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Assessing the Relationship between Market Orientation and Green Product Innovation: The Intervening Role of Green Self-Efficacy and Moderating Role of Resource Bricolage

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Abstract: Environmental issues have gradually gained attention in the last decade because of increased global warming and high waste production. Therefore, this article aims to add value to the environment management research by analyzing green product innovation through market orientation. Moreover, this study includes green self-efficacy as a mediator, being less focused in the past literature to examine employees' confidence in innovating green products according to customers' needs. In addition, resource bricolage is also introduced as a moderator because fewer studies display the empirical results about organizations producing or tend to produce innovated green products with a limited number of resources. Data were collected from 477 employees of small and medium-sized enterprises using a self-administered questionnaire in Pakistan. Empirical results revealed by SmartPLS software delineate that market orientation has a positive and significant impact on green self-efficacy and green product innovation. Moreover, green self-efficacy shows a significant mediation impact between market orientation and green product innovation. Additionally, resource bricolage also moderates the relationship between market orientation and green product innovation. Overall, the study contributes to theoretical and practical knowledge about green product innovation in tackling the world's environmental issues.

Keywords: green product innovation; green self-efficacy; market orientation; green innovation; resource bricolage

1. Introduction

Around the globe, numerous ecological problems force organizations to accept environmental challenges to pursue green economic growth strategies. Therefore, organizations plan to cope with the environmental market requirements of businesses and develop green products [1]. It is specifically noticed that small and medium-sized enterprises (SMEs) bear

much pressure from stakeholders to produce green products that can eliminate the issues of the environment [2] but show less interest towards green sustainability [3]. Therefore, research on green product innovation (GPI) in SMEs can be considered as a significant notion for the development of economy [4] as well as a safe environment [5]. Following the environmental influence of the product [6], ecological situations, businesses and societies choose to consume low-carbon products and prefer cost-effective green development methods in order to construct safe environmental evolution. Therefore, the advancement of green product innovation has become an inevitable choice in research and practice. Innovation of green products can decrease the worse effect of business events via development and modernization in products, procedures, societies, organizations, or enterprises [7]. Progressively more organizations select green product innovation, considering an efficient approach for attaining a competitive advantage in the industry [8]. Additionally, several organizations bear proactive pressure (government or the industry) to produce low-carbon/environment-friendly products to accomplish superior stability of financial and ecological performance [9]. Hence, the community overall supports reducing the ecological burden through the introduction of novel structures, products, and procedures to increase economic importance [10] and address sustainability concerns [11] in order to improve organizational competitive advantage [12,13].

The success of the firms is likely possible when market orientation (MO) is directly associates with the innovation of products [14,15]; moreover, market orientation assists the innovativeness of SMEs [16]. To do so, the self-efficacy of the individuals (employers, employees, and entrepreneurs) need to be high for believing in the success of green products. Business start-up self-efficacy emphasizes beliefs of the entrepreneurs to successfully recognize and convert a technical improvement into a marketable product [17]. Therefore, market-oriented SMEs emphasize self-efficacy for the improvement of innovation. Green self-efficacy (GSE) is predominantly significant to integrate the behavior/personality traits along with environmental aspects and therefore remains an influential factor to increase entrepreneurial intentions of individuals that eventually lean towards the increase of green product innovation [18]. The claim to produce green products by SMEs obliges the innovation procedures to be eco-friendly [19]. Along with self-efficacy, successful entrepreneurs, through market orientation, consider it significant to implement bricolage as one of the main essentials while having fewer resource margins in the starting phase of the business [20]. Resource bricolage (RB) thought inspires organizations to attain benefits from several opportunities with a limited number of resources at hand. Therefore, the literature proposes an optimized procedure to focus on resource base standards that enhance the quantity and multiplicity of limited resources for numerous opportunities [21]. SMEs possess scarce resources for green product innovation [2]; hence, assessing resource bricolage concept in the current case is significant. Therefore, the study aims to answer that “how market orientation affects the green product innovation with the mediating role of green self-efficacy and moderating role of resource”.

We presented this study to fill the gaps and deliver significant contribution by associating GPI with MO, which is scarcely studied concerning developing countries in the past literature (e.g., Pakistan). Inclusively, our research model provides solutions, how MO possibly has a positive effect on the innovation of green products. The study comprises several parts, including developing the research model to clarify the relationships among MO, RB, GSE, and GPI. Further, the research design is presented and includes sampling, measures, and results/testing developed hypotheses. In the last part, the study concludes with the details of the results along with management implications and future research practices.

2. Literature Review and Theoretical Contribution

The present study is based on a natural resource-based view (NRBV). The view proposes that, as environmental pressures mount, firms need to allocate resources and capabilities to address the impact of their operations on the natural environment to convert potential threats into competitive advantage [22]. Therefore, firms need to focus on the

innovation of green products (natural view) facing the pressure of ecosystem sustainability. The natural resource-based view develops a process where firms associate themselves with the procedure of innovation and competence (with producers, users, and suppliers) in order to maintain the natural environment [23].

The use of NRBV responds to the advanced academic research on the management of environment, resources, and capabilities of the firms that handle the green product innovation through various environment driven regulations [24,25]. On the other hand, NRBV also explains the efficient use of resources (RB), which assists the firms to “acquire, combine, and transform resources” in different forms to develop and maintain the environment. Resource bricolage is considered one of the main elements that drive enterprises to limit the challenges faced by environment safety pressure [26] because the natural environment describes the use of resources that benefit both firms and the environment [27]. Therefore, NRBV becomes necessary to discuss resource bricolage in order to lower down the burden of the natural environment. Hence, small and medium enterprises should focus on the efficient use of resources while producing customer-oriented products (via market orientation approach) to increase green product innovation protecting natural ecosystem following NRBV [28].

3. Hypotheses Development

Environmental apprehensions have nowadays become very common among businesses that focus on green product innovation because of its growing importance in the production industry around the globe. Technical organizations face numerous ecological difficulties as they spoil the natural atmosphere [29]. Consequently, naturally sensible organizations can ensure willingness to consider the business activities that stay advantageous to the atmosphere and people. Hence, elevate the demand for market orientation that attract the innovation of green products and inspire the organizations to amend the business goals for adapting stringent green systems [30]. Organizations adopting traditional innovation produce new products, materials, processes, and services, while organizations with modern strategies, to gain competitive advantage, provide green innovation as an environmental spillover in research and development [31,32]. Interestingly, organizations take investment initiatives towards the sustainability of green products for profit rather than saving money or pressure of becoming a green firm [33]. Hence, market-orientated firms tend to focus on GPI [34] to attain a competitive advantage in the industry [35].

Organizations are considered as ‘market-oriented’ when they collect the market information of buyers’ preferences about certain products/services and utilize that information to mold the organizational decisions accordingly for innovation and execution with a sagacity of commitment [16]. Research suggests that market orientation based on consumer-focused green innovation involves both management and cultural sensation playing a key role to create higher buyer’s value [36]. The market orientation approach assists the organizations in attaining useful information about the current trends and wants of the customers [37]. However, related to environmental pressures about ecological products, enterprises need to integrate green resources and competences into market orientation fundamentals in order to improve innovation [22] because market orientation exists as an essential originator of product innovation [38]. However, research indicates that eighty percent of the manufacturing firms in developing countries (e.g., Pakistani SMEs) have less control in the emission of gases that harms the environment; hence, research in SME’s green products and innovation became a vital concern of the economy for ecological sustainability [39].

In order to motivate the firms and individuals to produce green products, green events need to be arranged for a sustainable lifestyle [40]. Therefore, self-efficacy becomes a crucial point to be understood in the motivation of green innovation. Self-efficacy, an expedient notion, explains human conduct that involves a major influence in explaining the particular choice, power of struggle, and diligence towards a specific task or idea [9]. Trust of the person’s competencies in organizing and implementing diverse activities is discussed as

self-efficacy [41]. Self-efficacy boosts the urge of people to attain certain objectives through positive beliefs, discernment, and anticipated capabilities [42]. In organizations, employees decide to involve in product innovation [43] when they impress self-confident in their expertise and abilities in generating novel product ideas along with their application at the workplace [44]. Market-oriented firms try to boost the green self-efficacy of the individuals in the firms to produce green products [45]. Although past research contributes knowledge about this concept [46], there is still a gap to provide empirical tests in this case. Therefore, we designed the following hypothesis:

Hypothesis 1 (H1). *MO has a positive and significant impact on GSE.*

In green product innovation, green self-efficacy emerged as a new thought in the environmental issues, defining the confidence in the aptitude of the person to start up and implement environment-related goals [47]. Green self-efficacy assists the conception of novel thoughts concerning green procedures, green facilities, green goods, and green practices [48], reflecting useful, unique, and original ways to tackle environmental issues [49]. In green initiatives, green management plays a central part to improve green procedures; however, green self-efficacy play a mediating role in green innovation and green performance [46,47]. This study, therefore, contributes more empirical results about the mediating effect of green self-efficacy.

The perception of green product innovation expresses a particular mechanism to utilize the expertise that can reduce the depletion of energy, contamination, and toxic waste in order to intensify the quality of the environment and ecosystem [19,50]. Modern communities pay a lot of attention to the 'going green' concept because of the environmental crises in the natural climates [51,52]. Manufacturing organizations minimize environmental impacts by producing green products with safe environmental use and disposal. In addition, they minimize industrial radiations and energy consumption, escalate the recycling process, and fulfill buyer demands of ecological products [53]. In order to promote green product innovation, decision-making and management strategies of organizations focus on bringing changes in spreading the knowledge of environmental protection [54,55]. Consequently, the mentioned knowledge improve the growth of goods and procedures to save energy, control greenhouse gasses, reprocess waste, and execute environmental supervision [56,57]. Green product innovation became scientifically multifarious [58] and expensive [59], as it requires more ecological awareness than outdated revolutions [60]. Industry and consumers expect more from the firms to perform environment-friendly activities [61]. Considering this, we hypothesize the following:

Hypothesis 2 (H2). *GSE has a positive and significant impact on GPI.*

Hypothesis 3 (H3). *MO has a positive and significant impact on GPI.*

Hypothesis 4 (H4). *GSE mediates the relationship between MO and GPI.*

Past research indicates that resources in the firms are key essentials [62] to attain productivity in green innovation [63]. However, firms should utilize them proficiently [64]; therefore, RB became a crucial opinion amongst industrialized entrepreneurs and just attained fame in the perspective of entrepreneurship [65]. Throughout the last decade, innovation management and entrepreneurship research has shown interest in the study of resource bricolage [21]. Reacting towards ecofriendly sustainability, challenges may propose to build new environment understanding and capabilities to reconfigure the resources of the organization [53]. High level of resource bricolage management by the organizations moderates the innovation resourcefully. With the help of various resources picked up from the business arrangement, thus endorse eco-innovation (green product) of the organization [9].

Hypothesis 5 (H5). *RB moderates the relationship between MO and GPI.*

All the hypotheses are represented in Figure 1.

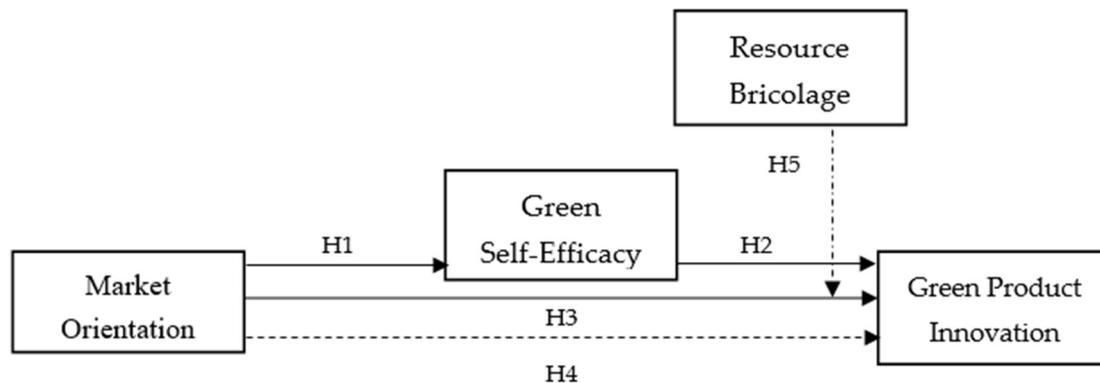


Figure 1. Research framework.

4. Research Methodology

4.1. Data Source and Collection

The study collected the data through the questionnaire method as observed in previous research [66,67]. The sample of the study involves SMEs of Pakistan located in Punjab, Sindh, Baluchistan, Khyber Pakhtunkhwa, and Jammu Kashmir. SMEs handling green production were preferred for examination of our conceptual model because they need to obey the policies about the safety of the environment. Before conducting the survey, a brief introduction was given about the survey and requested permission to SMEs to attain certain information with full promise of confidentiality and anonymity. The study targeted managers and employees working in targeted SMEs and having ecological knowledge. To collect better and accurate responses, the questionnaire was translated into the local language of Pakistan (Urdu). Respondents were approached via multiple sources (email, WhatsApp, and Facebook messenger); however, major questionnaires were delivered via email. Due to COVID-19, this study administered the online data collection method using the said platforms.

The questionnaire was used to collect data based on a five-point Likert rating scale similar to previous studies [68–70]. Data were collected in six months (June 2020–November 2020) to avoid common method bias, as suggested by [71]. We dispersed 650 questionnaires in the first round to collect the demographic information (location, age, industry of the firm, and gender/position of respondent), and we received 587 in this round. Then, after 2 months, 650 questionnaires were dispersed again for the collection of data about MO and GP, and 546 responses were received. In the third and last round, after 2 months, 501 responses were collected when 650 questionnaires were dispersed to collect the information about GSE and RB. Finally, with the help of computer-generated code of data, 477 responses were able to consider for analysis based on full information needed to attain indicating sufficient sample size [72,73].

4.2. Measures

The study adopted 4 items for the measurement of MO from the study of [74], whereas it adopted 5 items from the study of [75] to measure the RB. The study examined GSE by 5 items developed by [76]. Green product innovation was measured by 8 items 4 items from the study of [77] and 4 items from the study of [78] (Table 1).

Table 1. Measures of the study.

Market Orientation (MO)	
1.	"Continually, we aim to gain maximum knowledge about what our customers or potential customers want."
2.	"Continually, we try to gain maximum knowledge about what our competitors do concerning our customers."
3.	"It is important for our business that we understand our customers or potential customers' wishes and needs."
4.	"It is important for us that we continually try to adapt to our customers or potential customers' wishes and needs."
Green Self-Efficacy (GSE)	
1.	"I feel motivated to brainstorm about product innovation."
2.	"I believe my abilities to produce green products innovatively."
3.	"I feel confident about identifying new markets for green products."
4.	"After failure of a specific product, I still feel motivated to try other green ideas."
5.	"I think I can find creative solutions to environmental problems."
Resource Bricolage (RB)	
1.	"When faced with new challenges, our company is confident to use existing resources to find viable solutions."
2.	"Our company can effectively use any existing resources to deal with new problems or new opportunities in entrepreneurship."
3.	"Our company can effectively address new challenges in the entrepreneurial process by integrating existing resources."
4.	"By integrating existing resources, our company can effectively respond to any new challenges."
5.	"When faced with new challenges, our company can leverage existing resources to achieve viable solutions."
Green Product Innovation (GPI)	
1.	"Our firm uses materials that are less or non-polluting/toxic."
2.	"Our firm uses eco-labeling."
3.	"Our firm recovers and recycles our end-of-life products."
4.	"Our firm improves and designs environmentally friendly packaging for existing and new products."
5.	"Our new products are recyclable."
6.	"Product design focused on reducing resource consumption and waste generation."
7.	"Products are designed to use less energy and resource in production."
8.	"Our new green products use recycles materials."

4.3. Data Analysis

The study used SmartPLS software for the analysis of the data. Structural equation modeling (SEM) is used to analyze the significance of hypothesis; it is frequently used in social sciences [79], widely accepted in management-related fields [80,81], and previously practiced in green environment research [82]. Cronbach alpha (CA), average variance extracted (AVE), (HTMT) ratio plus composite reliability (CR) are analyzed through the measurement model. In order to assess the structural model of the research, the study examined co-linearity/common method bias (VIF), coefficient of determination (R2), predictive relevance (Q2), and standardized root mean square residual (SRMR).

5. Results

Measurement model: The values of Cronbach alpha (CA) determine the reliability of the items used in the survey. Results show a significant validity measure of CA, 0.895 for MO, 0.902 for GPI, 0.897 for GSE, and 0.953 for RB. In addition, the outer loadings of each item of the model are also depicted (Table 2/Figure 2). Moreover, the consistent reliability (CR) values of the variables lie between 0.911 and 0.964, showing consistency by meeting the threshold (above or equal to 0.7) [83,84]. Values of average variance extract (AVE) also meet the criteria to be at least 0.5 [85] (Table 2). The value of discriminant validity (DV) shows a significant value of 0.750 for GPI, 0.875 for GSE, 0.872 for MO, and 0.918 for RB. Moreover, all the variables are positively correlated, as the value is higher than 0.5 [86] (Table 3). Since the HTMT value should not be more than 0.90 because the value close to 1.00 will indicate a lack of DV [87,88], the results of this study agree with the threshold having values in the range of 0.215–0.654 (Table 4).

Table 2. Measurement model.

Construct	Item Code	Loading	Outer Weights	CA	CR	AVE
Market Orientation (MO)				0.895	0.927	0.761
	MO1	0.825	0.257			
	MO2	0.876	0.258			
	MO3	0.895	0.308			
	MO4	0.891	0.321			
Green Self-Efficacy (GSE)				0.897	0.929	0.766
	GSE1	0.865	0.283			
	GSE2	0.796	0.254			
	GSE3	0.896	0.288			
	GSE4	0.937	0.315			
Resource Bricolage (RB)				0.953	0.964	0.842
	RB1	0.946	0.22			
	RB2	0.925	0.214			
	RB3	0.921	0.223			
	RB4	0.873	0.204			
	RB5	0.921	0.229			
Green Product Innovation (GPI)				0.902	0.911	0.562
	GPI1	0.749	0.122			
	GPI2	0.795	0.145			
	GPI3	0.733	0.137			
	GPI4	0.730	0.139			
	GPI5	0.782	0.123			
	GPI6	0.763	0.123			
	GPI7	0.718	0.274			
	GPI8	0.724	0.281			

Abbreviations: AVE—average variance extracted; CA—Cronbach's alpha; CR—composite reliability.

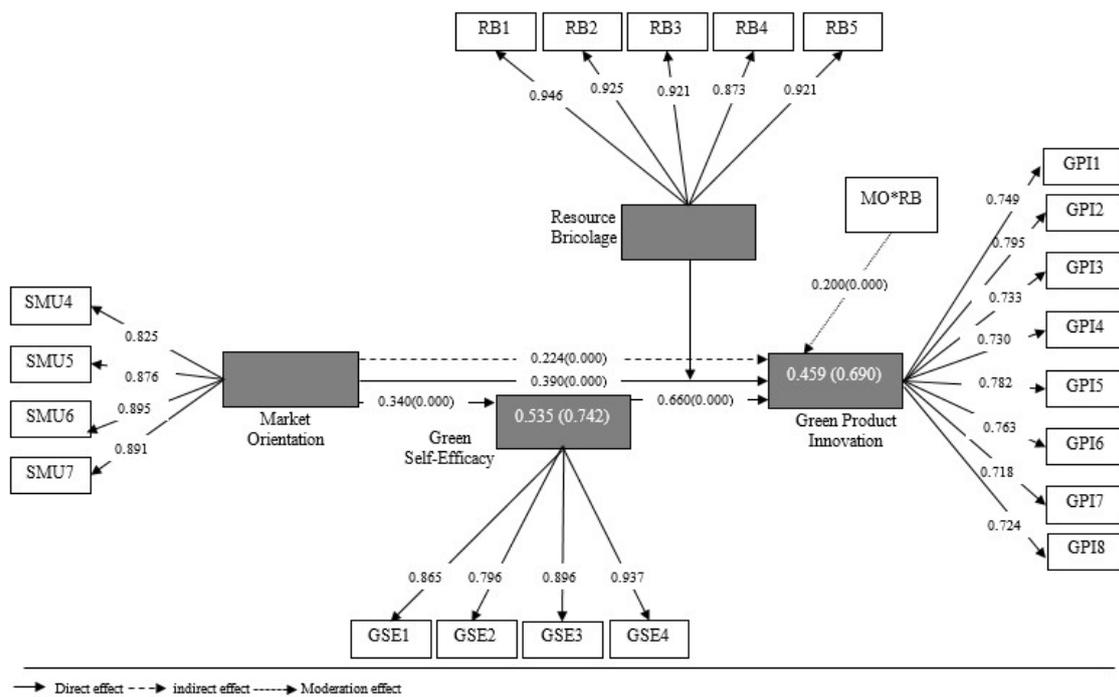


Figure 2. Model outer loadings and PLS-SEM relationships between the study’s constructs.

Table 3. Discriminant validity (latent variable correlation and square root of AVE).

	Green Product Innovation	Green Self-Efficacy	Market Orientation	Resource Bricolage
Green Product Innovation	0.750			
Green Self-Efficacy	0.737	0.875		
Market Orientation	0.404	0.338	0.872	
Resource Bricolage	0.376	0.399	0.402	0.918

Table 4. HTMT (heterotrait–monotrait ratio).

	Green Product Innovation	Green Self-Efficacy	MO × RB	Market Orientation
Green Self-Efficacy	0.654			
Market Orientation × Resource Bricolage	0.175	0.215		
Market Orientation	0.437	0.371	0.314	
Resource Bricolage	0.349	0.429	0.508	0.433

Structural model: VIF (variance inflation factor) is used to measure the co-linearity and common method bias problem of the research model. Table 5 depicts the value of VIF for the hypothesis, which indicates that there is no issue of common method bias as the value is lower than 3.30 proposed by [89,90]. Moreover, Harman’s single factor test explained 38.4% as the upper limit of the variance resulted by a single factor [71], and data should not get most of the variance (above 34%) [91]; hence, it confirms that gathered data are free from common method bias issue. The predictive power of the model should be larger than 0 [92]; Q2 values show moderate predictive significance as suggested by the study of (0.02 = minor, 0.15 = moderate, and 0.35 = enormous) [93]. The standardized

root mean square residual (SRMR) value according to the threshold need to be less than 0.08 [94,95], which is consistent with the results. R2 (R square) explains the predictive power of the model [96] with the values of 0.75 = substantial, 0.5 = moderate, and 0.25 = weak, as suggested by [83]. Therefore, the value of R2 (GPI—0.572, GSE—0.321) from Table 5 indicates that 57.2% and 32.1% impact is observed in GPI and GSE due to MO, respectively, representing that effect occurs between the variables.

Table 5. Saturated model results.

Construct	R2	Adj. R2	VIF	Q2	SRMR
Green Product Innovation	0.572	0.568	1.268	0.223	0.067
Green Self-Efficacy	0.114	0.112	1.000	0.081	

Abbreviations: VIF—variance inflation factor; Q2—predictive relevance; SRMR—standardized root mean square; R2—determination of coefficient.

Structural equation modeling (SEM): Theoretical model of the study is tested through PLS-SEM, and the results reveal that MO has positive and significant impact on GSE ($\beta = 0.338$, $t = 7.438$, $p < 0.000$). The direct impact of MO on GPI ($\beta = 0.389$, $t = 9.479$, $p < 0.000$) and the direct impact of GSE on GPI ($\beta = 0.663$, $t = 19.651$, $p < 0.000$) also show significant and positive impact. RB as moderator has positive and significant impact on the relationship of MO and GPI ($\beta = 0.200$, $t = 6.955$, $p < 0.000$). In addition, GSE as mediator mediates the relationship of MO and GPI positively and significantly ($\beta = 0.224$, $t = 2.676$, $p < 0.000$) (Table 6). The results of this study have consistency with past studies [9,30,36,45,47,48]. Figure 3 shows the moderation effect of RB on the relationship of MO and GPI. It depicts that GPI will be increased with effective implication and management of RB [9].

Table 6. Hypothesis constructs.

Effects	Relationships	Beta	Mean	(STDEV)	t-Value	Decision
Direct						
H1	Market Orientation→Green Self-Efficacy	0.34	0.339	0.045	7.438 *	Supported
H2	Green Self-Efficacy→Green Product Innovation	0.66	0.666	0.034	19.651 *	Supported
H3	Market Orientation→Green Product Innovation	0.39	0.389	0.041	9.479 *	Supported
Indirect or Mediating/Moderating						
H4	Market Orientation→Green Self-Efficacy→Green Product Innovation	0.224	0.226	0.032	6.955 *	Supported
H5	Market Orientation×Resource Bricolage→Green Product Innovation	0.200	0.201	0.029	2.676 *	Supported

Note: * p -value < 0.05 .

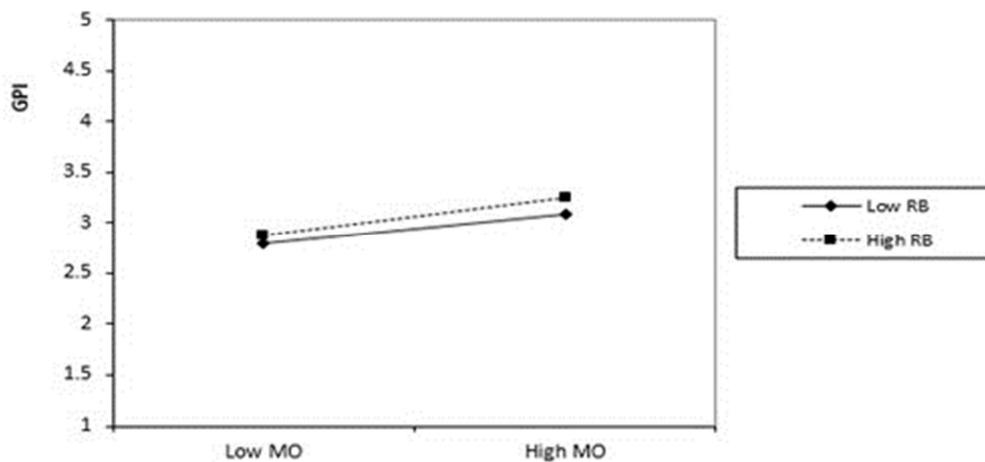


Figure 3. Moderating role of RB between MO and GPI.

6. Conclusions and Discussion

This study validates the entire hypothesis proposed and reveals the results as predicted. The results show that market orientation affects green self-efficacy and green product innovation (direct effects) positively and significantly supporting H1 and H3. Market-oriented firms can motivate the employees in order to increase green production confidence [46]. In addition, market orientation strategies of the firms prefer to produce green innovative products, keeping in mind the preferences of customers' need and want plus the industry obligations [30,57]. Green self-efficacy also boosts innovation of green products, supporting H2 [18,43], because the workforce feels motivated and confident in producing sustainable products [5]. Moreover, from the mediation test, results describe that green self-efficacy mediates market orientation and green product innovation positively and significantly. Green self-efficacy helps the employees of the firms to be self-confident about green innovation [49]; hence, H4 of the study is supported along with showing consistency with past research [47]. Resource bricolage plays a significant role for the firms and employees to innovate sustainably with the limited/existing resources at hand. This study explains that when market-oriented firms take care of the needs and wants of the customers to produce green innovation products, resource bricolage notion helps to take advantage of limited resources [22] via resource management strategies [53]. Hence, the results of moderation tests of resource bricolage support H5 [9].

6.1. Theoretical Contributions

The findings of the study add value in the extension of the literature of green product innovation in order to solve environmental issues. The study reveals the fact that green production is significant to maintain a safe environment. Market orientation plays a vital role in presenting the green needs and wants of the customers that clearly identify the aims of organizations to maintain green product innovation (market orientation has a positive impact on green product innovation). Moreover, the indication of positive impacts of green self-efficacy on green product innovation and the significant moderation of green self-efficacy between market orientation and green product innovation strongly recommend that employees also feel confident in the innovation of green products. However, resource bricolage also provides strength to the relationship of market orientation and green product innovation, indicating that green product innovation can still progress by the organizations with limited availability of resources. Hence, all the theoretical perspectives of the study confirm the importance and strong possibility of green product innovation implication.

6.2. Managerial and Practical Implications

The study offers practical implications for managers to improve the innovation of green products in organizations focusing on the needs and wants of the customers and

environment. Managers can practice market orientation within the innovation strategies along with the development of green self-efficacy in the employees, so they can focus on improving green innovation. Along with the development of the firms, green product innovation implications will subsidy the environment from pollution, and managers can learn that how green product innovation practices facilitate the firms and government to solve the ecological problems of the environment. Both firms and government can formulate environmental policies to enforce green production within the business processes. For instance, the formal/official 'green policy' statement of the firms can declare commitment towards sustainable environment management, showing high priority for employees and managers for environment-friendly products. Moreover, the government can also state environmental policies that can impose certain laws and regulations on the enterprises to reduce environmental pollution through green product innovation. Green environmental policies developed and imposed officially by firms and the government will aid the actions of green production and innovation because managers and employees will take the environment as their responsibility. The responsibility of keeping the environment safe will also increase the green self-efficacy of the employees and managers. In addition, resource bricolage is one of the significant points of concern for the managers of the firms. Entrepreneurship and businesses have to face challenges in the resource management of the organization. Therefore, the resource bricolage perspective will entertain the practical concerns of the managers to generate innovation and firm's progress with a limited number of resources at hand.

6.3. Limitations and Future Research Proposition

There are few limitations that are linked with this study. The first is the number of responses collected for the study due to the availability of less time. In total, 477 responses from SMEs of Pakistan were collected; however, that sample size can be increased by adding more enterprises. Second, this study focused only on the data of SMEs, whereas big firms can also be targeted for the analysis in order to compare facts about the concept of market orientation, green self-efficacy, resource bricolage, and green product innovation. Third, this study limits the response to the employees of the SMEs, whereas the responses of the customers can also extend the empirical results about the implication of green product innovation and public opinions about safe environment. Since this study was conducted in the context of Pakistani SMEs, the generalizability of results is hard to offer for other similar contexts or settings (e.g., other developing countries). Cross-sectional data are analyzed in this study; however, detailed longitudinal analysis can provide extra theoretical perspectives about the study variables. Additionally, different approaches can be applied in the analysis of direct and indirect paths of the research framework. Moreover, future research can analyze several other mediating and moderating variables (e.g., green entrepreneurial intentions, green motivation, government support, etc.) in the model to examine changing nature of market orientation and green product innovation relationships.

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