squares on the data set of 453 respondents. The results reported significant and positive relationships between Corporate Social Responsibility and product innovativeness in patronizing the Customer Citizenship Behavior.

Based on the findings, the study has various managerial implications. Firstly, there is a need to enhance the level of communication by integrating transparency so that customers are regularly aware of the CSR that the companies are being performed. Secondly, companies need to effectively design their marketing mix so that they remain competitive and relevant in the market. Thirdly, there is a need to enhance customer citizenship behavior, which is possible by increasing the company and customer engagement. Through this, the reverse flow of information from customer to manufacturer will eventually assist them in improving their product and service on a regular basis. Lastly, companies need to emphasize the determinants of product innovativeness as identified in the current study while designing and developing any new product. This can further assist the organization in product differentiation as more innovative, creative, and original products are designed and developed.

The limitation of the current study includes the quantitative methodology, which is majorly a deductive research approach where the phenomena are finalized, and the customers’ responses are gauged against the certain phenomena. On the other hand, there will be more exploration and in-depth insights of the phenomena if there is a qualitative strategy. Secondly, exploration of artificial intelligence-based statistical techniques could assist in deriving a detailed understanding and behavior from the
Lastly, there is a need to explore further determinants of customer citizenship behavior as the current study has utilized only two.

**Disclosure statement**

No potential conflict of interest was reported by the authors.

**Funding**

We are grateful for financial support from the Hunan Provincial Philosophy and Social Science Foundation of China (No. 18YBQ055).

**References**

Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European Review of Social Psychology, 11* (1), 1–33. https://doi.org/10.1080/1479277943000116

Ali, A., Krapfel, R., Jr., & LaBahn, D. (1995). Product innovativeness and entry strategy: Impact on cycle time and break-even time. *Journal of Product Innovation Management, 12*(1), 54–69. https://doi.org/10.1111/1540-5885.001-1-1210030

An, H., Razzaq, A., Nawaz, A., Noman, S. M., & Khan, S. A. R. (2021). Nexus between green logistic operations and triple bottom line: Evidence from infrastructure-led Chinese outward foreign direct investment in Belt and Road host countries. *Environmental Science and Pollution Research*, 1–24.

Armstrong, G., & Kotler, P. (2005). *Marketing: An introduction* (7th ed.). Prentice Hall.

Balaji, M. S. (2014). Managing customer citizenship behavior: A relationship perspective. *Journal of Strategic Marketing*, 22(3), 222–239. https://doi.org/10.1080/0965254X.2013.876076

Bartikowski, B., & Walsh, G. (2011). Investigating mediators between corporate reputation and customer citizenship behaviors. *Journal of Business Research, 64*(1), 39–44. https://doi.org/10.1016/j.jbusres.2009.09.018

Bhattacharya, C. B., & Sen, S. (2003). Consumer-firm identification: A framework for understanding consumers’ relationships with companies. *Journal of Marketing, 67*(2), 76–88. https://doi.org/10.1509/jmkg.67.2.76.18609

Boisvert, J., & Khan, M. S. (2020). Toward a better understanding of the main antecedents and outcomes of consumer-based perceived product innovativeness. *Journal of Strategic Marketing*, 1–24.

Bove, L. L., Pervan, S. J., Beatty, S. E., & Shiu, E. (2009). Service worker role in encouraging customer organizational citizenship behaviors. *Journal of Business Research, 62*(7), 698–705. https://doi.org/10.1016/j.jbusres.2008.07.003

Brammer, S., & Millington, A. (2006). Firm size, organizational visibility and corporate philanthropy: An empirical analysis. *Business Ethics: A European Review, 15* (1), 6–18. https://doi.org/10.1111/j.1467-8608.2006.00424.x

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. *Journal of Marketing, 61* (1), 68–84. https://doi.org/10.1177/00222499706100106

Burroughs, J. E., Dahl, D. W., Moreau, C. P., Chattopadhyay, A., & Gerald J. Gorn, G. J. (2011, July). Facilitating and rewarding creativity during new product development. *Journal of Marketing, 75* (4), 53–67. https://doi.org/10.1509/jmkg.75.4.53

Calantone, R. J., Kwong, C., & Cui, A. S. (2006). Decomposing product innovativeness and its effects on new product success. *Journal of Product Innovation Management, 23*(5), 408–421. https://doi.org/10.1111/j.1540-5885.2006.00213.x
Carmeli, A., Gilat, G., & Waldman, D. A. (2007). The role of perceived organizational performance in organizational identification, adjustment and job performance. *Journal of Management Studies, 44*(6), 972–992. https://doi.org/10.1111/j.1467-6486.2007.00691.x

Chen, A., & Huang, R. (2018). The impact of diverse corporate social responsibility practices on consumer product evaluations. *Journal of Product & Brand Management, 27*(6), 701–715. https://doi.org/10.1108/JPBM-01-2017-1390

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Academic Press.

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods.* (Vol. 9, pp. 1–744). Mcgraw-hill.

Dahl, D. W., Chattopadhyay, A., & Gorn, G. J. (1999). The use of visual mental imagery in new product design. *Journal of Marketing Research, 36*(1), 18–28. https://doi.org/10.1177/002224379903600102

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–339. https://doi.org/10.2307/249008

Fang, E. (2008). Customer participation and the trade-off between new product innovativeness and speed to market. *Journal of Marketing, 72*(4), 90–104. https://doi.org/10.1509/jmkg.72.4.090

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

Frooman, J. (1997). Socially irresponsible and illegal behavior and shareholder wealth. *Business & Society, 36* (3), 221–249. https://doi.org/10.1177/000765039703600302

Fu, F. Q., & Elliott, M. T. (2013). The moderating effect of perceived product innovativeness and product knowledge on new product adoption: An integrated model. *Journal of Marketing Theory and Practice, 21*(3), 257–272. https://doi.org/10.2753/MTP1069-6679210302

Gefen, D., & Straub, D. (2005). A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example. *Communications of the Association for Information Systems, 16*(1), 91–105. https://doi.org/10.17705/ICAIS.01605

Getnet, H., O’Cass, A., Ahmadi, H., & Siahtiri, V. (2019). Supporting product innovativeness and customer value at the bottom of the pyramid through context-specific capabilities and social ties. *Industrial Marketing Management, 83*, 70–80. https://doi.org/10.1016/j.indmarman.2018.11.002

Goode, M. R., Dahl, D. W., & Moreau, C. P. (2013). Innovation aesthetics: The relationship between category cues, categorization certainty, and newness perception. *Journal of Product Innovation Management, 30*(2), 192–208. https://doi.org/10.1111/j.1540-5885.2012.00995.x

Groth, M. (2005). Customers as good soldiers: Examining citizenship behaviors in internet service delivery. *Journal of Management, 31*(1), 7–27. https://doi.org/10.1177/0149206304271375

Hair, J. F., Jr, Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM).* Sage Publications.

Hair, J. F., Black, B., Babin, B., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Pearson Prentice Hall.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Harman, H. H. (1967). *Modern factor analysis.* University of Chicago.

He, X., Mishra, S., Aman, A., Shahbaz, M., Razzaq, A., & Sharif, A. (2021). The linkage between clean energy stocks and the fluctuations in oil price and financial stress in the US and Europe? Evidence from QARDL approach. *Resources Policy, 72*, 102021. https://doi.org/10.1016/j.resourpol.2021.102021

Hoyer, W. D., & Stokburger-Sauer, N. E. (2012). The role of aesthetic taste in consumer behavior. *Journal of the Academy of Marketing Science, 40*(1), 167–180. https://doi.org/10.1007/s11747-011-0269-y
Hur, W., Kim, H., & Woo, J. (2014). How CSR leads to corporate brand equity: Mediating mechanisms of corporate brand credibility and reputation. *Journal of Business Ethics*, 125(1), 75–86. https://doi.org/10.1007/s10551-013-1910-0

Im, S., Bhat, S., & Lee, Y. (2015). Consumer perceptions of product creativity, coolness, value and attitude. *Journal of Business Research*, 68(1), 166–172. https://doi.org/10.1016/j.jbusres.2014.03.014

Im, S., & Workman, J. P. Jr. (2004). Market orientation, creativity, and new product performance in high-technology firms. *Journal of Marketing*, 68(2), 114–132. https://doi.org/10.1509/jmkg.68.2.114.27788

Karakaya, F., & Yannopoulos, P. (2011). Impact of market entrant characteristics on incumbent reactions to market entry. *Journal of Strategic Marketing*, 19(2), 171–185. https://doi.org/10.1080/0965254X.2011.557741

Khan, S. A. R., Razzaq, A., Yu, Z., & Miller, S. (2021). Industry 4.0 and circular economy practices: A new era business strategies for environmental sustainability. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.2853

Kim, E., Tang, L., & Bosselman, R. (2019a). Customer perceptions of innovativeness: An accelerator for value co-creation. *Journal of Hospitality & Tourism Research*, 43(6), 807–838. https://doi.org/10.1177/1096348019836273

Kulviwat, S., Bruner Ii, G. C., Kumar, A., Nasco, S. A., & Clark, T. (2007). Toward a unified theory of consumer acceptance technology. *Psychology and Marketing*, 24(12), 1059–1084. https://doi.org/10.1002/mar.20196

Langerak, F., & Hultink, E. J. (2006). The impact of product innovativeness on the link between development speed and new product profitability. *Journal of Product Innovation Management*, 23(3), 203–214. https://doi.org/10.1111/j.1540-5885.2006.00194.x

Lee, Y., & O’Connor, C. G. (2003). The impact of communication strategy on launching new products: The moderating role of product innovativeness. *Journal of Product Innovation Management*, 20(1), 4–21. https://doi.org/10.1111/1540-5885.t01-1-201002

Li, G., Zhang, R., & Wang, C. (2015). The role of product originality, usefulness and motivated consumer innovativeness in new product adoption intentions. *Journal of Product Innovation Management*, 32(2), 214–223. https://doi.org/10.1111/jpim.12169

Lii, Y. S., & Lee, M. (2012). Doing right leads to doing well: When the type of CSR and reputation interact to affect consumer evaluations of the firm. *Journal of Business Ethics*, 105(1), 69–81. https://doi.org/10.1007/s10551-011-0948-0

Linder, C. (2015). The effects of value chain expanded brand communication on innovation acceptance. *Journal of Strategic Marketing*, 23(3), 254–272. https://doi.org/10.1080/0965254X.2014.926964

Ling, G., Razzaq, A., Guo, Y., Fatima, T., & Shahzad, F. (2021). Asymmetric and time-varying linkages between carbon emissions, globalization, natural resources and financial development in China. *Environment, Development and Sustainability*, 1–29.

Lingyan, M., Zhao, Z., Malik, H. A., Razzaq, A., An, H., & Hassan, M. (2021). Asymmetric impact of fiscal decentralization and environmental innovation on carbon emissions: Evidence from highly decentralized countries. *Energy & Environment*, 0958305X211018453. https://doi.org/10.1080/0958305X211018453

Lin, C. P., Tsai, Y. H., Joe, S. W., & Chiu, C. K. (2012). Modeling the relationship among perceived corporate citizenship, firms’ attractiveness, and career success expectation. *Journal of Business Ethics*, 105(1), 83–93. https://doi.org/10.1007/s10551-011-0949-z

Lin, H., Zeng, S., Wang, L., Zou, H., & Ma, H. (2016). How does environmental irresponsibility impair corporate reputation? A multi-method investigation. *Corporate Social Responsibility and Environmental Management*, 23(6), 413–423. https://doi.org/10.1002/csr.1387

McWilliams, A., & Siegel, D. S. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26 (1), 117–127. https://doi.org/10.5465/amr.2001.4011987
Mehmood, S. M., & Najmi, A. (2017). Understanding the impact of service convenience on customer satisfaction in home delivery: Evidence from Pakistan. *International Journal of Electronic Customer Relationship Management, 11*(1), 23–43. https://doi.org/10.1504/IJECRM.2017.086752

Mick, D. G., & Fournier, S. (1998). Paradoxes of technology: Consumer cognizance, emotions, and coping strategy. *Journal of Consumer Research, 25*(2), 123–143. https://doi.org/10.1086/209531

Moldovan, S., Goldenberg, J., & Chattopadhyay, A. (2011). The different roles of product originality and usefulness in generating word-of-mouth. *International Journal of Research in Marketing, 28*(2), 109–119. https://doi.org/10.1016/j.ijresmar.2010.11.003

Msaed, C., Al-Kwifi, S. O., & Ahmed, Z. U. (2017). Building a comprehensive model to investigate factors behind switching intention of high-technology products. *Journal of Product & Brand Management, 26*(2), 102–119. https://doi.org/10.1108/JPBM-06-2015-0915

Mugge, R., & Schoormans, J. P. L. (2012). Newer is better! The influence of a novel appearance on the perceived performance quality of products. *Journal of Engineering Design, 23*(6), 469–484. https://doi.org/10.1080/09544828.2011.618802

Najmi, A., & Ahmed, W. (2018). Assessing channel quality to measure customers’ outcome in online purchasing. *International Journal of Electronic Customer Relationship Management, 11*(2), 179–201. https://doi.org/10.1504/IJECRM.2018.090210

Najmi, A., Kanapathy, K., & Aziz, A. A. (2021a). Exploring consumer participation in environment management: Findings from two-staged structural equation modelling-artificial neural network approach. *Corporate Social Responsibility and Environmental Management, 28*(1), 184–195. https://doi.org/10.1002/csr.2041

Najmi, A., Kanapathy, K., & Aziz, A. A. (2021b). Understanding consumer participation in managing ICT waste: Findings from two-staged structural equation modeling-artificial neural network approach. *Environmental Science and Pollution Research International, 28*(12), 14782–14796. https://doi.org/10.1007/s11356-020-11675-2

Ozturk, I., & Acaravci, A. (2013). The long-run and causal analysis of energy, growth, openness and financial development on carbon emissions in Turkey. *Energy Economics, 36*, 262–267. https://doi.org/10.1016/j.eneco.2012.08.025

Park, Y., & Chen, J. V. (2007). Acceptance and adoption of the innovative use of Smartphone. *Industrial Management & Data Systems, 107*(9), 1349–1365. https://doi.org/10.1108/02635570710834009

Park, E., Kim, K. J., & Kwon, S. J. (2017). Corporate social responsibility as a determinant of consumer loyalty: An examination of ethical standard, satisfaction, and trust. *Journal of Business Research, 76*, 8–13. https://doi.org/10.1016/j.jbusres.2017.02.017

Peloza, J., & Shang, J. (2011). How can corporate social responsibility activities create value for stakeholders? A systematic review. *Journal of the Academy of Marketing Science, 39* (1), 117–135. https://doi.org/10.1007/s11747-010-0213-6

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology, 88*(5), 879–903.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539–569.

Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review, 84* (12), 139.

Razzaq, A., Ajaz, T., Li, J. C., Irfan, M., & Suksatan, W. (2021a). Investigating the asymmetric linkages between infrastructure development, green innovation, and consumption-based material footprint: Novel empirical estimations from highly resource-consuming economies. *Resources Policy, 74*, 102302. https://doi.org/10.1016/j.resourpol.2021.102302

Razzaq, A., Wang, Y., Chupradit, S., Suksatan, W., & Shahzad, F. (2021). Asymmetric inter-linkages between green technology innovation and consumption-based carbon emissions in...
BRICS countries using quantile-on-quantile framework. *Technology in Society*, 66, 101656. https://doi.org/10.1016/j.techsoc.2021.101656

Reibstein, D. J., Day, G., & Wind, J. (2009). Guest editorial: Is marketing academia losing its way? *Journal of Marketing*, 73(4), 1–3. https://doi.org/10.1509/jmkg.73.4.001

Ringle, C. M., Wende, S., & Becker, J. M. (2015). *SmartPLS 3*. SmartPLS GmbH. http://www.smartpls.com.

Rubera, G., Ordanini, A., & Mazursky, D. (2010). Toward a contingency view of new product creativity: Assessing the interactive effects of consumers. *Marketing Letters*, 21(2), 191–206. https://doi.org/10.1007/s11002-009-9088-z

Salavou, H. (2005). Do customer and technology orientations influence product innovativeness in SMEs? Some new evidence from Greece. *Journal of Marketing Management, 21*(3–4), 307–338. https://doi.org/10.1360/0267257053779082

Schmelz, L. (2012). Consumer-oriented CSR communication: Focusing on ability or morality? *Corporate Communications: An International Journal, 17* (1), 29–49. https://doi.org/10.1108/13563281211196344

Sethi, R., & Sethi, A. (2009). Can quality-oriented firms develop innovative new products? *Journal of Product Innovation Management, 26*(2), 206–221. https://doi.org/10.1111/j.1540-5885.2009.00346.x

Sharif, A., Baris-Tuzemen, O., Uzuner, G., Ozturk, I., & Sinha, A. (2020). Revisiting the role of renewable and non-renewable energy consumption on Turkey’s ecological footprint: Evidence from Quantile ARDL approach. *Sustainable Cities and Society*, 57, 102138. https://doi.org/10.1016/j.scs.2020.102138

Sharif, A., Bhattacharya, M., Afshan, S., & Shahbaz, M. (2021). Disaggregated renewable energy sources in mitigating CO2 emissions: New evidence from the USA using quantile regressions. *Environmental Science and Pollution Research*, 1–20.

Sharma, P., Davcik, N. S., & Pillai, K. G. (2016). Product innovation as a mediator in the impact of R&D expenditure and brand equity on marketing performance. *Journal of Business Research*, 69(12), 5662–5669. https://doi.org/10.1016/j.jbusres.2016.03.074

Shrivastava, P. (1995). Environmental technologies and competitive advantage. *Strategic Management Journal, 16* (S1), 183–200. https://doi.org/10.1002/smj.4250160102

Soudor, W. E., & Song, X. M. (1997). Contingent product design and marketing strategies influencing new product success and failure in U.S. and Japanese electronics firms. *Journal of Product Innovation Management, 14*(1), 21–35. https://doi.org/10.1111/1540-5885.140021

Stock, R. M., Oliveira, P., & von Hippel, E. (2015). Impacts of hedonic and utilitarian user motives on the innovativeness of user-developed solutions. *Journal of Product Innovation Management, 32*(3), 389–403. https://doi.org/10.1111/jpim.12201

Sun, Y., Duru, O. A., Razzaz, A., & Dinca, M. S. (2021). The asymmetric effect eco-innovation and tourism towards carbon neutrality target in Turkey. *Journal of Environmental Management, 299*, 113653.

Sung, M., & Yang, S. U. (2009). Student–university relationships and reputation: A study of the links between key factors fostering students’ supportive behavioral intentions towards their university. *Higher Education, 57*(6), 787–811. https://doi.org/10.1007/s10734-008-9176-7

Surroca, J., Tribo, J. A., & Waddock, S. (2010). Corporate social responsibility and financial performance. *Strategic Management Journal, 31*(5), 463–490. https://doi.org/10.1002/smj.820

Szymanski, D. M., Kroff, M. W., & Troy, L. C. (2007). Innovativeness and new product success: Insights from the cumulative evidence. *Journal of the Academy of Marketing Science, 35*(1), 35–52. https://doi.org/10.1007/s11747-006-0014-0

Talke, K., Salomo, S., Wieringa, J. E., & Lutz, A. (2009). What about design newness? Investigating the relevance of a neglected dimension of product innovativeness. *Journal of Product Innovation Management, 26*(6), 601–615. https://doi.org/10.1111/j.1540-5885.2009.00686.x

Troy, L. C., White, J. C., & Gerlich, R. N. (2000). The influence of product uniqueness on retailer’s acceptance of new products: A contingency investigation. *AMA Conference Proceedings*, American Marketing Association Winter Conference. p. 54.
van Tonder, E., Saunders, S. G., Lisita, I. T., & de Beer, L. T. (2018). The importance of customer citizenship behaviour in the modern retail environment: Introducing and testing a social exchange model. *Journal of Retailing and Consumer Services*, 45, 92–102. https://doi.org/10.1016/j.jretconser.2018.08.011

Waddock, S., & Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic Management Journal*, 18 (4), 303–319. https://doi.org/10.1002/(SICI)1097-0266(199704184<303::AID-SMJ869>3.0.CO;2-G

Wagner, T., Lutz, R. J., & Weitz, B. A. (2009). Corporate hypocrisy: Overcoming the threat of inconsistent corporate social responsibility perceptions. *Journal of Marketing*, 73(6), 77–91. https://doi.org/10.1509/jmkg.73.6.77

Whalen, P., Uslay, C., Pascal, V. J., Omura, G., McAuley, A., Kasouf, C. J., Jones, R., Hultman, C. M., Hills, G. E., Hansen, D. J., Gilmore, A., Giglierano, J., Eggers, F., & Deacon, J. (2016). Anatomy of competitive advantage: Towards a contingency theory of entrepreneurial marketing. *Journal of Strategic Marketing*, 24(1), 5–19. https://doi.org/10.1080/0965254X.2015.1035036

Xuefeng, Z., Razzaq, A., Gokmenoglu, K. K., & Rehman, F. U. (2021). Time varying interdependency between COVID-19, tourism market, oil prices, and sustainable climate in United States: Evidence from advance wavelet coherence approach. *Economic Research-Ekonomsko Istraživanja*, 1–23. https://doi.org/10.1080/1331677X.2021.1992642

Yen, C. H., Teng, H. Y., & Tzeng, J. C. (2020). Innovativeness and customer value co-creation behaviors: Mediating role of customer engagement. *International Journal of Hospitality Management*, 88, 102514. https://doi.org/10.1016/j.ijhm.2020.102514

Yi, Y., & Gong, T. (2008). The effects of customer justice perception and affect on customer citizenship behavior and customer dysfunctional behavior. *Industrial Marketing Management*, 37(7), 767–783. https://doi.org/10.1016/j.indmarman.2008.01.005

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through Web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362–375. https://doi.org/10.1177/009207002236911

Zhang, H., Razzaq, A., Pelit, I., & Irmak, E. (2021). Does freight and passenger transportation industries are sustainable in BRICS countries? Evidence from advance panel estimations. *Economic Research-Ekonomsko Istraživanja*. https://doi.org/10.1080/1331677X.2021.2002708

Zhang, H., Liang, X., & Wang, S. (2016). Customer value anticipation, product innovativeness, and customer lifetime value: The moderating role of advertising strategy. *Journal of Business Research*, 69(9), 3725–3730. https://doi.org/10.1016/j.jbusres.2015.09.018

Zhuang, Y., Yang, S., Razzaq, A., & Khan, Z. (2021). Environmental impact of infrastructure-led Chinese outward FDI, tourism development and technology innovation: A regional country analysis. *Journal of Environmental Planning and Management*, 1–33.