

# ANALYZING MEDIATION EFFECT OF COMPETITIVE ADVANTAGE ON FIRM PERFORMANCE AS MEASURED BY TOTAL QUALITY MANAGEMENT AND SUPPLY CHAIN MANAGEMENT

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**Abstract:** The objective of this research is to examine 4 (four) variables, respectively total quality management, supply chain management, competitive advantage, and firm performance. The research type is quantitative. Statistic data were analyzed using SmartPLS version 3.0. The subject of research was book writers at Optima Publikasi Literasi Makassar. The research was done in Optima Publikasi Literasi Makassar, which published and printed books. The research population comprised of book writers at Optima Publikasi Literasi Makassar, which as of November 2020 was counted for 334. Slovin Equation was used on the population, which produced 77 respondents as a research sample. Primary data were collected through a questionnaire. The results showed that better total quality management has an optimization effect on competitive advantage. Better supply chain management delivers a high competitive advantage. Better total quality management has an optimization effect on firm performance. Better supply chain management optimizes firm performance. High competitive advantage has optimization effect on firm performance by improving innovative capacity and increasing competitiveness. Better total quality management optimizes firm performance through competitive advantage by improving firm aspects relating to quality control and competitiveness. Better supply chain management optimizes firm performance through high competitive advantage. Better total quality management has implications for increasing the competitiveness and performance of the company.

**Keywords:** Total Quality Management, Supply Chain Management, Competitive Advantage, Firm Performance

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Publishers are started to be relied upon by creative individuals who write books to contain their ideas. There are many kinds of books, starting from reading books, such as story or tale books, novels, and the kinds, to education books, including religion books, fiction books, and others. Potential writers must compete to get attention from the most competitive publishers hoping that their books are getting published.

This situation is supposed to be a big opportunity for publishers, especially in Indonesia. It is like providing them with wide access to the market, which gives them a promising business opportunity. Any firms, including publishers, are required to have high performance because it is only high performance that enables the firms to get global competitive advantage, deliver the best outputs for the consumers, and manufacture products in high quality and cost-effectiveness (Hamzah, 2019).

Anticipating such an opportunity, publishers then feel it necessary to compete to give the best service to potential writers. Consequently, strict competition develops among Indonesian publishers. The capability of firms to achieve their goals fluctuates. Such condition happens at Optima Publikasi Literasi Makassar. The firm encounters the fact that the achievement of its marketing goals is fluctuating.

Data regarding the manuscript was submitted to the publisher of Optima Literacy Publication Makassar. The contents show that the company's performance changes every month. The month of June gets 95.1%, whereas the level decreases to 82.3% in July. Firm performance in August declines further to 81.9%. It sinks deeply to 76.3% and 76.1% in September and October. Although the performance level increases to 88.5% in November, it goes down to 81.7% in December. All these percentages indicate that firm performance is not stable. Therefore, the management of Optima Publikasi Literasi Makassar is needed to look for ways to stabilize firm performance.

Besides supporting factors, factors constrain market growth, such as firm performance. That is not yet optimum and low competitive advantage due to poor supply chain management (Kaur et al., 2019a). Green et al. (2020) stated that "Supply chain

management has become a core component of open system organizations that frequently interact with the external environment." Optima Publikasi Literasi Makassar has taken few actions concerning with the writers. The firm has discussed what upgrade is currently needed for the submitted scripts with the management. Evaluation and trial were conducted to develop knowledge about the best quality standard. The scripts were sorted with this quality standard. A competitive strategy was also set based on this quality standard as time goes, consumer taste changes. Technological advancement and the change in social and economic aspects of life have made the competition among business people stricter, which in the end potentially gives either opportunities or even threats to their business (Hardiani, 2020). Compared to other publishers, Optima Publikasi Literasi Makassar is junior publisher. The market share of this firm is still narrow and weak. Therefore, the firm must think of something to generate its market growth. One of the factors determining this growth is the writers. This research aims to examine 4 (four) variables, respectively total quality management, supply chain management, competitive advantage, and firm performance.

## **LITERATURE REVIEW**

### **Total Quality Management**

Total quality management emphasizes strategy making, data collection, and communication in improving discipline and quality on operational activities and firm culture. More precisely, total quality management is a managerial approach used to reach long-term success by taking customer satisfaction as a priority. It must be noted that total quality management is a concept that always changes over time. The system that underlines total quality management is designed as a high-standard system. Either the system or the culture of an organization can yield big changes. Hansler and Brunell in Lamato et al. (2017) stated four principles in total quality management, namely customer satisfaction, respect for everyone, fact management, and continuous improvement.

Any organizations that implement total quality management have witnessed a positive impact from this concept. Hassel in Lamato et al. (2017) stated that implementing total quality management imparts benefits to the organization. Total quality management enables the firms to reach the expected quality in their product design. The attainment of the best quality can positively affect product features, product reliability, and serviceability. The implementation of total quality management can minimize production errors. It is believed that products made in conformity to the expected quality standard will improve the production process. The improvement is related to rework, production time, machine work, and material usage. Long-term relationships with customers have a positive effect on firm performance. It can be realized by responding to the customer faster and anticipating changes in customer demand and taste. Good manner to employees is essential for employee empowerment. It helps the firm to develop the commitment and self-confidence of employees. It also motivates employees to produce a sense of belonging and deliver pleasant service to customers.

### Supply Chain Management

Globalization has successfully made supply chain management become a core component of the organization (Vanichchinchai et al., 2019). One opinion regarding supply chain management (Sharma, 2019) said that "SCM has been defined as a set of activities undertaken in an organization to promote effective management of its supply chain.". It was affirmed by Santi (2019) and Karamouz et al. (2020) that "SCM has been used to recognize the strategic nature of coordination between trading partners explicitly and to explain the dual purpose of SCM, to improve the performance of an individual organization, and to improve the performance of the whole supply chain.". Supply Chain Management as an approach used to improve the efficiency of integration involving suppliers, manufacturers, distributors, retailers, and customers so that products can be produced in the right quantity, at the right time, and in the right location to

minimize costs to provide satisfaction to consumers. (Ringim et al., 2021).

The next opinion explained three main components of supply chain management. The first is Upstream Supply Chain which refers to activities done by a firm with its suppliers (manufacturers, assemblers, or both) and relates to their connection with suppliers (second-tier suppliers). The second is the Internal Supply Chain, which covers all in-house processes used to transform inputs from suppliers to outputs of the organization. The last is a downstream supply chain that involves all activities relating to the delivery of products to final customers (Sundram et al., 2016).

It was said by Sundram et al. (2016) that the success of Supply Chain Management is determined by Strategic supplier partnership, customer relationship, and Information sharing. A strategic supplier partnership is a strategic partnership between the firm and its suppliers to make the firm work more effectively with several important suppliers in sharing responsibilities for the success of the products. Customer relationship is a concept that directs organizational activities to manage customer complaints, build long-term relationships with customers, and improve satisfaction. Information sharing was said by Anggini (2019) that information shared across business partners could be about strategies, tactics, general condition of the market, and information about the customer. Information shared across members in the supply chain can be used as material for competitive advantage.

### Competitive Advantage

A firm is said to be successful in competitive advantage if the actions taken by this firm in the market can create economic value. These actions are becoming role-model for other firms involved in the competition (Hajar and Sukaatmadja, 2016). Competitive advantage is a condition that allows the firm to produce goods and services at a low price and with desirable outputs. This advantage helps the firm improve its performance (Heizer and Render, 2015). Heizer and Render (2015) gave one opinion concerning competitive advantage. It was said

that “the firm’s competitive advantage is the unique combination of resources and capabilities which act as internal mechanisms that allow a firm with innovation, proactiveness, and risk-taking to transform its entrepreneurial orientation.”.

Heizer and Render (2015) stated that “Competitive advantage is the extent to which an organization can create a defensible position over its competitors.”. It was said by Hardiani (2020) that competitive advantage is a capability acquired by a firm through its characteristics and resources to attain higher performance compared to the other firms in the same industry or same market. Competitive advantage is measured with factors. Hayes and Schmenner in Prayhoego (2020) stated that there are 5 (five) factors are used to measure competitive advantage: price, quality, delivery dependability, product innovation, and time to market.

It was asserted by Michael E. Porter in Wulandari et al. (2016) that there are three strategies toward competitive advantage. These strategies are cost leadership, Differentiation, and Focus. Cost leadership means that the firm must become a producer capable of serving the industry at a lower cost. Differentiation is an active strategy to get outcomes beyond average based on a consideration that loyalty can improve market share. Focus is strategy centralizes upon consumer, product, or market.

**Firm Performance**

Firm performance is a firm’s capability to achieve its goals through the efficient and effective usage of resources. In other words, firm performance is about how far a firm can achieve out-

comes compared to previous outcomes of the firm and other firms’ outcomes. If firm performance is understood through benchmarking, it refers to how far a firm can achieve its goals and targets predetermined (Nurdiant et al., 2017). A firm produces firm performance at a certain period based on predetermined standards (Satwinder et al., 2016). Performance is a general term used to represent part or whole of activities in an organization at a certain period (Kaur et al., 2019a). According to Heizer and Render (2015), “Organizational performance comprises the actual results or output of an organization as measured against its intended results or outputs.”.

Furthermore, firm performance can be measured with indicators similar to those used for measuring organizational performance. Brah and Lim in Hardiani (2020) clarified that few indicators are used to measure firm performance. These indicators are Financial performance, Operational performance, market-based performance, and Organizational performance. Financial performance can be measured through accounting data or all financial transactions. Operational performance is based on the firm’s capability in operating its functions. Cartin in Hardiani (2020) stated that performance refers to how far the firm can improve and control market conditions and how promising the prospect of stock growth is during the sale at the capital market. The organizational performance involves financial and non-financial items and other items representing a firm’s capability to develop competitiveness (Hardiani, 2020).

**Conceptual Framework**

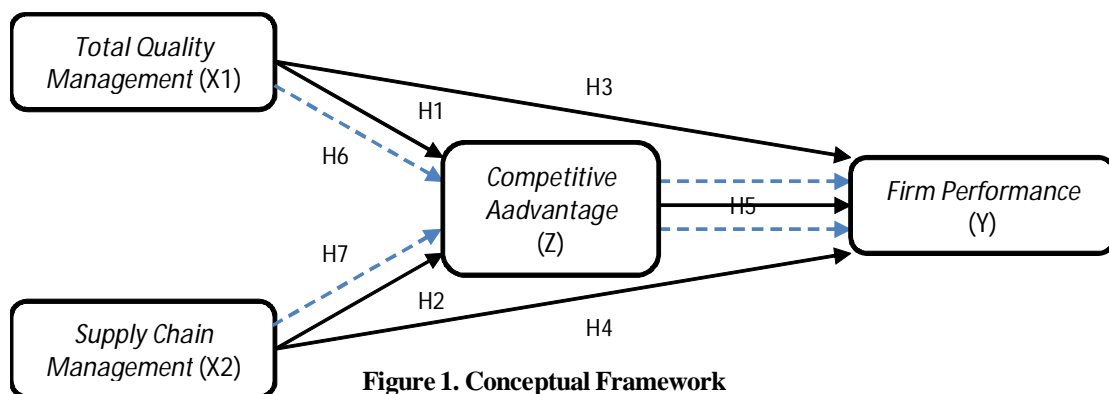


Figure 1. Conceptual Framework

By taking into consideration of explanations in the background and literature review sections, the conceptual framework is developed as follows:

**METHOD**

Research variables are total quality management, supply chain management, competitive advantage, and firm performance. The type of research is quantitative. Statistic data were analyzed using SmartPLS version 3.0. Research subject was book writers at Optima Publikasi Literasi Makassar. The research location was Optima Publikasi Literasi Makassar which worked on publishing and printing books. The research population was book writers at Optima Publikasi Literasi Makassar, which as of November 2020 was counted for 334. Slovin Equa-

tion was used on the population, which produced 77 respondents as a research sample. Primary data were collected through a questionnaire.

**RESULTS**

**Cronbach Alpha**

The analysis process begins with an evaluation of the external model. This process determines the reliability of construction by examining the reliability of composite outputs or known as Cronbach Alpha. Reliability is usually measured by a composite reliability indicator which requires Cronbach Alpha value to be higher than 0.70. Besides this criterion, to fulfill the reliability condition, the AVE value must be higher than 0.50. Table 2 shows the outputs of Cronbach Alpha.

**Table 2. Composite Reliability and Cronbach Alpha**

Variable	CronbachAlpha	CompositeReliability	AVE	Description
TQM	0.922	0.926	0.566	Reliable
SQM	0.908	0.952	0.617	Reliable
Competitive Advantage	0.942	0.542	0.651	Reliable
Firm Performance	0.950	0.960	0.736	Reliable

Source: Results of Data Processing with PLS (2021)

Referring to the contents of Table 2 above, the value of AVE of all variables is higher than 0.5, which signifies that all variables (constructs) have fulfilled the condition of discriminant validity.

**Evaluation of Structural Model**

A structural or internal model test is carried out to ensure that the structural model is strong and accurate. Also, this test is done to find out the relationship between significance value and R-square value. If the R-square value is high, then the predictive model in the proposed research model is also high. The classification of R-square value involves three categories, precisely 0.67 as substantial, 0.33 as moderate, and 0.19 as weak (Hamzah, 2019).

**R-Square (R<sup>2</sup>)**

The indicator of R-Square is used to evaluate the structural model. In other words, R-Square is

an indicator in the model congruity test. The determination coefficient test results, namely the R-square value, are displayed in Table 3.

**Table 3. Determination Coefficient of R-Square**

Construct	R-Square
Competitive Advantage (Z)	0.854
Firm Performance (Y)	0.887

Source: Results of Data Processing with PLS (2021)

As shown by the contents of Table 3, the value of R-square for competitive advantage is 0.854. This result informs that the effect level of total quality management on competitive advantage is 8.54% (0.854>0.67), which this percentage is classified as substantial. Other factors explain the remaining 14.6%.

The value of R-square for firm performance, which is influenced by total quality management and competitive advantage, is 0.887. This result explains that the effect level of total quality management and competitive advantage on firm performance is 88.7% ( $0.887 > 0.67$ ). This percentage is classified as substantial. Other factors determine the remaining 11.3%.

**Hypothesis Test**

Direct and indirect tests are implemented to explain Hypothesis 1 to Hypothesis 7 through path coefficient. The path coefficient value can be seen from the t-statistics value, which must be higher than the t-table (1.960) if the hypothesis is accepted. Results of bootstrapping test with PLS are indicated in Table 4.

**Table 4. Path Coefficient (Mean, STDEV, T-Values)**

Relationship Across Variables	Original Sample (O)	Standard Deviation (Stdev)	T-Statistics	P-Value	Description
TQM on Competitive Advantage	0.886	0.019	30.105	0.000	Significant
SQM on Competitive Advantage	0.775	0.149	5.377	0.000	Significant
TQM on Firm Performance	0.407	0.119	3.205	0.000	Significant
SQM on Firm Performance	0.538	0.147	3.955	0.001	Significant
Competitive Advantage on Firm Performance	0.529	0.120	4.141	0.001	Significant
TQM on Firm Performance Mediated by Competitive Advantage	0.453	0.107	4.103	0.000	Significant
SQM on Firm Performance Mediated by Competitive Advantage	0.335	0.123	3.681	0.001	Significant

Source: Results of Data Processing with PLS (2021)

Parameter estimation gives very useful information concerning the relationship across variables. The consideration behind the hypothesis test is to determine the value contained within the internal weight output. The hypothesis test is done by comparing t-statistics and t-table. If the t-statistics value is higher than the t-table (1.960), the hypothesis is accepted.

**DISCUSSION**

**Better Total Quality Management Has Optimization Effect On Competitive Advantage**

The hypothesis test result showed that Total Quality Management has a positive effect on Competitive Advantage. This finding can be explained as better Total Quality Management has an optimization effect on Competitive Advantage at Optima Publikasi Literasi Makassar. TQM makes it easy for organizations to gain a competitive advantage because it helps change mindsets for the better (Attiany, 2014).

**Better Supply Chain Management Delivers High Competitive Advantage**

The hypothesis test had been conducted on the hypothesis. The result indicated that Supply Chain Management has a positive effect on Competitive Advantage. This finding informs that better Supply Chain Management delivers a high Competitive Advantage at Optima Publikasi Literasi Makassar. Hardiani (2020) stated that competitive advantage is a capability acquired by a firm through its characteristics and resources to attain higher performance compared to the other firms in the same industry or same market.

**Better Total Quality Management Has Optimization Effect on Firm Performance**

The Hypothesis test was carried out already on the hypothesis. The result revealed that Total Quality Management has a positive effect on Firm Performance. Furthermore, it can be said from this finding that better Total Quality Management has

an optimization effect on Firm Performance at Optima Publikasi Literasi Makassar. That measure involves financial and non-financial items and other items representing a firm's capability in developing competitiveness (Hardiani, 2020).

### **Better Supply Chain Management Optimizes Firm Performance**

It was found from the hypothesis test that Supply Chain Management has a positive effect on Firm Performance. This finding can be elaborated that better Supply Chain Management optimizes Firm Performance at Optima Publikasi Literasi Makassar. Besides supporting factors, factors constrain market growth, such as firm performance. That is not yet optimum and low competitive advantage due to poor supply chain management (Kaur et al., 2019a,b).

### **High Competitive Advantage Has Optimization Effect on Firm Performance**

The hypothesis test result showed that Competitive Advantage has a positive effect on Firm Performance. The conclusion can be explained as that high Competitive Advantage has an optimization effect on Firm Performance at Optima Publikasi Literasi Makassar. (Ringim et al., 2021) defined Supply Chain Management as an approach used to improve the efficiency of an integration involving suppliers, manufacturers, distributors, retailers, and customers. Then, products can be manufactured in the right quantity, at the right time, and in the right location to minimize cost give satisfaction to consumers.

### **Better Total Quality Management Optimizes Firm Performance Through High Competitive Advantage**

The hypothesis test had been conducted on the hypothesis. Path coefficient value of the indirect relationship involving Total Quality Management on This finding informs that better Total Quality Management optimizes Firm Performance at Optima Publikasi Literasi Makassar through the mediation of High Competitive Advantage. Cartin in Hardiani (2020), this performance refers to how far the firm can improve and control market conditions and how

promising the prospect of stock growth is during the sale at the capital market.

### **Better Supply Chain Management Optimizes Firm Performance through High Competitive Advantage**

The hypothesis test was carried out on the hypothesis. Path coefficient value of indirect relationship involving Supply Chain Management on This finding asserts that better Supply Chain Management optimizes Firm Performance at Optima Publikasi Literasi Makassar through High Competitive Advantage. If firm performance is understood through benchmarking, it refers to how far a firm can achieve its goals and targets predetermined (Nurdiant et al., 2017).

## **CONCLUSIONS**

Regarding these results, several conclusions are made. Better total quality management has an optimization effect on the competitive advantage at Optima Publikasi Literasi Makassar. The maximization of total quality management enables the firm to increase its competitiveness to cope with globalization. Better supply chain management delivers high competitive advantage at Optima Publikasi Literasi Makassar. Better total quality management has an optimization effect on firm performance at Optima Publikasi Literasi Makassar. This optimization can be realized through the best practice approach. Better supply chain management optimizes firm performance at Optima Publikasi Literasi Makassar. High competitive advantage has an optimization effect on firm performance at Optima Publikasi Literasi Makassar. The key toward this goal is improving innovative capacity and increasing competitiveness. Better total quality management optimizes firm performance at Optima Publikasi Literasi Makassar through the mediation of high competitive advantage. This optimization can be realized by improving aspects of quality control and competitiveness. High competitive advantage mediates the optimization effect of better supply chain management on firm performance at Optima Publikasi Literasi Makassar.

## IMPLICATIONS

The Makassar Literacy Publication Optima management must maintain and improve total quality management. Better total quality management has implications for increasing the competitiveness and performance of the company. Quality control and competitiveness in this study are implications of the total quality management that runs well in the company.

## LIMITATIONS

This research is limited to the variables of total quality management, supply chain management, competitive advantage, and company performance. The found things were limited to the optima management of Makassar literacy publications.

## RECOMMENDATIONS

The managing board of Optima Publikasi Literasi Makassar should maintain and improve total quality management. It has been proved that better total quality management improves the competitiveness and performance of the firm. The employees of Optima Publikasi Literasi Makassar must help the firm maintain and improve supply chain management to attain a high competitive advantage. Issues needed to attain a high competitive advantage include strategic supplier partnership, customer relationships, and information sharing. It is expected that Optima Publikasi Literasi Makassar can improve firm performance by introducing new kinds of services and products to customers to keep the firm developing and competitive. If the next research adopts the same subject or object as those in the current research, then the best solution is by quoting the contents of this research. If there must be a difference, further research can use different variables or extend the scope of the research object. Despite the difference, the final results will always develop, which can build a better image for the firm.

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