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# Analyzing the Relationship Between Market Competition Aad Business Innovation

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**ABSTRACT**

This research investigates the impact of process innovation as a moderator between market competitiveness and the performance of SMEs in developing countries. When it comes to creating jobs, fostering innovation, and increasing GDP, developing economies rely heavily on small and medium-sized companies (SMEs). The study polled 135 SMEs in India. The study probed the connections between process innovation, SME performance, and market rivalry using partial least squares structural equation modelling (PLS-SEM). The findings showed that while the moderated hypotheses were not confirmed, three of the direct hypotheses were, suggesting that there is a favorable association between market competitiveness and the performance of SMEs. Owners, managers, and lawmakers of SMEs may benefit greatly from these findings.

**Keyword:** market competition, policymakers, innovation, variables, positive relationship.

## INTRODUCTION

Markets become more adaptable, robust, and creative when there is healthy competition, which benefits consumers and drives economic progress. No theoretical agreement has been reached about the exact connection between innovation and competition, despite the long-held belief that the former leads to greater welfare and economic prosperity.

The OECD Competition Committee has previously addressed matters pertaining to the connection between innovation and competition, with a primary emphasis on the effects of innovation on instances involving the enforcement of competition laws1. However, up until now, it hasn't zeroed down on the core connection between the two variables, so we don't know whether competition drives innovation or not, or how it interacts with other factors that spur invention. The function of competition policy and enforcement in encouraging innovation may therefore be better understood via this kind of investigation. This is why the first session will cover the connection from a theoretical standpoint, while the second will zero in on the consequences for enforcing competition.

In today's ever-changing business environment, there is no separation between innovation and competition. The introduction of novel or substantially enhanced goods, services, processes, or concepts is what is known as innovation. It calls for coming up with fresh ideas, taking calculated risks, and putting them into action in order to overcome obstacles or take advantage of possibilities. Because it helps companies stand out, adapt to changing market conditions, and satisfy customers' ever-changing wants and demands, innovation is a potent competitiveness engine. A competitive advantage may be achieved via innovation in many forms, including but not limited to technology improvements, enhanced operational procedures, and innovative business models.

Considering these measures, it's important to talk about how public funding and other non-competitive factors influence firms' incentives to innovate and how these policies should work with healthy markets to transform these investments into products and technologies.

There are a number of ways in which innovation and corporate competitiveness are related. One common reason for innovation is the need to stay ahead of the competition. Businesses innovate so they may increase productivity, decrease costs, and respond to changes in the market. Second, a competitive edge may be gained by new goods or services.

Businesses that are at the forefront of innovation have the potential to attract a wider range of customers, foster brand loyalty, and establish themselves as market leaders. Businesses who are able to innovate on a constant basis will succeed. In order to maintain relevance, it is crucial to adjust to changing market circumstances.

Businesses are vying for customers' attention and business by drastically raising the prices of their goods and services (Terewatanavong, Whitwell, Widing, & O'Cass, 2011). IIn order to accomplish this, businesses are increasingly embracing market orientation as a strategy. This approach helps companies attract customers, fulfill their needs, and eventually surpass their main competitors. One way to achieve this is by incorporating innovation activities. These activities lead to the creation of competitive advantages and the development of new and improved products or services. Ultimately, this helps companies improve their profitability.

## LITERATURE REVIEW

**Kitson, Michael et.al. (1998).** Innovation and teamwork as they pertain to the competitive process are the main topics of this article. Based on data drawing on data from recent CBR surveys, it proves that businesses compete in marketplaces with a high volume of consumers and rivals is an exaggeration of the competitive dynamics in developed nations. Also, most businesses don't compete based on pricing alone; they place a higher value on things like reputation, product quality, and individual attention to customers' demands. Establishing successful cooperation with others—customers, suppliers, educational institutions, etc.—is one of the vital factors to attaining competitive success. By working together, businesses are able to do more, including developing specialized goods and services and broadening their areas of expertise. In order to promote innovation and successful competitiveness in global marketplaces, collaboration is a crucial tool.. Therefore, a competitive and prosperous economy may be achieved via the encouragement of cooperative institutions.

**Negassi, Syoum et.al. (2014).** Using auction theory to represent the connection between innovation and competition is oversimplified. In an effort to solidify these ideas for practical use, researchers are re-examining prior shaky assumptions. Having said that, the empirical confirmations of this modeling are still inconsistent and sometimes disappointing. By comparing two types of industry-level competition—Bertrand and Cournot—and by conducting a thorough (by including all auction model specifications, issues including capital limits, uncertainty, and the expansion of property rights, as well as extensive verification via the development of data from several sectors, our study offers alternative empirical approaches. Additionally, the Community Innovation Survey's wealth of data is examined in this research. This repository compiles patent data for France as well as comprehensive datasets on innovation from the European Patent Office. The 612 companies in the public sector and the 3,240 companies in the private sector that received funding for research and development (R&D) comprise the constructed data. We find no correlation between the public sector's competitiveness index and innovation output, and this is based

mostly on a random coefficient model. This lines up with the idea that competition in the product market does not encourage innovation in this industry. There is a positive and robust correlation between the innovation output and the competitiveness index in the public sector. Given the apparent importance of innovation in expanding into new markets for the public sector, this outcome is not surprising. Innovation is propelled by the market.

**Moen, Øystein et.al. (2019).** This study looks at 380 Norwegian SMEs and their significance in driving innovation and maintaining competitiveness. Our measurements vary from most empirical studies in that they are based on managers' perceptions of their company's innovation activities and competitive situation. By delving into several aspects of innovation, competition, and the influence of demand situations, this paper aimed to contribute to the current understanding on this contentious issue. According to the results, most innovation indicators have a favorable correlation with competitiveness, which shows itself as rapid technological advancements in production. Overall, innovation is most impacted by this kind of competition.. Out of sixty potential configurations, only one exhibits an inverse-U shaped link between invention and completion. There is a subset of businesses that exhibits both low levels of competition and significant market demand; these businesses also place a premium on research and development of new goods.

**Gilbert, Richard. (2006).** Competition and investment in innovation are linked in a large and often bewildering body of economic research. Monopolies and large-scale production, according to Joseph Schumpeter, encourage R&D spending because they provide a more secure foundation for such investments and enable firms to keep a bigger share of the profits. Some say that firms are more likely to innovate when there is more competition since it becomes more expensive for them to not innovate. To try to identify main drivers of R&D expenditure, This presentation delves into the literature at a level appropriate for upper-division undergraduate or graduate-level coursework. The dynamics of R&D competition, the degree of copyright protection, and the intensity of product marketplace competitiveness are the most important factors. Investing in R&D for concepts with strong patent protection makes more sense in a market where products are competing using the latest technology, as these ideas are less likely to be copied. When there is competition in R&D, innovations may be brought to market more quickly. The return on investment for research and development (R&D) decreases as a result of market competition when inventors do not own exclusive rights to their ideas. A lot of trouble is involved. Some businesses may find it financially detrimental to try to catch up to innovative competitors due to the nature of innovation competition. a leading business in an innovation race, and firms with market dominance have the capacity and motive to preempt their competitors under certain conditions.

**Yang, Mu-Jeung et.al. (2021).** When competition in developing markets heats up, does it encourage or discourage new ideas? We provide an educated guess as to how a sample of Canadian companies responds to steep rises in Chinese import competition by modifying their innovation efforts, business strategy, and eventual departure. Our research reveals that different types of innovation elicit different reactions from companies: in general, competition increases incentives for product innovation but decreases them for process innovation. To devise fresh performance implications in reaction to competition, we build a framework that integrates these distinct innovation kinds with partly irreversible innovation strategy decisions. Our findings are in line with this notion; companies who embark on process innovation initiatives and manage to stay in business end up with more money, but they were more likely to fail in the beginning. On the other hand, companies that focus on product innovation from the start tend to have better profitability in the long run, even if they don't do well when it comes time to depart. Both trends in

data support our hypothesis, which states that the equilibrium between innovation incentive effects and competitive failure risk determines innovator performance.

## RESEARCH METHODOLOGY

With an emphasis on process innovation as a moderator, this research seeks to understand how market rivalry affects the performance of SMEs in developing nations. The validity and trustworthiness of the results depend on a solid data gathering and sampling method, which is necessary to accomplish this. In this part, we will go over the procedures and sample strategies that were used to gather data for this study. In order to put the research model and hypotheses to the test, a questionnaire was developed using the conceptual framework. The survey was divided into two parts, Option A and Option B. While Section B included the study's variables, Section A requested participants' demographic information. Data collection and analysis at several time periods would have been required by a longitudinal technique, so a cross-sectional study design was opted upon instead. Small and medium-sized enterprise (SME) owners and managers in India were surveyed using a structured questionnaire as the main tool for data collection in this research.

India Presented below are small and medium-sized businesses (SMEs) from the retail, service, and industrial sectors. With about 1.5 million businesses running (India Statistical Service, 2017), SMEs are a major force in India's economy. A pre-test was carried out to guarantee the scales' dependability with forty-five (45) people prior to the finalization of the questionnaire. Some questions were eliminated or altered while others were retained despite failing to reach the required reliability level (Hair et al., 2019). Data collection began once the questionnaire was amended. Using convenience sampling, we selected respondents based on their availability and level of preparedness to fill out the survey. Methods that were both online and offline were used.

It was emphasized before the questionnaire was sent out that taking part in the research was entirely optional and would remain private. After their permission was approved, the targeted respondents were sent a Google link to the survey The recent study by Amoah et al. (2022). In all, 365 valid responses were provided by the participants. According to Hair et al. (2017) and Tabachnick and Fidell (2007), a minimum of 300 participants is needed for quantitative analysis, which is precisely what this study accomplished. Everything was recorded during the months of January and May of 2024. Each respondent took an average of twelve minutes to finish the survey. For the sake of absolute confidentiality and ethical conduct, it was specifically stated that participants were not to put their names on the questionnaire in any way, either before or after replying. The data obtained from the survey could be quantitatively analyzed since it employed a Likert scale to quantify replies. This approach has been extensively used in related research to evaluate the elements impacting the performance of SMEs.

In order to analyze and evaluate the legitimate replies, the PLS-SEM software version was used. The need for accurate forecasting and the intricacy of the model being studied led to the selection of PLS-SEM for this quantitative research. Its flexibility and applicability to explanatory research make it a favorite among empirical researchers, especially in fields like studies where complicated correlations are common (Metzker et al. 2021). Because it uses an explanatory approach, this quantitative design allows researchers to methodically examine, measure, and explain correlations between variables. This method was useful since it allowed us to test our hypotheses, run based on our statistical analysis, and determine what the associations we found that could be applied to other situations.

## DATA ANALYSIS

The cross-validated predictive ability test (CVPAT), one of several methodological advancements that have enhanced PLS-SEM, increases benchmarking and the model's capacity for prediction at the construct level. This makes it a popular choice among academics who want to model and verify ideas in their investigations (Kineber et al. 2023).

To assess the interplay of latent variables, a three-pronged assessment strategy was used, factors such as discriminant validity, convergent validity, and factor loadings. The loadings on the factors measure how strongly the observable variables are related to the factors themselves. After that, they either loaded the factor loadings or checked them. designated places to make sure the model fit was excellent. All loadings met the 0.5 minimum threshold, as reported by Hair et al. (2014). Then, AVE was used to check for convergent validity, and CR and Cronbach's alpha were used to calculate convergent reliability and internal consistency (Hair et al. 2019). Table 1 shows that all model constructs had significant convergent validity, and all of them passed the required criteria for Cronbach's alpha, which is ≥0.7, meaning that there was enough internal consistency. The absolute value of the variance (AVE) is determined by subtracting the measurement error variance from the variance that a construct captures. In general, it is considered acceptable implying that the concept explains more than half of the variation in its indicators when the AVE is 0.5 or higher. This must be done in order for the notion to be confirmed real. Method innovation (PI3, PI4, and PI5), competitor count (NC3, NC5), and product innovation (PR5) were all removed from consideration since the criteria did not meet the usual 0.5 standard.

**Table 1. Structures, items for assessment, and testing of validity and reliability.**

| Construct | Items/Constructs Measurement Indicators | Loading | VIF | CA | CR | AVE |
|---|---|---|---|---|---|---|
| SME Performance (Jeong and Chung 2023; Kardos et al. 2024) | 1. Our company has experienced steady growth in sales revenue over the past few years | 0.890 | 3.470 | 0.959 | 0.961 | 0.860 |
| | 2. Market expansion efforts have positively contributed to our sales revenue growth | 0.946 | 3.805 | | | |
| | 3. Our sales performance outperforms competitors in terms of revenue growth | 0.949 | 3.132 | | | |
| | 4. We effectively acquire new customers to drive sales revenue growth | 0.952 | 4.058 | | | |
| | 5. Our sales strategies are aligned with organizational goals and contribute to revenue growth | 0.897 | 3.442 | | | |
| Market Share Distribution | 1. Our firm has achieved significant market penetration in our target segments | 0.869 | 2.881 | 0.816 | 0.825 | 0.738 |
| | 2. One or a few dominant competitors control a large portion of the market share in our industry | 0.847 | 2.603 | | | |
| | 3. The market is highly fragmented, with many small players holding small shares of the market | 0.913 | 4.182 | | | |
| | 4 Our company has experienced steady growth in market share over the past few years | 0.802 | 2.178 | | | |
| | 5. We perceive our company as a market leader in terms of market share and industry influence | 0.860 | 2.919 | | | |
| Product Innovation | 1. Innovation in product development is crucial for our company's competitiveness | 0.831 | 2.228 | 0.907 | 0.917 | 0.782 |
| | 2. Our company regularly introduces new products or services to meet evolving customer needs | 0.877 | 2.631 | | | |
| | 3. We actively seek and incorporate customer feedback into our product innovation process | 0.909 | 3.548 | | | |
| | 4. Our company allocates sufficient resources to research and development for new product innovation | 0.918 | 3.677 | | | |
| Number of Competitors | 1. Numerous competitors are offering similar products/services in our market | 0.674 | 1.345 | 0.818 | 0.891 | 0.737 |
| | 2. Competition in our industry is fierce, with many firms vying for the same customers | 0.944 | 3.798 | | | |
| | 3. Our market is saturated with competitors, making it challenging to differentiate our offerings | 0.931 | 3.540 | | | |
| Process Innovation | 1. Process innovation initiatives have significantly improved our operational efficiency | 0.732 | 1.108 | 0.876 | 0.812 | 0.652 |
| | 2. We actively implement lean manufacturing or operational practices to streamline processes | 0.876 | | | | |

Structured equation modeling (SEM) relies on discriminant validity, which guarantees that constructs are different, to a large extent. According to Heseler et al. (2015), Determine discriminant validity with the use of the Heterotrait- Monotrait Ratio of Correlations (HTMT). The improved specificity and sensitivity of the HTMT make it simpler to evaluate discriminant validity. In order to prove discriminant validity, this study followed the advice of Henseler et al. (2015) and employed a cutoff of 0.9. Discriminant validity is not a problem among the conceptions, as seen in Table 2 below. All of the pairs of constructions have HTMT scores between 0.704 and 0.988.

**Table 2. Discriminant validity—HTMT.**

| Constructs | Market Share Distribution | Number of Competitors | Process Innovation | Product Innovation | SMEs Performance |
|---|---|---|---|---|---|
| Market Share Distribution | | | | | |
| Number of Competitors | 0.871 | | | | |
| Process Innovation | 0.704 | 0.088 | | | |
| Product Innovation | 0.853 | 0.888 | 0.090 | | |
| SMEs Performance | 0.772 | 0.829 | 0.988 | 0.801 | |

The last step was to assess the structural model, which included checking hypotheses and calculating the R2 coefficient That is according to Hair et al. (2019). In the past, before this, checked for predictor construct collinearity. Values ranging from 1.45 to 4.18 for the variance inflation factor (VIF) showed unbiased route coefficients, in agreement with Hair et al. (2017) (refer to Table 1). The next step was to determine the R2 values, which stand for predicting ability and explanatory capacity, as shown in Brahmane (2014) (Hair et al. 2019). It was decided to test the hypotheses

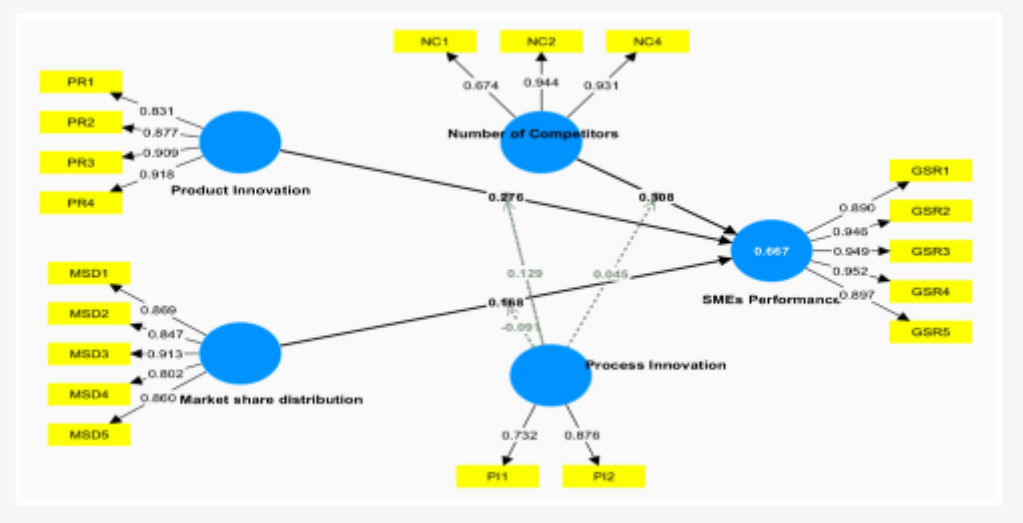


**Figure 1. Estimated model.**

Table 3 depicts the results and the predicted (Figure 1). While H4, H5, and H6 were rejected, hypotheses H1, H2, and H3 were supported by the data.

**Table 3. Hypothesis testing.**

| Construct | Original Sample | Sample Mean | Standard Deviation | T Statistics | *p* Values | Decision |
|---|---|---|---|---|---|---|
| H1: Market share distribution -> SMEs Perf | 0.168 | 0.168 | 0.082 | 2.057 | 0.040 | Agreed |
| H2: Number of Competitors -> SMEs Perf | 0.308 | 0.312 | 0.080 | 3.864 | 0.000 | Agreed |
| H3: Product Innovation -> SMEs Perf | 0.276 | 0.276 | 0.085 | 3.249 | 0.001 | Agreed |
| H4a: Process Inno × Mkt share dist-> SMEs Perf | −0.091 | −0.081 | 0.091 | 0.994 | 0.320 | Not Agreed |
| H4b: Proc Innovation × Pro. Inno -> SMEs Perf. | 0.129 | 0.123 | 0.098 | 1.317 | 0.188 | Not Agreed |
| H4c: Proc Inno × Number of Comp-> SMEs Perf | 0.045 | 0.032 | 0.093 | 0.483 | 0.629 | Not Agreed |

Table 4 below displays the modified R-square findings.

**Table 4. $R^2$ value.**

| Construct | R-Square | R-Square Adjusted |
|---|---|---|
| SMEs Performance | 0.667 | 0.659 |

## CONCLUSION

It teaches us a lot about the effects of market competition on the performance of SMEs in emerging nations, which may be mitigated by process innovation, according to research. Small and medium-sized businesses (SMEs) are under increasing pressure to innovate in order to stay ahead of the competition and improve their overall performance. We surveyed small and medium-sized enterprises (SMEs) throughout the West Coast with an emphasis on service, retail, and industrial firms. For this data analysis and interpretation, we resorted to structural equation modelling using partial least squares. Market share distribution, competition, and product innovation are all variables that have a direct impact on SMEs, according to the results. Nonetheless, process innovation is not a moderating element that indirectly affects SME performance, according to the findings. This suggests that doing things the old way may not cut it; instead, a more comprehensive strategy that incorporates several types of innovation, especially strategies focused on the market, might work better.

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