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## Moderated by gender and generation: Innovation on firm performance in SME's

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### Abstract

This research aims to analyze the performance of SMEs in West Sumatra and how these SME actors understand and carry out innovations that are moderated by generation and gender. This study uses the resource-based view (RBV) theory and the theory of economic development (Schumpeterian theory). This research is a survey-based quantitative study. The sample for this research was 110, taken from several regions in West Sumatra. The data analysis technique used in this research is Structural Equation Modeling (SEM). The research results show that innovation has a significant effect on firm performance. In addition, gender does not strengthen or weaken the effect of innovation on company performance. Innovation on firm performance is moderated by gender and does not have a significant effect. Generations moderate innovation in firm performance and have a significant influence. In this context, generations do not weaken but instead strengthen innovation on SMEs' performance when viewed from the perspective of generation as a moderating variable, which has significant implications. Different generations within SMEs may influence the way innovation is implemented and the extent to which innovation impacts firm performance.

**Keywords:** Firm performance, Gender, Generation, Innovation.

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## 1. Introduction

In various countries, attention to the development of SMEs is quite high because this sector can increase the rate of economic growth. SMEs have an important role in development, so every year, their performance must be considered [1]. The important role of SMEs in the economy, namely the formation of Gross Domestic Product (GDP) and absorption of labor [2, 3]. For example, in Malaysia, the number of SME business actors reaches 99%, contributes to the formation of GDP at

32%, contributes to employment absorption reaching 66%, and contributes to export activities at 19% [4]. SMEs are the key to job creation and income distribution in Asia and are very important in increasing the exports of countries in Asia [5].

In developing research, SMEs' performance has been traced, according to several researchers, to be caused by several factors. The main factors influencing SMEs' performance are three main variables, namely innovation, entrepreneurial orientation, conducive government policies, and a lean manufacturing system [5]. Meanwhile, research conducted in Australia shows that the continuity of SMEs' performance is greatly influenced by entrepreneurial capabilities in terms of the ability to assess the business, the ability to obtain information, make portfolio decision-making, and invest in technology and human resources [6]. Additionally, research conducted in North America indicates that the factors influencing SMEs' performance are digital orientation and the environment, which have a direct and positive effect on product innovation performance [7]. Furthermore, digitalization strategies and efforts to preserve the environment are factors that negatively impact the performance of the innovation process and are not significant on product innovation performance [8, 9].

However, this is different from the results of research conducted by Santos et al. [10] in Brazil, which found that technological innovation efforts and innovation processes are not significant in achieving financial performance. Inconsistent results were also found in New Zealand; managerial capacity influenced innovation, and then inconsistent innovation influenced SMEs' business performance [11]. Meanwhile, other empirical results show that innovation in digital technology will affect business financial performance if it first starts with an exploration and exploitation orientation [8]. In developing countries, SMEs' performance is often hampered by economic transition and corruption, which hinders access to financing sources [12]. Factors that influence SME performance include internal and external factors [13]. The ability to anticipate change and organizational agility are determining factors for the success of SMEs in achieving their performance, especially in facing VUCA (volatility, uncertainty, complexity, and ambiguity) [14]. The three main capabilities that improve financial performance are digital, relationship capabilities, and innovation capabilities, which must be integrated into organizational culture [15].

In Indonesia, the growth of SMEs contributes to improving the national economy. SME growth from 2018 to 2021 is relatively small. The COVID-19 pandemic has had a major impact on SMEs, with 94.69% of businesses experiencing a decline in sales. A sales decline of more than 75% was experienced by 49.01% of ultra-micro businesses, 43.3% of micro-businesses, 40% of small businesses, and 45.83% of medium businesses. The dependence of SMEs on business resources is one of the causes of low SME performance. To achieve good performance, strategies are needed to increase sales and maximize the resources owned by SMEs. Based on the length of business, a decline in sales of more than 75% was experienced by 23.27% of businesses aged 0-5 years, 10.9% of businesses aged 6-10 years, and 8.84% of businesses that had been running for more than ten years. SMEs' dependence on business resources leads to low performance, threatening long-term sustainability. Evaluation of company performance is needed to achieve targets. The company's strategy must increase sales and maximize SME resources to achieve optimal performance [16].

SMEs in West Sumatra number around 593,100 business units, with the largest number being micro businesses. The COVID-19 pandemic has had a major impact, causing many SMEs to experience bankruptcy. Lack of innovation is one of the causes of declining SMEs' performance. Research results also state that one of the factors that hinder the performance of SMEs is the ability to innovate, whether originating from internal R & D innovation or assistance from external parties [17]. Innovation in marketing activities will make the company more efficient and reduce costs [18]. Various obstacles faced by SMEs in West Sumatra include distance and time for consultations, lack of technological skills, SMEs' mindset, lack of creativity/innovation, and lack of interest among millennials in cooperatives [19]. Based on data [20], there are 1,388 SMEs aged under 24 years, 85,758 aged 25-64 years, and 7,246 aged over 65 years, indicating that the majority of SMEs are from Generations X and Y. This generation was born between 1960-1995, more familiar with technology and the internet, so it is hoped that they can improve business performance compared to the previous generation. The increase in SMEs' performance is supported by the government, as stated by the Deputy for Entrepreneurship at the Ministry of Cooperatives and SMEs, Siti Azizah, with the youth population reaching 64.69% of the total population of 270.20 million, making women and the green economy the drivers of the future economy (<https://kemenkopukm.go.id/2022>).

An important factor in organizational performance is gender. Gender plays a different role in the entrepreneurial orientation of entrepreneurs. Gender roles are important to support entrepreneurial tasks, including demands for business development and resource management to achieve organizational goals; even businesses led by women are growing rapidly compared to the past and becoming mentors for entrepreneurial progress [21, 22]. In fact, Sitterly [23] states that women own 40% to 50% of all businesses with an impressive success rate of 75%. The results of a study [24] that examined entrepreneurial orientation between male and female students in the US, Fiji, Korea, and Malaysia showed different results [25, 26]. Certain dimensions of entrepreneurial orientation are higher for men than for women, but in other dimensions, women's entrepreneurial orientation is even higher than men's in different countries. Meanwhile, a study conducted Kepler and Shane [27] shows that gender does not affect business performance. What is interesting is the results of a study conducted by El Aissi et al. [28] that found gender differences do not moderate the relationship between entrepreneurial orientation and the performance of companies operating in the Tunisian economy [29, 30].

The resource-based view theory was first proposed by Wernerfelt [31] in his work entitled 'A Resource-based View of the Firm'. This view explains how profitability relates to resources and how to manage and maximize resources over time to generate a competitive advantage. From several previous studies that have been carried out related to the performance of SMEs, the research gap that appears here is that there are still differences in the results of studies on the variables that researchers investigate, including the influence of innovation variables on the performance of SMEs, plus this study has not

been researched yet. SMEs in West Sumatra. It is not much different, with gender moderation being still small and the different research results being an attraction for further study in West Sumatra. Based on age, 68.08% of the population of West Sumatra is of productive age (15-64 years). Rachmawati [32] states that currently, the largest population in the world of work is Generation X and millennials. With the support of previous research, for the West Sumatra region, it is necessary to carry out further studies regarding the ability of SMEs to innovate so that they will contribute to the performance of SMEs with the support of the innovations carried out [33]. Previous research has yet to explain the use of innovation by SMEs in the culinary sector in West Sumatra, whether managed by men or women or which generation is more likely to use innovation. Therefore, an in-depth study is needed on how innovation improves the performance of SMEs from various generations and genders [34]. This research aims to analyze the performance of SMEs in West Sumatra, as well as how SME actors understand and implement innovation, which is moderated by generation and gender factors.

## 2. Literature Review

### 2.1. Theory Resource-Based View (RBV)

The resource-based view theory was first proposed by Wernerfelt [31] in his work entitled "A Resource-Based View of the Firm." This view explains how profitability relates to resources and how to manage and maximize resources over time to generate a competitive advantage. The intended resources encompass everything that is considered the strengths and weaknesses of the company and can be formally interpreted as tangible and intangible assets [31]. Therefore, the leader's ability to manage resources is crucial to support maximum results.

### 2.2. Theory of Economic Development (Schumpeterian Theory)

The theory of economic development was first introduced by Joseph Alois Schumpeter in 1934 regarding economic growth. Schumpeter in Jhingan [35] assumes perfect economic competition in a stationary equilibrium, where this equilibrium is termed a circular flow that continues to occur repeatedly. Spontaneous balance occurs from within as an initiative to improve the economy, and innovation emerges as a form of change in economic development.

### 2.3. Performance

Performance is defined by Porter [36] as a value provided based on contributions from customers, owners, and top managers. Meanwhile, Laitinen [37] defines company performance as the ability of a company/entity/business to achieve results in accordance with predetermined targets. Finance is one measure of the success and sustainability of a company. Financial performance comes from revenue or sales of goods and services from a company. Inside, there are elements of cost or the cost of goods produced, and profit. According to RBV theory, Wernerfelt [31] states that the balance of exploiting existing resources and developing new ones will provide an increase in optimal growth for the company. The intended resources are all the strengths or weaknesses possessed by the company, which can also be called tangible and intangible assets. Eggers et al. [38] use sales growth and employee growth as measures of SME performance and are the most widely used indicators of SME success in entrepreneurship research. Not much different from Kreiser and Davis [39], who also use profitability and company growth as indicators of company performance. Alabdullah [40] uses ROE (return on equity) as a performance indicator.

### 2.4. Innovation

Innovation is defined as the implementation of new ideas in an activity, responsible unique tactics, and the emergence of new ways used to manage relationships with companies or other stakeholders [41]. Innovation is one of the key components in the success of a business. Bigliardi [42] revealed that innovation is a complex phenomenon involving the production, diffusion, and translation of knowledge into new or modified products or services, or the development of new production or processing techniques. Innovation is a change in products, processes, or a combination of new products or processes that are significantly different from old products or processes and are designed for consumers as users of products or processes Kurniawan [43]. From the perspective of Schumpeterian Theory, the success of SME performance is highly dependent on their ability to continuously innovate and adapt to changes in the business environment. In the RBV theory, business performance will be improved by maximizing the resources owned by the company, with innovation as one of the resources owned by the company that can maximize business performance and increase competitiveness Setiawan and Gestanti [44]. Bigliardi [42] states in his article that with an increase in innovation, financial performance will improve, especially when the development of these innovations is relevant to customer needs. In line with that, Al-Momani et al. [45] also concluded that innovation has a positive influence on the performance of pharmaceutical SMEs in Jordan, especially during the Covid-19 crisis, allowing them to maintain business sustainability and performance. In line with previous research, the hypothesis can be described as follows: *H1: the effect of Innovation on SMEs' performance.*

### 2.5. Gender

Gender is defined as the division of characteristics that distinguish between masculinity and femininity. Gender can be interpreted to explain the differences between men and women regarding everything related to social construction Probosiwi [46]. Hoang et al. [47] argued that the gender gap in business start-ups in developing countries is related to access to finance, which negatively impacts their business performance. However, this is refuted by Kalleberg and Leicht [48], who state that small companies owned by women are no less successful than those owned by men, including their survival. In accordance with the RBV view [24, 49], the collection of personal resources from an individual can be considered an important source of knowledge, skills, experience, and strategy for the company, and gender diversity can increase the

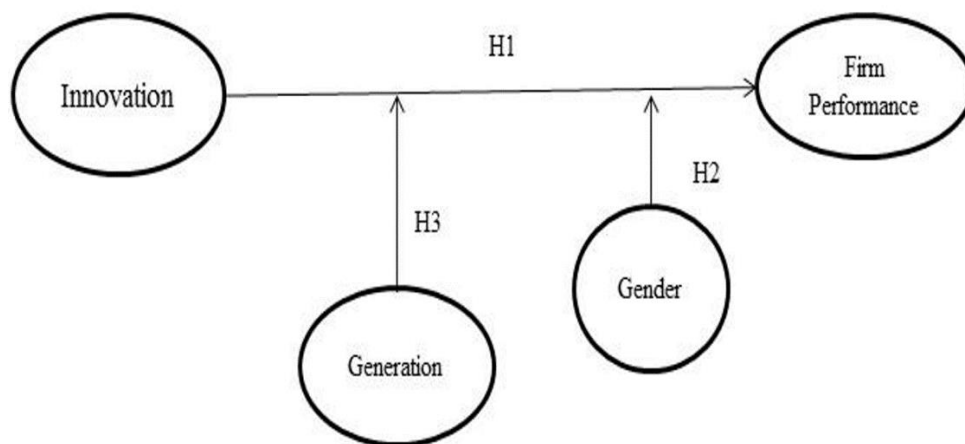
effectiveness of decision-making. The study results [50] also state that companies controlled by women have lower innovation than companies controlled by men, but their productivity is not inferior to that of companies controlled by men [51]. In line with previous research, the hypothesis can be described as follows:

*H<sub>2</sub>: the effect of Innovation on SME's performance is moderated by gender.*

## 2.6. Generation

According to Mannheim in Rachmawati [32], generation is a social construction consisting of a group of people who share the same age and historical experiences that contribute to the dynamics of historical development. Kupperschmidt [52] states that a generation is a group of individuals who identify with their group based on similarities in birth year, age, location, and significant life events that influence their growth phase. From the references above, Zemke's indicators are used to examine generations ranging from the baby boom generation, Generation X, Generation Y, to Generation Z. Jalil et al. [53] state that Generation Y employees are confident, civic-minded, fast learners, and dislike inflexible work schedules and rigid policies and procedures that control them. Even so, Generation Y prefers to work long hours to advance their careers. In line with previous research, the hypothesis can be described as follows: *H<sub>3</sub>: The effect of innovation on SMEs' performance is moderated by generation.*

Based on the literature review carried out, there are conceptual framework of the research :



**Figure 1.**  
The Conceptual Framework of Research Model.

## 3. Materials and Methods

This research is survey-based quantitative research using a questionnaire as a research instrument. Data analysis was carried out in several stages. The first stage of data analysis is descriptive analysis. This analysis aims to describe the characteristics of each research variable. Second, structural equation modeling (SEM) is employed. There are two stages in carrying out Structural Equation Modeling (SEM), namely Measurement Model Assessment (MMA) and Structural Model Assessment (SMA).

This research will use the Partial Least Squares (PLS) analysis method [54]. The population in this research consists of SMEs in West Sumatra. The sample for this research is food industry SMEs. The sample size was determined using the formula [54]. The Hair formula was used because the population size is not yet known for certain and suggests that the sample size should be at least 5-20 times the indicator variable [55]. Therefore, through calculations based on this formula, the sample size obtained from this research was 110 SME actors in Padang City, Payakumbuh City, Solok Regency, and Padang Pariaman Regency. This research employs data collection techniques in the form of a questionnaire.

## 4. Results and Discussion

Descriptive Statistics Data collection was carried out using a questionnaire and resulted in 110 respondents. Respondents came from various regions, namely Solok Regency with 24 businesses, Padang City with 29 businesses, Payakumbuh City with 16 businesses, and Padang Pariaman Regency with 41 businesses. The SMEs studied focused on the food and beverage sector. After the data was collected, respondents were grouped and analyzed to see the distribution of the data. From the total 110 business actors, there are six business actors from the Baby Boom generation (which represents 5% of the total SMEs players in this sector). This generation includes individuals born between 1946 and 1960 who currently play a role in maintaining and developing local culinary traditions. Furthermore, 42 business actors came from Generation X. This generation is often known for its ability to adapt to changes in technology and markets, as well as having extensive experience in running a business. The most dominant generation in this sector is Generation Y, better known as the millennial generation. There are 57 business actors from this generation, representing 52% of the total SMEs actors. Generation Y consists of individuals born between 1981 and 1995.

Generation Y is more innovative and open to new technology and has a high entrepreneurial spirit. Lastly, Generation Z, which includes individuals born from 1996 to 2010, is also starting to show its presence in the food and beverage sector. Even though there are only five business actors from this generation (or 5% of the total SMEs), Generation Z brings a fresh new perspective and tends to be more adept at utilizing social media and digital technology to develop their business. Overall,

this data shows that the food and beverage SMEs sector in West Sumatra is dominated by the millennial generation, with a significant contribution from Generation X. Of the 32 business actors, they are men, representing 29% of the total SMEs in this sector. Meanwhile, the majority of SMEs actors, namely 78 business actors or 71%, are women. This shows that women play a dominant role in the SMEs sector with types of food and beverage businesses in West Sumatra. Thus, women have significant participation in driving the SMEs sector, especially in the food and beverage sector. The dominance of women in this sector indicates that it not only contributes greatly to the local economy but also plays an important role in maintaining culinary heritage and innovation in the food and beverage industry. This data indicates that SMEs in the region are driven by the productive age group and women, which has the potential to bring innovation and new dynamics to local economic development. Overall, the results of this research show that SMEs in West Sumatra have a sufficient level of innovation and company performance. However, there are still many opportunities for further improvement and development. With the right support, such as training programs, access to modern technology, and supportive government policies, SMEs in West Sumatra can increase innovation and, ultimately, improve company performance to a higher level.

Evaluation is carried out by considering loading factors, Average Variance Extracted (AVE), Discriminant Validity, and composite reliability (Cr). Convergent Validity is assessed by checking whether the indicators in one construct have significant and sufficiently high factor loading. Good indicators should have significant and high factor loadings, usually above 0.7, indicating that they will represent the latent variable being measured [54]. In this study, the loading factor limit used was 0.5 [55]. After processing the data using SmartPLS 3.2.9, the factor loading results can be shown below:

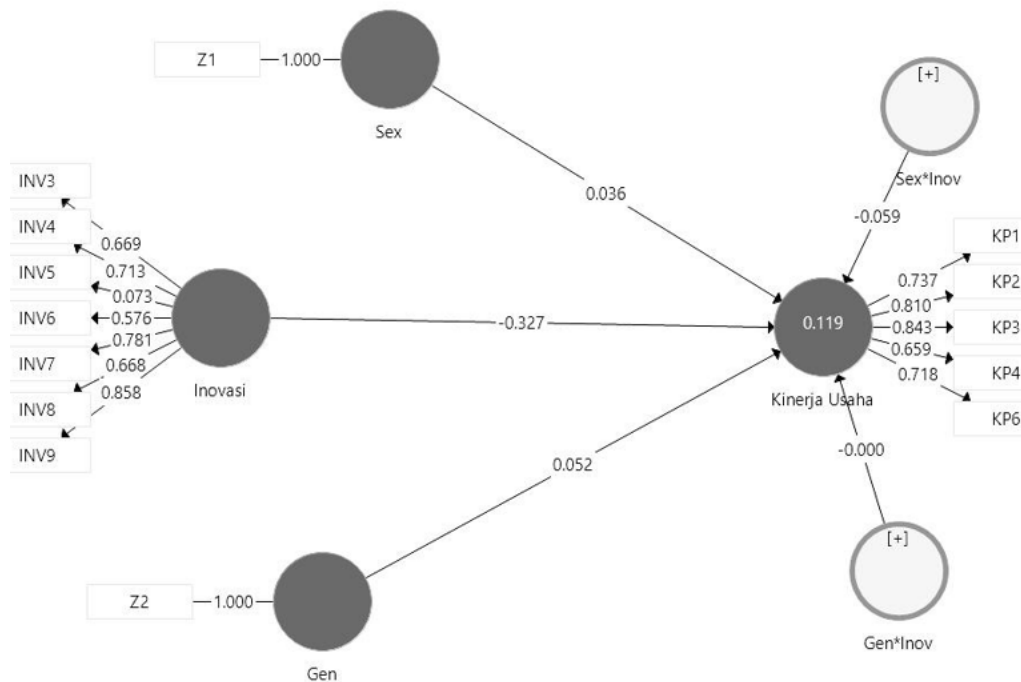
**Table 1.**  
Construct Validity and reliability.

Constructs	Item	Validity	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Innovation	INV1	-0.172	0.829	0.73	0.828	<b>0.441</b>
	INV2	-0.196				
	INV3	0.669				
	INV4	0.713				
	INV5	0.733				
	INV6	0.781				
	INV7	0.668				
	INV8	0.668				
	INV9	0.858				
Firm Performance	KP1	0.737	0.816	0.852	0.869	0.572
	KP2	0.810				
	KP3	0.843				
	KP4	0.659				
	KP5	-0.015				
	KP6	0.718				
	KP7	-0.545				
Gender			1.000	1.000	1.000	1.000
Generation			1.000	1.000	1.000	1.000

Results indicate that items with FL between 0.40 and 0.70 are generally considered worthy of retention [56]. However, if several items must be removed because they are not loaded properly, those items are removed from the construction. Using this process, all factor loadings exceeded the minimum threshold of 0.5 [57]. The validity of items that do not meet the requirements is found in the innovation variable with items (inv1 and inv2). Then, the firm performance item is found in items (kp5 and kp6). The variable "Firm Performance" has a Cronbach's Alpha value of 0.816, rho\_A of 0.852, and Composite Reliability of 0.869. All these values are above the threshold of 0.7, indicating that this variable has good reliability. The Average Variance Extracted (AVE) value for this variable is 0.572, which is also above the threshold of 0.5, indicating good convergent validity. Therefore, the variable "Firm Performance" meets all the criteria for reliability and convergent validity. The variable "Gender" has a Cronbach's Alpha, rho\_A, and Composite Reliability value of 1.000 each. These values show perfect reliability. Additionally, the AVE value for this variable is also 1.000, indicating perfect convergent validity. Thus, the variable "Gender" meets all the criteria for reliability and convergent validity perfectly.

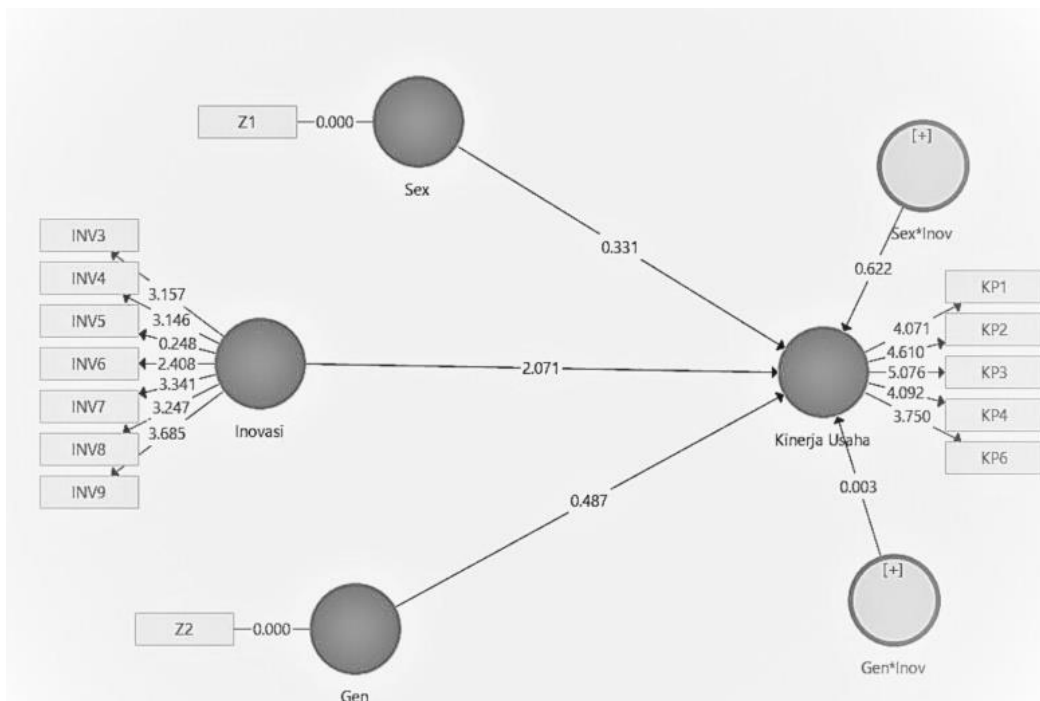
The variable "Generations" also has a Cronbach's Alpha, rho\_A, and Composite Reliability value of 1.000 each, which indicates perfect reliability. The AVE value for this variable is also 1.000, indicating perfect convergent validity. Thus, the variable "Generations" perfectly meets all the criteria for reliability and convergent validity. However, the variable "Innovation" has a Cronbach's Alpha value of 0.829, rho\_A of 0.730, and Composite Reliability of 0.828, all of which are above the threshold of 0.7, indicating that this variable has good reliability. However, the AVE value for this variable is only 0.441, which is below the threshold of 0.5. This indicates that this variable does not meet the criteria for convergent validity. The next step for the "Innovation" variable is to review the indicators that make it up. Indicators with low factor loadings can be removed, or the model can be revised to increase the AVE value. If, after revision, the AVE value is still below 0.5, it may be necessary to consider using or developing more relevant and powerful indicators for the "Innovation" variable. After these

indicators have been removed, a variable model estimation is carried out, then the final model form between variables is obtained, which can be seen in the following figure.



**Figure 2.**  
Final Model Loading Factors.

The inner model can be evaluated by considering indicator reliability for the dependent variable. The higher the R-squared value indicates that the prediction model of the research model has better quality [54]. Following are the test results with calculations for bootstrapping:



**Figure 3.**  
Inner Model.

Test results with the bootstrapping method produce t-values, each of which is interconnected between each indicator item and each variable, accompanied by a t-value. The results of the bootstrapping method aim to determine the relationship between indicators and research variables so that they can support the analysis of research hypotheses.

**Table 2.**  
Configuration Measurement Model Testing.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Innovation -> Firm Performance	-0.335	-0.369	0.128	2.071	0.009
Gender -> Innovation -> Firm Performance	0.041	0.049	0.105	0.331	0.622
Generations -> Innovation -> Firm Performance	0.055	0.053	0.103	2.540	0.003

The findings of this research show that there is a direct influence between innovation and firm performance, specifically with the results showing that the t-count is 2.071 with a significance level of 0.009. This shows that the innovation variable on firm performance has a statistically significant effect. Apart from that, the influence of innovation on SMEs' performance is moderated by gender-specific factors, with results showing that t-hitting was 0.331 with a significance level of 0.622. This shows that the innovation variable that affects firm performance moderated by gender does not have a significant effect on statistics. Apart from that, the influence of innovation on SMEs' performance is moderated by generation-specific factors, with results showing that t-hitting was 2.540 with a significance level of 0.003. This shows that the innovation variable that affects firm performance moderated by generation has a significant effect.

#### 4.1. Innovation on SME's performance

Innovation also opens new opportunities for SMEs to expand into new markets or develop new product lines, which can lead to revenue growth and increased market share [58]. By focusing on innovation, SMEs can enhance their internal capacities and competencies, including improving employee skills, adopting new technologies, and enhancing knowledge management. Furthermore, innovation often encourages SMEs to seek collaboration and partnerships with others, such as academic institutions, research organizations, and large companies, which can strengthen business networks and expand access to resources and knowledge [59]. These findings underscore the importance of public policies that support innovation in the SME sector. Governments need to create a conducive environment for innovation by providing incentives, financial support, and access to technological infrastructure [60, 61].

The results of this research provide important insights into the benefits of a leaner structure, as seen in SMEs. Decentralized decision-making allows managers to explore and exploit opportunities in more creative ways. SMEs must recognize that their employees can proactively redesign and organize their work tasks, leveraging individual capabilities and considering how opportunities can be explored and exploited [62]. This is in accordance with the Theory of Economic Development (Schumpeterian Theory), which explains that innovation and entrepreneurship are the main keys to driving economic growth [35]. According to this theory, entrepreneurs play a central role in creating a "gale of creative destruction," where new innovations constantly replace old technologies and ways of doing business, thereby driving economic dynamism [63] [64]. Schumpeter emphasized that economic cycles are driven by waves of innovation, such as the invention of new products, more efficient production processes, and new ways of organizing businesses and markets [63, 64]. These innovations, while they may cause disruption in the short term, ultimately lead to economic progress and improved societal welfare in the long term [64]. Thus, from the perspective of Schumpeterian Theory, the successful performance of SMEs is highly dependent on their ability to continuously innovate and adapt to changes in the business environment [65].

Results of the study [66] have proven that by utilizing innovation in everyday life carried out by SMEs in Zimbabwe in the form of introducing new products, it actually improves the performance of their companies. It is hoped that the government will provide policies that are conducive to companies innovating. Bigliardi [42] states that an increase in innovation will enhance financial performance, especially when the development of that innovation is relevant to customer needs. According to Hult et al. [67], innovation impacts business performance. In line with that, Al-Momani et al. [45] concludes that innovation has a positive impact on the performance of pharmaceutical SMEs in Jordan, especially during the COVID-19 crisis, helping to maintain business sustainability and performance [68, 69].

#### 4.2. Innovation on SME's Performance is Moderated by Gender

This research also reveals that the competencies of men and women differ, which can provide significant benefits for SMEs if utilized properly. However, when gender is moderated in the relationship between innovation and company performance, it does not have a significant effect. Therefore, the primary focus should not be on gender differences in this context, but rather on how each individual can contribute maximally [70]. Policymakers should recognize that the existing male dominance in South Asia, including Pakistan, needs to be addressed by providing equal opportunities for female managers. Research conducted by Ali et al. [62] emphasizes that women constitute 48.76% of the total population in Pakistan, and their role in the labor sector, particularly in SMEs, should receive more attention. Furthermore, the government, which has introduced schemes for young entrepreneurs, also needs to focus on the large female population and provide equal opportunities for participation as potential labor, especially in senior managerial positions. This can be encouraged by providing adequate support for women to enroll in higher education programs [71].

It finds that male entrepreneurs are more commonly found in technology-intensive businesses and tend to use innovation more to enhance their business growth compared to female entrepreneurs [72]. Entrepreneurs who are leaders or managers

should possess a high entrepreneurial orientation to effectively utilize all available resources to enhance performance. According to the theory, the moderating effects of gender may not always be clearly observable in all business contexts, especially when key variables, such as innovation, already exert a strong influence on company performance [71]. Other factors, such as organizational culture, industry type, and individual characteristics, may play a more dominant role in determining the impact of innovation on company performance than gender [1].

Therefore, in this context, even though gender is included as a moderating variable, its influence on the relationship between innovation and company performance is not statistically significant. This may also be due to the increasingly equal roles of gender in modern business contexts, making the differences in impact between genders on innovation and company performance less pronounced [73]. Additionally, external factors such as government policies, access to resources, and market conditions may play a more significant role in determining company performance than gender differences [13]. It can be concluded that gender does not strengthen or weaken the effect of innovation on company performance. In the context of this research, gender differences do not have a significant impact on how innovation influences company performance. Therefore, efforts to improve performance through innovation should not overly focus on gender aspects, but rather on other factors that may have a more significant influence on the effectiveness of innovation in enhancing company performance. Additionally, this indicates that generational differences within SMEs can contribute positively and significantly to how innovation affects company performance. Different generations may bring diverse perspectives, skills, and approaches to innovation, ultimately enhancing SMEs' performance.

#### 4.3. Innovation on SME's Performance is Moderated by Generation

Innovation's impact on SMEs' performance, when viewed through the lens of generational differences as a moderating variable, carries significant implications. Different generations within SMEs can influence how innovation is applied and the extent to which it affects company performance [70]. For instance, younger generations may be more open to new technologies and innovative work methods, while older generations bring valuable experience and wisdom to navigate business challenges. Younger generations involved in SMEs can drive the rapid adoption of digital technologies and creative approaches to market changes [74]. This can accelerate the innovation process and enhance operational efficiency, ultimately improving SMEs' performance. Conversely, the experience and knowledge of older generations can provide stability and important strategic insights to ensure that innovation remains relevant and sustainable [75].

This theory was popularized by Howe and Strauss [76], who categorized generations based on similarities in birth spans and historical events. Bencsik et al. [77] state that the success of companies and competitive operations is determined by both current and future generations in the long term. Nadeem et al. [78] mention that social support influences ethical perceptions, thereby creating shared value. Jalil et al. [53] note that Generation Y employees are confident, civic-minded, quick learners, dislike inflexible work schedules, and rigid policies that control them; moreover, Generation Y prefers to work long hours for their professional advancement. Additionally, intergenerational collaboration within SMEs can create strong synergies [79]. The combination of the innovative spirit of younger generations and the wisdom of older generations can foster a dynamic and productive work environment [80, 81]. This is crucial because innovation is not just about adopting new technologies, but also about integrating existing knowledge and skills to create added value for the company [81]. This is crucial because innovation is not just about adopting new technologies, but also about integrating existing knowledge and skills to create added value for the company [82, 83].

## 5. Conclusion

From the research above, innovation has a statistically significant effect on firm performance. These findings also underline the importance of public policies that support innovation in the SME sector. Governments need to create a conducive environment for innovation by providing incentives, financial support, and access to technological infrastructure. Apart from that, innovation on firm performance is moderated by gender and does not have a statistically significant effect. This can mean that the main focus should not be on gender differences in this context, but rather on how each individual can contribute optimally. Gender does not strengthen or weaken the effect of innovation on company performance. In the context of this research, gender differences do not have a significant impact on how innovation affects company performance. Generation moderates innovation on firm performance and has a statistically significant effect. In this context, generation does not weaken but actually strengthens the relationship between innovation and SMEs performance. Therefore, SMEs need to consider generational factors in designing their innovation strategies to improve overall company performance. For future research, it is recommended to conduct multi-sector case studies involving SMEs from different industries to understand how industry context affects the relationship between innovation and performance. Longitudinal analysis can also be performed to track the impact of innovation over a longer period, providing insights into the sustainability of innovation benefits. Cross-cultural research will help understand differences in the adoption and impact of innovations across different global contexts.

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