A Structural Equation Model on Organizational Performance among Manufacturing Firms in Region XII, Philippines

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ABSTRACT

The purpose of this quantitative research was to establish the best fit model of organizational performance as influenced by innovation strategy, quality management practices and market orientation among manufacturing firms. A survey questionnaire was administered among 13 manufacturing firms in Region XII, Philippines with 400 managerial and supervisory level employees as the respondents. Structural equation modelling was used to gauge the best fit model. Findings revealed significant relationships between and among innovation strategy, quality management practices, market orientation, and organizational performance. Moreover, the best fit model (Model 4) conveyed a generalized new concept that organizational performance of manufacturing firms as measured in terms of financial and market performance, and social performance is best anchored on innovation strategy as solely defined by product innovation, and further strengthened by quality management practices as indicated by top management support and design for quality. In conclusion, the final model depicted the direct causal relationship of innovation strategy and quality management practices, and was found to be the best fit model of organizational performance among manufacturing firms. Overall, findings of this study contribute to a greater clarity and better understanding of how organizations may improve their organizational performance.

Keywords: innovation strategy, quality management practices, market orientation, organizational performance

1. INTRODUCTION
1.1 Rationale

In recent years, the issues faced by manufacturing firms worldwide have been multifaceted due to changes in customer behavior, rigid competition, system failures, poor product design, delays in shipment, and lack of qualified and engaged workers, resulting in poor organizational performance (Ngambi & Nkemkiafu, 2015). Faced with

these challenges, most businesses are constantly finding ways to improve products and service quality, attain competitive position and improve organizational performance (Ebrahimi, Moosavi, & Chirani, 2016).

Notably, assessing and gauging the performance of an organization has become an integral component in the proliferation of the organization's strategies. Meanwhile, innovation strategy is the foundation for innovation achievement and enhancement of results (Akhlagh, Moradi, Mehdizade, & Ahmadi, 2013). According to Antunes, Quiros, and Justino (2017), innovation has a major effect on the performance of the organization by allowing a stronger market position leading to the promotion of competitive advantage and superior performance. On the other hand, researchers characterized quality management practices as a set of guiding philosophies and management approach, which have been implemented by organizations to enhance competitiveness and organizational performance. On another note, Hilman and Kaliappen (2014) opined that the organizations of today necessitate market orientation practices to strive and create superior performance and competitive advantage.

It is from the above context that the researcher investigated the study dealing with innovation strategy, quality management practices, and market orientation as a construct of organizational performance. Although there are current researches on the link between each variable to organizational performance, these studies are performed in bivariate relationships only and conducted separately by distinct authors. This study is a superior version of those current researches considering that it includes the three variables with the aim of generating a model for organizational performance which have not been explored in past studies.

1.2 Research Objectives

This study focused on identifying the best fit model for organizational performance among manufacturing firms in Region XII, Philippines as influenced by innovation strategy, quality management practices, and market orientation.

1.3 Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance.

a. There is no significant relationship between:

a.1. innovation strategy and organizational performance;

a.2. quality management practices and organizational performance;

a.3. market orientation and organizational performance.

b. There is no model that best fits organizational performance

2. REVIEW OF RELATED LITERATURE

This section consists of the related readings and studies on innovation strategy, quality management practices, market orientation, and organizational performance conducted in international and local settings that provided a substantial contribution in the researcher's conceptualization of the study.

2.1. Review of Literature

Organizational Performance

Several studies confirmed that organizational performance is a distinctive and circumnavigating technique to deliver continued wealth to businesses by ameliorating performance of employees and molding capacity of the teams and individual contributions (Ajagbe, Inelo, Udo,Uduimoh, & Akpan, 2016). It involves directing the organization, enhancing commitment to duties, employee development, stakeholders' gratification and finally, communication and engagement (Maduenyi, Oke, Fadeyi, & Ajagbe, 2015).

To ensure organizational success, managers should evaluate the organization's performance and need to determine assessment variables. Performance measurement is essential for organizations as it reinforces effective business management (Mambanda, Maibvisira, & Murangwa, 2017). Information on performance is very significant to management of any organization. It facilitates the management to discern whether the organization is improving or dwindling. Organizational performance is appraised by dependability, competence and affiliation of other functional units (Ajagbe et. al, 2016). Moreover, Antony and Bhattacharyya (2010) articulated that organizational performance needs to be regulated with the organizational level, the key process level and the work unit level.

Organizational performance is described in varied forms appropriate to the viewpoint and milieu of the study. Robinson, Carrillo, Anumba, and Ghassani (2005) argue that a firm's performance is a reflection of both its financial and non-financial performance. Market share, new customers, return on capital employed, return on investment, quantity of customers and sales are identified as factors for financial performance. On the other hand, the non-financial measures include the customer characteristics, the influence of business on society, employee or constituent attributes, product and process design and functionality. Gunday, Ulusoy, Kilic, and Alpkan (2011) support the paradigm in espousing both financial and non-financial facets in assessing organizational performance and dividing them into four categories, namely innovative performance, production performance, market performance and financial performance.

The study of Sethibe and Steyn (2016) unravels that profitability, sales growth and return on assets (ROA) are most favored accounting-based measures of organizational performance, while market share, customer satisfaction and productivity are the most

desirable non-financial based measures. Mendoza (2015) identified profitability and return on assets as the key performance indicators critical in understanding the domain of financial health of a business.

Diverse performance dimensions can be pooled to get an equilibrium and entire view of the organization's performance. Venkatraman and Ramanujan (1986) consider three aspects of performance, among them financial performance, business performance, and organizational effectiveness and the latter has been subsequently known as organizational performance. Maletic, Maletic, Dahlgaard, Dahlgaard-Park, and Gomiscek (2014) opined that a broader conceptualization of the organizational performance may include operational indicators when the organizational performance is measured. The operational indicators include new product introduction, product quality, manufacturing value-added and marketing effectiveness.

Further, financial performance has been normally fostered as a barometer to determine business performance (Ajagbe, et al., 2016). Nevertheless, an organization has many other angles; among these are the people who work for it, the processes to achieve its objectives, and the environment in which the organization originates. Consequently, one expects that organizational performance can take the other spectra into account. Unfortunately, this is not often the case. Morin and Audebrand (2003) argued that the restriction of the notion of organizational performance to its financial dimension can lead to the misplay of meaning at work through the type of management practices that is deduced from this restricted perspective.

In research literature on sustainability, scholars contend that firm performance should have a broad scope which comprises a triple bottom line, instead of concentrating solely on financial performance. Specifically, performance refers to performance within the environment, social, economic performance, operational, and innovation (Chen, 2015). Recently, there has been a shift from a single-criterion performance model to multiple-criteria performance model considering the expectations of the shareholders, the customers, and the employees (Ezzi & Jarboui, 2016). Furthermore, those companies conceived to have high social performance often have a heightened ability in drawing and holding talented, diverse and competent workforce. This may lead to motivation, organizational commitment, reduced turnover, recruitment, and training costs. Furthermore, a company is perceived as socially responsible can profit from this reputation within the business community through compounded ability to captivate capital and trading partners (Acar Erdur & Kara (2014).

Innovation Strategy

Innovation is one of the key ingredients for the success, sustainable competitive advantage and permanence of organizations (Jimenez-Jimenez & Sanz-Valle, 2011).

From a firm perspective, innovation is reflected as a multifarious process embracing development, transformation and application of a novel combination of ideas, knowledge, technologies, capabilities and resources with the aim to evolve innovative ideas or character with the potential to beef up profitability of a firm; decrease its production and distribution costs; and motivate eagerness of customers to purchase and pay for their products (Karlsson & Tavassoli, 2015).

Zaied, Louati, and Affes (2015) underscored that innovation can usher in the development of particular strategic resources for the company; dispense a competitive advantage and foster high performance. Innovation strategy is described as the innovative instruction of business approach to the choice of objectives, methods and means to fully harness and develop the ingenious potential of the business (Lendel & Varmus, 2011). On the other hand, Katz, Du Preez, and Schutte (2010) characterized innovation strategy as an incrementalist, operative, preconceived plan regulating the appropriation of resources to various types of innovations to attain the collective corporate strategic objectives of the business. The authors further illustrated that it is a decision framework directing business on when and how it should selectively wallow the past or revolutionize its corporate strategy and objectives to steward the business of the future.

Generally, the prime rationale for innovativeness is the passion of firms to boost business performance and escalate competitive advantage. Companies acquire additional competitive opportunity and market share based on the weight they give to innovations. Such is crucial for companies to build a name in the global market to heighten the market share (Tuan, Nhan, Giang, & Ngoc, 2016). In the same vein, the traditional explanation for the positive connection between level of innovation and performance of the firm lies in Schumpeter's (1934) work. He asserted that innovative new products, when first initiated in the market, encounter limited primary competition and, as a result, accords firms to value relatively maximum profits. These maximum profits are most certainly ruined due to imitation and competition; however, firms that continuously innovate can bolster high profitability for a sustained period (Sharma & Lacey, 2004).

Subsequently, the innovation strategy steers decisions on how resources can be employed to materialize the objectives of the firm, for innovation and delivery of value and to build competitive advantage (Lendel & Varmus, 2011). In addition, it assists companies to settle in an incremental and reasonable manner the kind of innovation that best complements objectives of the organization. Also, innovation strategies could result in new technologies, products or processes intended to reduce the costs of the environmental impact of business activities, and ameliorate efficiency in the

employment of materials and energy (Mariadoss, Tansuhaj, & Mouri, 2011). Similarly, innovation can reflect a significant impact on the organization's performance by enabling a better position in the market, which, in turn, will promote a competitive advantage and superior performance (Antunes et al.,2017). Furthermore, innovation strategy is the basis of success in innovation and performance improvement (Akhlagh et al., 2013).

Quality Management Practices

Many manufacturing companies perceive the relevance of quality. In fact, quality has become a crucial instrument used by companies to advance competitive advantage. It is speculated that a quality company occupies a market share above its competitors (Awoku, 2012). According to Nekoueizadeh & Esmaeili (2013) some arguments in the implementation of TQM entail enhancing competitive advancement, raising profitability and re-engineering the firm to become innovative. TQM is based on the belief that the quality of products and processes is the accountability of everyone involved in the generation of the products or services, and the engagement of management, workforce, suppliers, and customers, to satisfy or exceed customer expectations.

Several definitions of quality management are formulated. According to Milanoi (2016) quality management is a managerial route geared towards innate managerial tendencies of planning, control and advancement. Manufacturing-based definition orients quality management as design strategies and manufacturing practices intended in improving product quality. Sadikoglu and Olcay (2013) spelled out that TQM is a comprehensive and principled approach of firms to perpetually intensify their products, services or methods to engage stakeholders for customer satisfaction, improve performance and sustainability.

Likewise, Jaafreh and Al-abedallat (2012) pointed out that TQM necessitates a high level of potent and progressive integration among people, machines, and information, emphasizing a systematic approach to quality. Furthermore, it consists of the involvement of the entire personnel in seven perspectives: the managing of the business and the functional philosophy, the innovation and the strategy management, the customer satisfaction, the market generation, the human resource and the professional skill management, the information strategy, the application and management, and the procedural management (Ngambi & Nkemkiafu, 2015).

Previous researches indicated when quality management practices are addressed, positive effects in the organizational networking can attest to its establishment. It is vital for the organization to execute quality management interventions to achieve competitive power, externally and internally (Milanoi, 2016). Whenever quality management is

prosperously promulgated in an organization, performance indicators such as lower costs, greater efficiency, better product quality, enhanced market share, sparked motivation and satisfaction   are ushered in (Altiok, 2012; Milanoi, 2016).

In their literature review on the relationship between TQM and innovation, Prajogo and Sohal (2001), identified two competing arguments. The first argument emphasizes that TQM is positively related to innovation because it proves a system and culture that deliver a productive environment for organizations to innovate while the disputing view holds that the implementation of TQM principles and practices can impede organizations to innovate.

Moreover, Satish and Srinivasan (2011) recounted that total quality management (TQM) is regarded as the groundwork in enhancing productivity, profitability and customer satisfaction, while the correlates of market competition, cost constraints, and customer requirements are compelling organizations to be innovative in all their activities. Simply, quality performance is mandatory to win competitive advantage while innovation is the stimulus for further development. This notion is congruent with the argument of Dervitsiotis (2011), that the innovation process should be carried out under the TQM for the ultimate beneficial impact on performance.

In addition, the study of Nyaga and Gakobo (2017) pointed out that support of top management towards quality initiatives is essential for organizational performance. Their results also indicated that there was open communication and that employees were involved and encouraged in the production process. Also, committees had been established to carry out monitoring of implementation of quality initiatives. Consequently, Motwani (2001) visualizes total quality management as building a house. The same author views top management support to TQM as the bedrock and explains that without a strong foundation, the house never stands. Furthermore, Bagshaw (2017) argued that the purpose of product or service design as another indicator of quality management practices is to attract customers by satisfying their needs and expectations without compromising quality. Such may lead to efficiency and competitive context of the organization. Therefore, manufacturers should examine carefully their product design in order to enhance the efficiency of their firms and increase organizational performance.

Market Orientation

Existing literatures viewed market orientation as a key leverage in realizing competitive advantage, satisfying the needs and wants of customers, competitive structure and the business environment. In the same vein, majority of marketing literatures reviewed market orientation as the backbone in implementing successful marketing program (Talaja, Miocevic & Alfirevic, 2017).

Kohli and Jaworski (1990) stated that the behavioral perspective of market orientation focuses on matters that relate to developing, disseminating and responding to market intelligence. Moreover, Narver and Slater (1990) suggested that the cultural perspective manages activities related to customer orientation, competitor orientation, and inter-functional coordination. Furthermore, Oudan (2012) claimed that market orientation focuses on a business culture producing supreme value to customers and premium performance for the firm, resulting in growth and benefits for trade. Similarly, Shaikh (2015) defined market orientation as the organization's culture that develops the necessary characteristics for the generation of supreme value for the buyers, resulting in continuous superior performance of the business.

Once the organization acts on the exhaustive analysis of the needs and wants of the customers and the events undertaken by competitors in the markets, it finds itself in a better position to craft those policies that facilitate the organization to perform profitably and ensure sustainability (Kumar, Jones, Venkatesan, & Leone, 2011). According to Schalk (2008), to attain a high degree of market orientation, companies are involved in coordinated business intelligence generation, intelligence dissemination and responsiveness to market facts and information for competent marketing management decisions.

Prior theory and research on market orientation imply that market orientation is universally valuable, exudes a direct, positive effect on business performance specifically in terms of profitability, and generates a multi-dimensional but balanced focus on key stakeholders such as customers, channel members, suppliers, competitors, and relevant governmental agencies (Shaikh, 2015).Moreover, the study of by Aziz and Yassin (2010), among SMEs in the Agro-Food Sector in Malaysia revealed that the execution of a market orientation ushers in superior financial and marketing performance.

Efficient acquisition of customers' information and data and distribution of relevant market orientation is critical in the development and administration of customer relationship to better recognize customers' needs and wants. A market-oreinted organization is able to intensify its products and services in relevance to customers' qualities, opinions and feedback (Wang, Chen, & Chen, 2012). A satisfied customer can transform into a committed customer, thus sales increases and repeated purchases occur (Lo, Abang Azlan, Ramayah, & Wang, 2015). Furthermore, Mokhtar, Yusoff, and Ahmad (2014) elucidated that market orientation is characterized as a catalyst for supreme organizational performance and it empowers organizations to develop significant value to the customers.

2.2 Correlation between Measures

The study investigated by Njeri (2017) on the effects of innovation strategy on firm performance revealed that there was a positive and significant correlation between product innovation strategy and performance. Also, there was a positive connection between process innovation and performance, but this was not significant. Furthermore, results of the study showed that there was a positive and significant association between market innovation and performance; and regression analysis confirmed that there was a strong and positive link between market innovation and performance. Consequently, empirical studies of Tajuddin, Iberaham and Ismail (2015) emphasized that there was a significant positive relationship between innovation strategy and organizational performance.

Also, the study of Ukpabio and Siyanbola (2017) among manufacturing SMEs unfolded that all dimensions of innovation (product, process, market, and organizational) had significant positive relationship to firm performance. In a singular state, the study of Chelanga, Rono, and Boit (2017) determined that product innovation and financial performance are positively and significantly related. The study concluded that the strategies tend to be associated with higher levels of firm performance, particularly those strategies which place prominence on a greater number of strategic dimensions, and specifically on innovation. Similarly, the study of Ngure, Maina, and Kariuki (2017) revealed that product innovations were positively correlated to financial performance. Furthermore, the results of analysis on the effect of innovation on the performance of the company showed that innovation has a positive role in improving the performance of the company (Ismanu & Kusmintarti, 2019).

In terms of quality management practices and organization performance, the study of Jaafreh and Al-abedallat (2012) concluded that there was a significant relationship between quality management dimensions (leadership, strategic planning, customer focus, and employee relation) and organizational performance. Also, Nekoueizadeh and Esmaeili (2013) reported that TQM aspects especially affect quality performance, innovation and organizational performance. The path diagram articulates that the TQM has a dominant influence on the organization's innovation performance.

Additionally, the study conducted among manufacturing firms in Southern Minnesota by Awoku (2012) revealed that all the quality practices have positive significant relationships between implemented quality practices and organizational performance. Furthermore, the study explored by Nguyen, Phan and Matsui (2018) among Vietnamese firms identified that four quality management practices　namely: top management support for quality management, design for quality, quality data and reporting, and continuous improvement have a significantly positive impact on sustainability performance. In the same vein, correlation findings in the empirical study

of Ul Hassan, Shaukat, and Nawaz (2013) revealed a positive connection between the TQM elements and performance of Pakistani manufacturing firms.

In the singular state, the significant positive relationship between top management support and organizational performance is affiliated to the findings of Chepkech (2014) who underscored that there was a strong positive relationship between top management commitment and organizational performance, indicating a positive correlation between top management commitment and organizational performance. Sadıkoglu and Zehir (2010) found that all elements of TQM are significantly and positively associated with innovation performance. The empirical study done by Hung, Lien, Yang, Wu, Kuo (2011) confirmed the positive relationship between TQM and innovation performance.

With regards to the relationship between market orientation and organizational performance, the empirical study of Hussain, Ismail and Akhtar (2015) among Pakistani SMEs, indicated that there was a strong and positive relationship between market orientation and performance. Consistently, it draws similar attention to the research conducted by Lo et al. (2015) who concluded that market orientation is significantly related to organizational performance.

The related literature and studies provided the researcher with the most fundamental knowledge and framework for the subject under study, specifically on the relationship among variables and how these variables and their indicators affect one another. The knowledge culled from distinguished scholars contributed to the formulation of the theoretical framework.

2.3 Theoretical Framework

This study was anchored on resource-based view (RBV) theory which posited that competitive advantage and performance outcomes are a result of firm-specific resources and capabilities that are difficult to imitate by other rivals. If organizations possess certain unique features, these resources and capabilities can be important variables of sustainable competitive advantage and firm performance. Resources should be valuable, rare, imperfectly imitable and non-substitutable (Barney, 1991).

In the resource-based view, strategists identify the strategy or competitive position that best utilizes internal resources and capabilities in relation to external opportunities. Given the strategic resources which constitute a system of interconnected assets and capabilities, organizations can hold several competitive positions (Hooley, Greenly, Cadogan & Fahy, 2005).

2.4 Conceptual Framework

There were four hypothesized models in this study. These hypothesized models were composed of two types of latent constructs, namely exogenous and endogenous

variables. The exogenous variables of this study were innovation strategy, quality management practices, and market orientation. On the other hand, the endogenous variable was organizational performance. Apparently, since latent variables were not observed directly, it followed that they cannot be measured directly. With this, each latent construct was associated with multiple measures or observed variables. Thus, the extent of regression paths from the latent variable to the observed variables was one of the primary interests of this study.

The first exogenous variable is innovation strategy (Njeri, 2017) which has three indicators: *product innovation*, *process innovation* and *market innovation*. *Product innovation* is the creation of a good or service that is novel or extensively improved in terms of its characteristics or composition. *Process innovation* refers to the implementation of new and significantly upgraded delivery and production method which includes major changes in software, equipment and techniques. *Market innovation* is the development and execution of novel marketing methods involving major changes in product design, pricing, product placement and product promotion.

The second exogenous variable is quality management practices (Nguyen, et al., 2018) with the following indicators: *top management support*, *training on quality*, *design for quality*, *quality data and reporting*, *process management*, *problem solving*, *continuous improvement* and *rewards*. *Top management support* is described as the level of indulgence of quality responsibility by top management, and involvement in quality improvement energies. *Training on quality* calibrates the organization quality-related training through-out the organization. *Design for quality* measures the weight of quality in the product/service design process to ensure that product/service satisfies customers' expectations.*Quality data and reporting* refers to the accessibility of information on the quality-related performance which would assist managers decide appropriately based on the facts and quickly spot problems. *Process management* assesses the organization process related issues such as process objective, authority and responsibility, process risks, and process standardization. *Continuous improvement* is defined as the continuous effort to look for innovative ways and techniques in the production of better and quality product and services. *Problem solving* refers to identifying and addressing the sources of quality issues that would prevent the iteration of the same defects. *Rewards* are incentives for novel ideas or exceptional performance purposely to encourage a better working attitude of employees.

Another exogenous variable is market orientation (Kohli, Jaworski, & Kumar, 1993). It has three indicators, namely: *intelligence generation*, *intelligence dissemination* and *responsiveness*. *Intelligence generation* is one of the indicators of market orientation. *Intelligence generation* is described as the acquisition and valuation of information about

customer needs, wants, and preferences and the external forces influencing the realization of those market requirements. On the other hand, *intelligence dissemination* is described as an organization-wide translation, implementation and promotion of market information through formal and informal communication. *Responsiveness* refers to the efforts carried out in response to the generation and dissemination of market intelligence.

The latent endogenous variable, organizational performance has five indicators, namely: *Financial and marketing performance*, *quality performance, innovation performance, economic performance, and social performance* (Maletic, 2013). *Financial performance and market performance* appertains to financial and marketing measures such as profit margin, return on investment, revenue growth, customers' volume, sales volume, and market share. *Quality performance* is the result of quality related approaches carried out by organizations intended to improve both product and service quality   to attain customer satisfaction.   *Innovative performance* is an outcome of enhancement and reengineering efforts made, taking into consideration different aspects of innovativeness such as processes, products, marketing, and organizational structure. *Environmental performance* measures the performance change of the organization in terms of waste released to the environment and utilization of natural resources. *Social performance* evaluates the performance change of the organization in terms of human-related management and contribution to the community.

The hypothesized structural model of the study is illustrated in Figure 1. This model was explored in hoping to come up with the best interrelationships among the variables namely: innovation strategy, quality management practices, market orientation, and organizational performance, which would serve as a benchmark in formulating, measuring and improving organizational performance of manufacturing firms. The hypothesized model shows the following: the oval shapes represent the latent variables of the study, the rectangular figures connected from the oval are the measured variables of a latent construct, single head arrow represents the direct relation from one variable to another while the double head arrow signifies correlation.
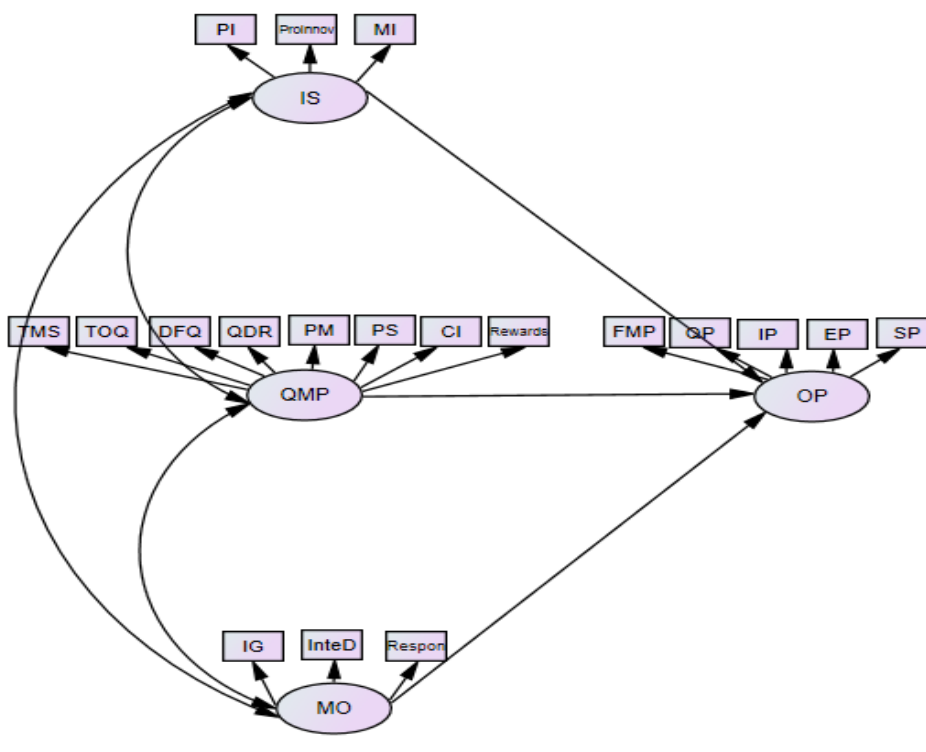
Figure 1. A hypothesized model showing the interrelationships between the latent
exogenous variables and their direct causal relation to the endogenous
variable organizational performance.

Legend:

PI–Product innovation	QMP–Quality Management Practices
ProInnov–Process innovation	IG–Intelligence generation
MI–Market innovation	InteDI–Intelligence dissemination
IS–Innovation strategy	Respon – Responsiveness
TMS–Top Management Support	MO–Market Orientation
TOQ Training on Quality	FMP–Financial & marketing performance
QDR–Quality Data and Reporting	QP–Quality Performance
PM–Process Management	IP–Innovation performance
PS-Problem Solving	EP–Environmental performance
CI–Continuous Improvement	SP–Social performance
Rewards-Rewards	OP–Organizational performance

3. METHODS

Presented in this chapter are the research design, research locale, population and
sample, research instruments, data collection and procedures, and the statistical tools
utilized to achieve the expected outcomes of this study.

3.1 Research Design

This study employed the quantitative descriptive-correlation technique, utilizing

Structural Equation Modelling (SEM) to generate the best fit model.

3.2 Research Locale

The study was conducted in the SOCCSARGEN area, or Region XII, Philippines. It is one of the regions in the Philippines situated in South Central Mindanao as shown in Figure 5. The region comprises of four provinces namely: South Cotabato, Cotabato, Sultan Kudarat,, and Saranggani and five cities: General Santos, Cotabato, Koronadal, Tacurong and Kidapawan.

3.3 Respondents and Sampling Procedure

A total of 400 respondents from 13 manufacturing firms comprised the study utilizing total population sampling. Harris and Schaubroeck (1990) proposed a sample size of at least 200 to guarantee robust structural equation modeling. In addition, Yuan, Wu and Bentler (2011) after evaluating different models based on various numbers of respondents, opined that a sample size of between 300 and 400 is appropriate for structural equation models using ordinal data.

The respondents of the study were managerial and supervisory level employees of manufacturing firms operating in Region XII, Philippines.

3.4 Research Instrument

The primary data which was gathered for the study comprised four parts, namely: innovation strategy, quality management practices, market orientation and organizational performance of manufacturing firms in Region XII. The survey questionnaires utilized were adapted from various researchers namely Njeri (2017); Nguyen et al. (2018); Kohli et al. (1993); and Maletic (2013). Also, restructuring was carried out to make the instrument more applicable in the current undertaking as well as the local business setting. The instruments were also validated by six experts in the field of business management.

After validation, pilot testing was performed where 40 respondents were asked to participate. Results revealed Cronbach's values of 0.914, 0.965, 0.874, 0.918 for innovation strategy, quality management practices, market orientation, and organizational performance instruments, respectively. In interpreting the results, Mallery & George (2003) postulated the following rules of thumb in measuring the reliability of the questionnaire using Crobach's alpha; if result is greater than or equal to 0.9 it is excellent, greater than or equal to 0.8, good; greater than or equal to 0.7, acceptable; greater than or equal to 6, questionable; greater than or equal to 0.5, poor and greater than or equal to poor, unacceptable. Evidently, the research instrument obtained an excellent rating for innovation strategy, quality management practices and organizational performance while in terms of market orientation the instrument obtained a good rating.

Figure 2. The Philippine Map and the Research Locale

3.5 Data Collection & Ethical Consideration

A brief orientation on the purpose of the study was done before the administration of questionnaires. Data gathering was conducted from December 2018 to March, 2019. Also, all data collected for this research were secured at all times to safeguard confidentially, most specially during periods when the data were in transport. In any event, it was ensured that information such as names and addresses were stored separately from other personal information collected as part of the research. Accomplished questionnaires were secured in a locked filing cabinet while the soft copy of the data was stored in a password protected computer.

The gathered information was not even handed to random people. Alternatively, this might mean the information can be used but people's names and other identifying features of the situation were removed. Eventually, paper records were disposed through burning or cross shredding.

The responses were tabulated and placed in an Excel spread sheet which was then emailed to the statistician for statistical treatment.

3.6 Statistical Tools

The following statistical tools were used for the analysis of the data:

Pearson Product Moment Correlation (Pearson R) was used to determine the significant relationships between the exogenous variables innovation strategy, quality management practices, and market orientation of manufacturing firms and the endogenous variable organizational performance of manufacturing firms.

Structural Equation Modeling is a multivariate technique combining aspects of multiple regressions (examining dependence relationships) and factor analysis to estimate a series of interrelated dependence relationships simultaneously.

In evaluating the goodness of fit of the models, the following indices were computed and met the criteria: CMIN/df should be $0 < < 2$ with a p-value >0.05,Tucker-Lewis should be >0.95, Comparative Fit Index (CFI) should be >0.95, Goodness of Fit Index (GFI) should be >0.95, Normative Fit Index (NFI) should be >0.95 and root Mean Square Error of Approximation (RMSEA) should be <0.05 and P of close Fit (PCLOSE).

4. RESULTS AND DISCUSSION

This chapter presented the data gathered, comprehensive discussion, interpretation and implications of the findings on organizational performance of manufacturing firms in Region XII. The discussions were arranged according to the following sub-headings: the relationship between innovation strategy and organizational performance, quality management practices and organizational performance, market orientation and organizational performance; and the best fit model that predicts organizational performance.

4.1 Significance on the Relationship between Innovation Strategy and Organizational Performance

In Table 1 is exhibited the data on the results of correlation between innovation strategy and organizational performance. The overall r-value obtained was 0.473 with a p-value less than 0.05 level of significance. The result was significant and the null hypothesis was rejected.

The test of relationship between variables reveals a significant relationship between innovation strategy and organizational performance which leads to rejecting the null hypothesis of the study. This implies that innovation strategy is associated with organizational performance. The overall results on the correlations between indicators of *innovation strategy* in terms of *product innovation*, *process innovation*, and *market innovation* bear significant relationships on the indicators of *organizational performance* in terms of *financial and market performance*, *quality performance*, *innovation performance*, *environmental performance*, and *social performance*.

The result of the correlation matches with the research conducted by Ukpabio Siyanbola (2017) among manufacturing SMEs, which revealed that all dimensions of innovation (product, process, market, and organizational) had significant positive relationship to firm performance. Additionally, it is further supported by the pronouncement of Njeri (2017) who stated that there was a positive and significant correlation between product innovation strategy, market innovation strategy and performance. However, the same study found out that there was a positive association between process innovation and performance but this was not significant.

In the singular state, the positive and significant relationship between *product innovation* and *financial performance* is parallel to the study of Chelanga et al. (2017) who found out that *product innovation* and *financial performance* are positively and significant related. The study concluded that the strategies tend to be associated with higher degree of firm performance, particularly those strategies which give premium on a greater number of strategic dimensions, and specifically on innovation differentiation. Similarly, the study of Ngure et al. (2017) showed that *product innovations* were positively correlated to *financial performance*.

Table 1.Significance on the Relationship between Innovation Strategy and
          Organizational Performance

Innovation Strategy	Organizational performance					
	Financial and Market Performance	Quality Performance	Innovation Performance	Environmental Performance	Social Performance	Overall Organizational Performance
Product Innovation	0.206*	0.170*	0.388*	0.341*	0.292*	0.377*
	0.000	-0.001	0.000	0.000	0.000	0.000
Process Innovation	0.213*	0.265*	0.384*	0.275*	0.194*	0.356*
	0.000	0.000	0.000	0.000	0.000	0.000
Market Innovation	0.235*	0.289*	0.386*	0.370*	0.406*	0.445*
	0.000	0.000	0.000	0.000	0.000	0.000
	0.262*	**0.288***	**0.464***	**0.397***	**0.361***	**0.473***
Overall	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

*Significant at 0.05 significance level.

4.2 Significance on the Relationship between Quality Management Practices and Organizational Performance

In Table 2 is reflected the data on the results of correlation between quality management practices and organizational performance. The overall r-value attained from the above-mentioned measures was 0.523 with a p-value less than 0.05, or significant.

The test of relationship between variables reveals a significant relationship between quality management practices and organizational performance which means that the null hypothesis of the study is rejected. This signifies that quality management practices are associated with organizational performance. Further, it indicates that organizational performance has something to do with quality management practices. The overall results on the correlations between indicators of quality management practices in terms of top management support, training on quality, design for quality, quality data and reporting, process management, problem solving, continuous improvement, and rewards bear significant relationships on the indicators of organizational performance in terms of financial and market performance, quality performance, innovation performance, environmental performance, and social performance.

This finding is in agreement with the study of Jaafreh and Al-abedallat (2013), who concluded that there was a significant relationship between quality management dimensions and organizational performance. In addition, the study conducted among manufacturing firms in Southern Minnesota by Awoku (2012) revealed that all the quality practices have positive significant relationship between adopted quality practices and organizational performance.

Moreover, the study investigated by Nguyen et al. (2018) among Vietnamese firms identified four quality management practices, namely: top management support for quality management, design for quality, quality data and reporting, and continuous improvement have significant positive impact on sustainability performance. In addition, findings of the study of Ul Hassan et al. (2013) showed a positive relationship between the TQM elements and performance of Pakistani manufacturing firms. In the singular state the significant positive relationship between top management support and organizational performance is associated to the findings of Chepkech (2014) who underscored that there was a strong positive relationship between top management commitment and organizational performance, demonstrating a positive correlation between top management commitment and organizational performance.

Table 2. Significance on the Relationship between Quality Management Practices and
      Organizational Performance

Quality Management Practices	Organizational Performance					
	Financial and Market Performance	Quality Performance	Innovation Performance	Environmental Performance	Social Performance	Overall Organizational Performance
Top Management Support	0.196*	0.279*	0.263*	0.198*	0.258*	0.311*
	0.000	0.000	0.000	0.000	0.000	0.000
Training on Quality	0.273*	0.300*	0.332*	0.400*	0.423*	0.453*
	0.000	0.000	0.000	0.000	0.000	0.000
Design for Quality	0.207*	0.244*	0.398*	0.326*	0.364*	0.410*
	0.000	0.000	0.000	0.000	0.000	0.000
Quality Data and Reporting	0.231*	0.419*	0.470*	0.373*	0.337*	0.485*
	0.000	0.000	0.000	0.000	0.000	0.000
Process Management	0.299*	0.400*	0.401*	0.275*	0.229*	0.421*
	0.000	0.000	0.000	0.000	0.000	0.000
Problem Solving	0.247*	0.305*	0.334*	0.313*	0.296*	0.393*
	0.000	0.000	0.000	0.000	0.000	0.000
Continuous Improvement	0.275*	0.283*	0.267*	0.241*	0.270*	0.347*
	0.000	0.000	0.000	0.000	0.000	0.000
Rewards	0.312*	0.258*	0.206*	0.314*	0.406*	0.384*
	0.000	0.000	0.000	0.000	0.000	0.000
Overall	**0.333***	**0.399***	**0.431***	**0.403***	**0.430***	**0.523***
	0.000	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

*Significant at 0.05 significance level.

4.3 Significance on the Relationship between Market Orientation and Organizational Performance

In Table 3 is displayed the data on the results of correlation between market orientation and organizational performance. The overall r-value attained from the above-mentioned measures was 0.593 with a p-value less than 0.05 hence significant. The null hypothesis is therefore rejected.

The test of relationship between variables reveals a significant relationship between market orientation and organizational performance. This indicates that market

orientation is associated with organizational performance. Further, it implies that as market orientation increases there is a corresponding increase in organizational performance The overall results on the correlations between indicators of market orientation in terms of intelligence generation, intelligence dissemination, and responsiveness have significant relationships on the indicators of organizational performance in terms of financial and market performance, quality performance, innovation performance, environmental performance, and social performance. This result is similar to the correlation results in the empirical study of Hussain et al. (2015) among Pakistani SMEs, which indicated that there is a strong and positive relationship between market orientation and performance. Consistently, it draws similar attention to the research conducted by Lo et al. (2015) which concluded that market orientation is significantly related to organizational performance.

Table 3.Significance on the Relationship between Market Orientation and
        Organizational Performance

Market Orientation	Organizational Performance					
	Financial and Market Performance	Quality Performance	Innovation Performance	Environmental Performance	Social Performance	Overall Organizational Performance
Intelligence Generation	0.362*	0.503*	0.469*	0.427*	0.348*	0.553*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Intelligence Dissemination	0.363*	0.434*	0.448*	0.458*	0.365*	0.544*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Responsiveness	0.465*	0.358*	0.385*	0.416*	0.383*	0.523*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Overall	**0.435***	**0.474***	**0.477***	**0.476***	**0.401***	**0.593***
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**

*Significant at 0.05 significance level

4.4 Best Fit Model of Organizational Performance

This portion presents an analysis among variables that best predict the best model of organizational performance among manufacturing firms in Region XII. Four alternative models were tested to generate the best fit for the study.

Moreover, the assessment of fit was used as baseline for accepting and rejecting the model. As a rule, the researcher established the relationship of the causality relationship

of the latent variable toward the different latent variables. It also instituted the relationship between endogenous and exogenous variables. The moment that structured model exhibited a suitable fit, it underscored that there was consistency of the empirical relationships among variables inferred by the model. The model parameter estimates entailed the magnitude and direction of the relationship among variables.

There were four hypothesized models formulated and tested in this study. Screening of variables was critically observed to give premium on the normality of the data. Variables with interval or ratio data were counted in the formulation of models. Generated models of this study were solidified with theories.

Generated Model 1

The generated Model 1 displayed in Figure 3 reflects the conceptual model showing the interrelationships of the latent exogenous variables: innovation strategy, quality management practices and market orientation towards the latent endogenous variable, organizational performance.
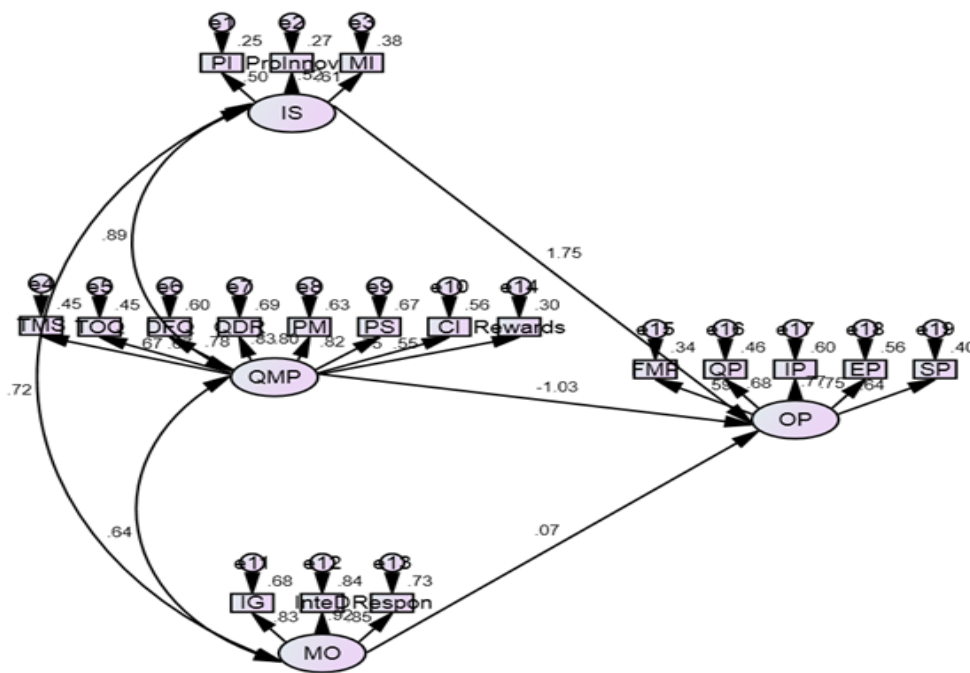

Figure 3. Structural Model 1 in Standardized Solution

Legend:

PI– Product innovation	QMP – Quality Management Practices
ProInnov– Process innovation	IG– Intelligence generation
MI– Market innovation	InteDI– Intelligence dissemination
IS– Innovation strategy	Respon – Responsiveness
TMS – Top Management Support	MO– Market Orientation
TOQ Training on Quality	FMP – Financial & marketing performance
QDR – Quality Data and Reporting	QP – Quality Performance
PM– Process Management	IP– Innovation performance
PS-Problem Solving	EP – Environmental performance
CI– Continuous Improvement	SP – Social performance
Rewards- Rewards	OP – Organizational performance

Displayed in the Table 4 is the examination of Model 1 using goodness of fit indices: Chi-Square/Degrees of Freedom (CMIN/DF); Normed Fit Index (NFI); Tucker-Lewis Index (TLI); Comparative Fit Index (CFI); Goodness of Fit Index (GFI) Root Means Square of Error Approximation (RMSEA) and P of Close Fit (Pclose). The result of the goodness of fit of the Model 1 was very poor since all indices did not conform to the set criteria against the obtained model fit value.

Table 4. Goodness of Fit Measures of Structural Model 1

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	0 < value < 5	6.677
P-value	> 0.05	0.000
RMSEA	< 0.05	0.119
GFI	> 0.95	7.777
CFI	> 0.95	0.817
NFI	> 0.95	0.793
TLI	> 0.95	0.788
P-Close	> 0.05	0.000

Legend:

CMIN/DF	-	Chi-Square/Degrees of Freedom
PValue	-	Probability Level
NFI	-	Normed Fit Index
TLI	-	Tucker-Lewis Index
CFI	-	Comparative Fit Index
GFI	-	Goodness of Fit Index
RMSEA	-	Root Means Square of Error Approximation
Pclose	-	P of Close Fit

Generated Model 2

The generated Model 2 displayed in Figure 4 shows the conceptual model showing the interrelationships of the latent exogenous variables: innovation strategy, quality management practices and market orientation towards the latent endogenous variable, organizational performance.
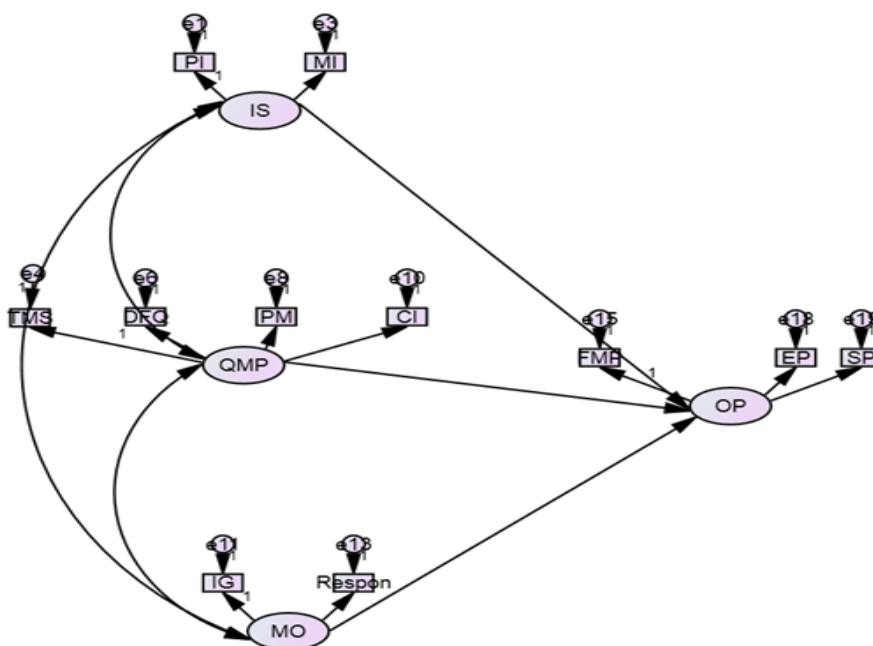

Figure 4. Structural Model 2 in Standardized Solution

Legend:

PI – Product innovation	IG – Intelligence generation
MI – Market innovation	Respon – Responsiveness
IS – Innovation strategy	MO – Market Orientation
TMS – Top Management Support	FMP – Financial & marketing performance
DFQ – Design for Quality	EP – Environmental performance
PM – Process Management	SP – Social performance
CI – Continuous Improvement	OP – Organizational performance
QMP – Quality Management Practices	

Revealed in Table 5 is the examination of Model 2 using goodness of fit indices: Chi-Square/Degrees of Freedom (CMIN/DF); Normed Fit Index (NFI); Tucker- Lewis Index (TLI); Comparative Fit Index (CFI); Goodness of Fit Index (GFI) Root Means Square of Error Approximation (RMSEA) and P of Close Fit (Pclose). The result of the goodness of fit of the Model 2 was very poor since all indices did not fall within the acceptable ranges.

Table 5. Goodness of Fit Measures of Structural Model 2

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	$0 < value < 5$	6.061
P-value	> 0.05	0.000
RMSEA	< 0.05	0.113
GFI	> 0.95	0.903
CFI	> 0.95	0.892
NFI	> 0.95	0.875
TLI	> 0.95	0.848
P-Close	> 0.05	0.000

Legend:

CMIN/DF	-	Chi-Square/Degrees of Freedom
PValue	-	Probability Level
NFI	-	Normed Fit Index
TLI	-	Tucker-Lewis Index
CFI	-	Comparative Fit Index
GFI	-	Goodness of Fit Index
RMSEA	-	Root Means Square of Error Approximation
Pclose	-	P of Close Fit

Generated Model 3

The generated Model 3 presented in Figure 5 displayed the conceptual model showing the interrelationships of the latent exogenous variables: innovation strategy, quality management practices and market orientation towards the latent endogenous variable, organizational performance.
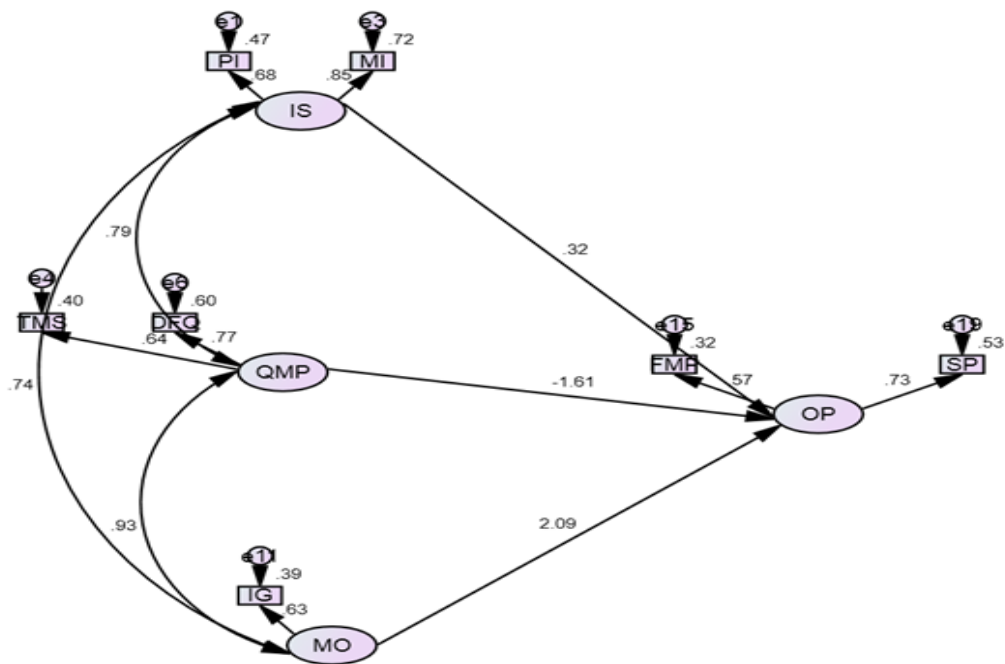
Figure 5. Structural Model 3 in Standardized Solution

Legend:

PI – Product innovation	IG – Intelligence generation
MI – Market innovation	MO – Market Orientation
IS – Innovation strategy	FMP – Financial & marketing performance
TMS – Top Management Support	SP – Social performance
DFQ – Design for Quality	OP – Organizational performance
QMP – Quality Management Practices	

As revealed in Table 6, the index values of GFI, CFI, NFI, TLI, and P-close satisfactorily met the criterion for the data. However, CMIN/DF, p-value and RMSEA did not fall within the acceptable ranges. Hence, this indicated a poor fit model.

Table 6. Goodness of Fit Measures of Structural Model 3

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	0 < value <5	2.212
P-value	> 0.05	0.019
RMSEA	< 0.05	0.055
GFI	> 0.95	0.987
CFI	> 0.95	0.985
NFI	> 0.95	0.974
TLI	> 0.95	0.966
P-Close	> 0.05	0.354

Legend:

CMIN/DF	-	Chi-Square/Degrees of Freedom
PValue	-	Probability Level
NFI	-	Normed Fit Index
TLI	-	Tucker-Lewis Index
CFI	-	Comparative Fit Index
GFI	-	Goodness of Fit Index
RMSEA	-	Root Means Square of Error Approximation
Pclose	-	P of Close Fit

Generated Model 4

The generated Model 4 exhibited in Figure 6 displayed the conceptual model showing the interrelationships of the latent exogenous variables: innovation strategy, and quality management practices towards the latent endogenous variable, organizational performance.
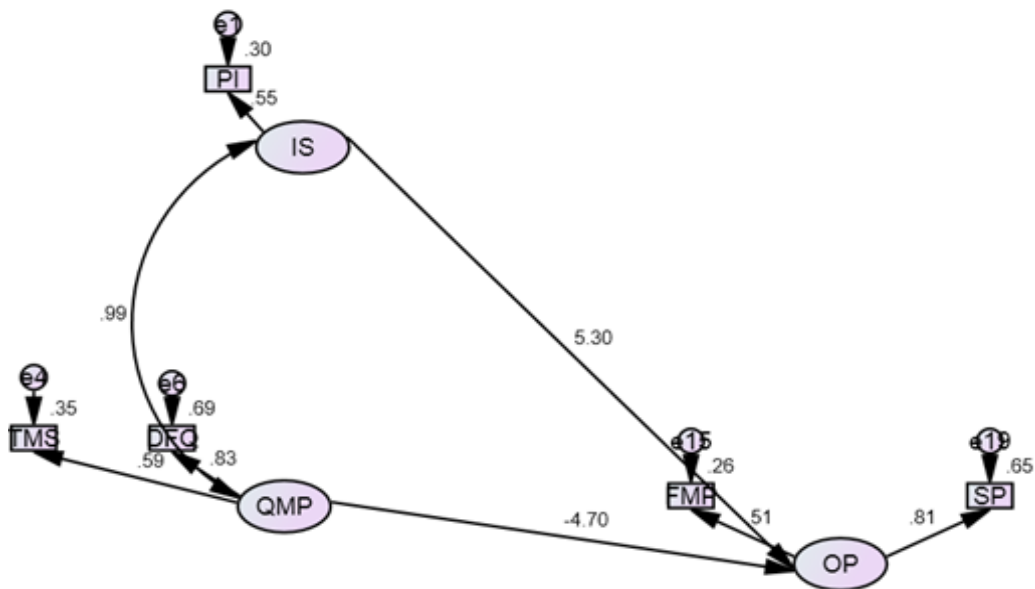
Figure 6. The Best Fit Model of Organizational Performance

Legend:
PI – Product innovation   FMP – Financial & marketing performance
IS – Innovation strategy   SP – Social performance
TMS – Top Management Support   QMP – Quality Management Practices
DFQ – Design for Quality   OP – Organizational performance

Displayed in Table 7 is the examination of Model 4 using goodness of fit indices: Chi-Square divided by the degrees of freedom (CMIN/DF) is 0.634; Normed Fit Index (NFI) is .995; Tucker-Lewis Index (TLI) is 1.010; Comparative Fit Index (CFI) is 1.000; Goodness of Fit Index (GFI) is .998; Root MeansSquare of Error Approximation (RMSEA) is .000 and P of Close Fit (Pclose) is .853. The result of the goodness of fit of the Model 4 was highly acceptable since all indices met the set criteria against the obtained model fit value. These indices satisfied the requirement of the goodness of fit measures. Moreover, this indicated that generated Model 4 is a very good fit model.

Table 7.Goodness of Fit Measures of Structural Model 4

INDEX	CRITERION	MODEL FIT VALUE
CMIN/DF	0 < value < 2	0.634
P-value	> 0.05	0.593
RMSEA	< 0.05	0.000
GFI	> 0.95	0.998
CFI	> 0.95	1.000
NFI	> 0.95	0.995
TLI	> 0.95	1.010
P-Close	> 0.05	0.853

Legend:

CMIN/DF	-	Chi-Square/Degrees of Freedom
PValue	-	Probability Level
NFI	-	Normed Fit Index
TLI	-	Tucker-Lewis Index
CFI	-	Comparative Fit Index
GFI	-	Goodness of Fit Index
RMSEA	-	Root Means Square of Error Approximation
Pclose	-	P of Close Fit

In identifying the best fit model, all indices included must consistently fall within the acceptable ranges. Chi-square/degrees of freedom value should be less than 2 with its corresponding p-value greater than 0.05. Root mean square error approximation value must be less than 0.05 and its corresponding Pclose value must be greater than 0.05. the other indices such as normed fit index, Tuker-Lewis index, comparative fit index and the goodness of fit index must all be greater than 0.95.The research question related to the model that best represents the variables as predictor of organizational performance among manufacturing firms, the proposed model sketched in Figure 1 needs to be modified to meet the requirements of the goodness of fit measures. The four models generated in the study were encapsulated in Table 8.

Table 8.Summary of Goodness of Fit Measures of the Four Structural Models

Model	CMIN/DF 0<value>2	P-Value > .05	NFI > .95	TLI > .95	CFI > .95	GFI > .95	RMSEA < .05	P-Close > .05
1	6.677	0.000	0.793	0.788	0.817	0.777	0.119	0.000
2	6.061	0.000	0.875	0.848	0.892	0.903	0.113	0.000
3	2.212	0.019	0.974	0.966	0.985	0.987	0.055	0.354
4	0.634	0.593	0.995	1.010	1.000	0.998	0.000	0.853

Legend:

CMIN/DF	-	Chi-Square/Degrees of Freedom
PValue	-	Probability Level
NFI	-	Normed Fit Index
TLI	-	Tucker-Lewis Index
CFI	-	Comparative Fit Index
GFI	-	Goodness of Fit Index
RMSEA	-	Root Means Square of Error Approximation
Pclose	-	P of Close Fit

Based on the findings, the model spells out the magnitude of innovation strategy and quality management practices as predictors of organizational performance. Innovation strategy and quality management practices are essential managerial approaches in manufacturing firms in order to effectively attain its mission, goals and objectives, correctly manage its organizational resources and consistently improve its organizational performance. Hence, the findings highlighted that organizational performance of manufacturing firms as measured in terms of *financial and market performance*, and *social performance* is best anchored on innovation strategy as solely defined by *product innovation* and further strengthened by quality management practices as indicated by *top management support* and *design for quality*.

Apparently, the best fit model indicates the causal link between innovation strategy and organizational performance. This result is congruent with the findings of   Gunday et al. (2011) and Ukpabio et al. (2017) which revealed that innovation strategy had a significant   positive effect on organizational performance . In the same vein, it is allied to the articulation of Antunes et al. (2017) who mentioned that innovation can reflect a significant impact on the organization's performance by enabling a better position in the market, which, in turn, will promote a competitive advantage and superior performance.

Akhlagh et al. (2013) stressed that innovation strategy is the basis of success in innovation and performance improvement. Also, the effect of innovation strategy in terms of product innovation to organizational performance conformed to the study of Njeri (2017) indicated that product innovation had the most influence on performance of Telecommunication companies in Kenya.

On the other hand, the best fit model displayed the significant influence of quality management practices in terms of top management support and design for quality and organizational performance. It is in concordance to the proposition of Sadikoglu and Olcay (2013) who underlined that TQM is a comprehensive and principled approach of the firms to perpetually intensify their products/services or methods to engage stakeholders for customer satisfaction, improve performance and sustainability.

In addition, the study of Nyaga and Gakobo (2017) deduced that support of top management towards quality initiatives is essential for organizational performance. Their results also indicated that there was open communication and that employees were involved and encouraged in the production process. Also, committees had been established to carry out monitoring of implementation of quality initiatives.Consequently, Motwani (2001) visualizes total quality management as building a house. The same author views top management support to TQM as the bedrock and explains that without a strong foundation, the house never stands.

For *design for quality* as a measure of quality management practices, the result is congruent with the argument of Bagshaw (2017) who accentuated that the purpose of product or service design is to attract customers by satisfying their needs and expectations without compromising quality. Such may lead to efficiency and competitive context of the organization. Therefore, manufacturers should examine carefully their product design in order to enhance the efficiency of their firms and increase organizational performance.

In addition, the best fit model illustrates that financial and market performance and social performance predicts organizational performance. This finding supported the idea of Sethibe and Steyn (2016) who accentuated that profitability; sales growth and return on assets (ROA) are the widely use accounting-based measures of organizational performance while market share, customer satisfaction and productivity are the most common non-financial based measures. Similarly, Mendoza (2015) considered profitability and return on assets as the key performance indicators that are critical in understanding the state of financial health of a business. For *social performance* as a measure of organizational performance, it is in actualization to the proposition of Acar Erdur & Kara (2014) who stressed that those companies conceived to have high social performance often have a heightened ability in drawing and holding   talented, diverse

and competent workforce. This may lead to motivation, organizational commitment, reduced turnover, recruitment, and training costs. Furthermore, a company is perceived as socially responsible can profit from this reputation within the business community through compounded ability to captivate capital and trading partners.

Moreover, the best fit model shows the interconnectedness between innovation strategy and quality management practices. In a review of the literature covering the relationship between TQM and innovation, Prajogo and Sohal (2001), identified two competing arguments. The first argument emphasizes that TQM is positively related to innovation because it proves a system and culture that deliver a productive environment for organizations to innovate while the disputing view holds that the implementation of TQM principles and practices can impede organizations to innovative. Moreover, Satish and Srinivasan (2010) recounted that total quality management (TQM) is regarded as the groundwork of enhancing productivity, profitability and customer satisfaction while the correlates of market competition, cost pressures, and customer requirements are compelling organizations to be innovative in all their activities. Simply, quality performance is mandatory to win the competitive advantage while innovation is the stimulus for further development. Moreover, Dervitsiotis (2011) who stated that the innovation process should carried out for ultimate beneficial effect on performance.

5. CONCLUSIONS AND RECOMMENDATIONS
5.1 Conclusions

In the light of the findings of the study, the following conclusions are drawn. The results indicated that innovation strategy, quality management practices, and market orientation have a significant relationship to the organizational performance. Importantly, it is concluded that model 4 is the best fit model that predicts organizational performance. The remaining predictors of organizational performance are the following: product innovation, top management support, design for quality, financial and market performance and social performance.

The findings of the study confirmed to the resource-based view (RBV) theory which demonstrated that when top management identify the strategy or competitive position that best utilizes internal resources and capabilities in relation to external opportunities, organization can hold several competitive positions. Moreover these resources and capabilities can be important variables in achieving sustainable competitive advantage and firm's performance (Barley, 1991; Hooley et al., 2001).

5.2 Recommendations

The researcher recommends that manufacturing firms may align its business innovation strategies to customer requirements wherein its manifestation may centers on

product innovation; adopt and implement organizational systems and processes that support the organization's vision and strategy by providing prime value on top management support and design for quality; and focus on increasing its market intelligence through conducting market research and feasibility studies to improve the quality and design of its products.

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