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The Corporate Culture's Moderating Effect on the Logistics Service Quality and Market Flexibility Relationship of Indonesian Manufacturing Companies

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ABSTRACT

The study attempted to assess the moderating role of corporate culture (CC) between the relationship of logistics (LQS) and market flexibility (MF) in Indonesian manufacturing context. Purposive sampling was used and data were collected from the 200 supply chain managers. Later, data subjected to PLS-SEM for analysis. Results established that functional logistics (FLQ) is significantly associated with MF and operational logistics quality (OLQ) also found to be associated with MF. Whereas the indirect effects confirmed the moderation such that CC is a significant moderator between relationship of FLQ and MF. And surprisingly, OLQ and MF relationship was not moderated by CC. It is a valuable theoretical and empirical contribution in literature since majority of hypothesis are accepted. It can serve as a guideline to the policymakers to comprehend the role of these indicators aimed at to increase their MF. The research recommendations and future directions had also described at the end of this study.

KEY WORDS:

Logistics service quality, market flexibility, corporate culture, manufacturing industry, Indonesia.

JEL Classification: M14, L6.

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1. Introduction

In the contemporary environment, the survival of the organization is considered to be a very important (Grunert-Beckmann et al., 1997). This could only be possible when the organization had a good level of flexibility in the marketing (Gurău, 2009; Shalender & Singh, 2015). The flexibility in the market always creates a greater level of competitive advantage that could provide help to the organization to achieve their goals in the international market (Seleim & Khalil, 2011). Therefore, change is inevitable, and it is the only thing to be persistent since

the human evolution over the centuries, and is now acknowledged in present era, as it controls the industries and services as well. It is widely penetrated due to globalization, rapid technological advancements, and changes in work settings. Resultantly, it has forced the firms to go for the latest scientific production, marketing, and logistics methods aimed at ensuring the confrontation with the latest challenges in different contexts. Number of firms have embraced the market flexibility (MF) to cope with changes and prevailing threats both in short and long period of time (Shalender & Singh, 2015; Gilbert, 1999). On the contrary, firms emphasized on logistics service quality dimensions backed by different studies which established that it does influence the marketing mix. Accordingly, a number of

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studies have also established that logistics activities and marketing mix are correlated and there is a relationship between them. Accordingly, numerous studies have also put forward the contribution and significance of logistics service quality in gaining various benefits for firms such as competitiveness, satisfaction and loyalty of customers (Meidutė-Kavaliauskienė et al., 2014). Besides the importance of logistics service quality (LSQ), previously studies have been widely conducted in developed countries which resulted in less empirical evidence from the developing countries such as Indonesia manufacturing industry. The manufacturing industry of Indonesia played an important role in the development of the Indonesia economy because in this sector most of employees are working and also contribute in the GDP section of the Indonesia. Therefore, the importance of this sector could not be ignored. Moreover, previously conducted studies extensively focused on the direct relationship and did not pay much attention to the indirect relationship. Corporate culture plays an important role in the development of the organizational resources and due to its significance ignoring it cannot be justified. Thus, in line with the mentioned research gaps it is considered as a moderating variable in this study. Further, the rest of the study consist of literature review, third section explains the methodology, fourth explains the results and finally discussion, conclusion and future directions are provided.

1.1. Research Problem

Various issues and challenges are faced by the local industries in Iraq including Kurdistan region. Among the challenges faced by the industries, marketing inability of the firms is the prominent one which is due to absence of strong government support and open market policy adoption resultantly market filled with the international products and influenced the customers' perceptions and resulted in preference for the internationally made products (Al-Taei & Al-Ameedi, 2018; Beraha et al., 2018; Goyal & Netessine, 2011). Researchers paid visits at dairy factories which enabled them to comprehend the existing issues. Additionally, previously the results regarding the association between logistics service quality and marketing flexibility are incon-

sistent which warrants more research by considering a moderating variable to cope with the inconsistencies. Thus, the corporate culture is considered as a moderating variable and following are research objectives:

1. Determination of the influence of logistics service quality on marketing mix in context of Indonesian manufacturing industry.
2. Determination of moderating role of corporate culture between relationships of logistics service quality on marketing mix in context of Indonesian manufacturing industry.

1.2. Significance of the Study

Significance of the study lies in fact that it attempts to focus on the contribution of logistics service quality towards accomplishing the marketing mix flexibility. Moreover, the study also put forwards a research framework on the relationship between the LSQ dimensions and MF which enlightens the importance of LSQ towards the MF aimed at to confront the internationally made products.

2. Literature Review

The following sections present the literature review. This section had discussed about the previous studies discussion on the following research variables.

2.1. Logistics Service Quality

Logistics term is not a new term rather it dates back to the ancient Greek language. It is derived from the word logo which denotes to the ratio or arithmetic (Rajan et al., 2005). Later on, the term logistics was used by the French army for the expression of the materials, equipment and army personnel transfer at different places. Recently, economics and business literature adopted this term (Al-Ghamdi, 2017; Chen Qi, 2016). Accordingly, Law (2016) is of point of view that logistics denotes to the actions for the management of the strategies related to logistics' activities and described it as a process for management of the strategic orientation related to the purchase, transport, storing raw materials, spare parts and goods within a firm and its marketing channel aimed at to maximized the profitability in line with the cost reduction principles. Whereas the service quality definition is mostly adopted by the authors and they denote it to the extent to which services are performed

with customer expectations.

Parasuraman et al. (1988) put forward the Service quality (SERVQUAL) model and it is regarded as most widely used and the oldest model as well which measures the service quality in general. This model is primarily based on the customer's assessment regarding the quality of the service and is deemed to be important. "Additionally, customer assesses the services provided by pin pointing the mismatch between the expectations and the actual performance of service. Initially, model consisted upon ten dimensions namely; reliability, responsiveness, efficiency, access, sympathy, communication, credibility, security, customer understanding, and tangibility. Later, these ten dimensions were reduced by author and put forward a five-dimension model of service quality according to which service quality is evaluated on the basis of tangibility, reliability, responsiveness, assurance, empathy (Shaban et al., 2015). It is also worthy to mention the service quality model namely; SERVPERF proposed by Cronin and Taylor (1992) according to which it is important to measure the efficiency of the service instead of expectation and actual performance mismatch. Accordingly, this model is claimed to have the better feasibility and accuracy in comparison to previously present model (Alemu, 2016). Later, Mentzer et al. (2001) also proposed a model for the assessment of the logistics service quality (Alemu, 2016). It is to be noted that model consisted upon nine dimensions to assess the LQS and authors also presented a measure consisting upon 25 items for its measurement. Two or three items each are used to measure the nine dimensions. Later, Kamble et al. (2011) in their study contended that the LQS model consists of both the functional and technical perspective of logistics service which makes it a comprehensive model. The earlier one points out the outcomes of a service and the later one points out the service delivery process. Backed by the above discussion, it is stated that the study adopts the Mentzer et al. (2001) model for the assessment of LQS as it is comprehensive model."

2.2. Marketing Flexibility

Bundle of studies have entertained the concept of flexibility but marketing flexibility is not widely addressed concept (Shalender & Sushil, 2017). Previous three decades of research indicates that the marketing flexibility is primarily linked associated with the production process, strategy and HRM but marketing flexibility has

not gained much attention (Combe, 2012). Flexibility denotes to the adaption and responsiveness towards the changes in the environment and also ensure enduring and growing firms (Li et al., 2010). Accordingly, marketing flexibility can be stated as the flexibility which is utilized by the firms as a strategy to have sustained competitiveness (Singh & Shalender, 2015) and its need aroused because of the competitive landscape of postmodern marketing. It is also to be noted that recently happening advancements has made the concept as a priority among the leading issues in marketing. Moreover, its philosophy and actions are focused on customer value addition by ensuring the involvement, collaboration and execution. Notably, Grewal and Tansuhaj (2001) contended that marketing flexibility is among the strategies which number of firms are using to confront the developments by reconsidering their marketing efforts. On the other hand, Shalender and Sushil (2015) also confirmed that the marketing flexibility is linked with the firm's capabilities and also stated that it points out the firm's ability to enter or leave a particular market, positions itself in existing or new markets.

2.3. Corporate Culture

Corporate culture dates back to 1979 and described as mixture of signs, belief and lingoes found within an organization. It shows the way that an individual works within a firm. Similarly, Henri (2006) argued that culture can be attributed as the prevailing values within a state. Firms do have varying degree of controls and values which constitute their cultures which is different from other organizations and notably, one culture at a time is followed within an organization (Henri, 2006).

2.4. Research Hypothesis and Framework Development

Based on the above literature review following are the hypothesis:

H1: Marketing flexibility is significantly influenced by the SERQ dimensions of manufacturing industry in Indonesia.

H1a: The functional logistics quality is significantly associated with marketing flexibility of manufacturing industry in Indonesia.

H1b: The operational logistics quality relationship is significantly and positively associated with the marketing flexibility of manufacturing industry in Indonesia.

H2: Corporate culture is a significant moderator between the relationship of SERQ dimensions and marketing flexibility of manufacturing industry in Indonesia.

H2a: Corporate culture is a significant moderator between the relationship of FLQ and marketing flexibility of manufacturing industry in Indonesia.

H1b: Corporate culture is a significant moderator between the relationship of OLQ and marketing flexibility of manufacturing industry in Indonesia.

Figure 1 shows the research framework for the study according to which functional and operational logistics quality are independent variables, marketing flexibility dependent and corporate culture is moderating variable.

3. Research Methodology

Selection of research approach either quantitative or qualitative is backed by the study objective. Since the study objective is to investigate the corporate culture as a moderator between the association of LQS and marketing flexibility particularly in Indonesian manufacturing context. So, quantitative research approach is suitable for the present study. "Further, by following the cross-sectional time horizon data were collected once and questionnaire was used for the data collection which was distributed among the manufacturing companies. Questionnaire composed of three sections. Where, the first section consisted upon the demographic information of the respondents. Second section consisted upon the questions related to the independent variable and lastly the third section contained the questions related to the dependent variable. All the measures were adapted from the previous studies the details of which are as follows; 15 and 10 items measure was used for functional and operational logistics service respectively and adapted from previous studies (Alemu, 2016; Tamang, 2014; Chin et al., 2013; Jia et al., 2013). Marketing flexibility was measured by using eight items (Selcuk & Gokpinar, 2017; Saura et al., 2008). A 5-point Likert scale used for the items measurement and 250 questionnaires were distributed by using the purposive sampling. Unit of analysis was organizations and questionnaires were only distributed to the supply chain managers. 200 questionnaires were valid yielding 80% response rate for the study."

4. Data Analysis

Data analysis composed of two types namely; descriptive and inferential analysis for which SPSS and Smart-PLS was used respectively.

4.1. Descriptive Statistics

Descriptive statistics details about the mean, median and response rate of the variables under study. As per the descriptive analysis of collected data: mean for the responses on items of variables functional service quality is 4.3 significantly greater than 3 which is desired mean in Likert –scale studies. General standard deviation was 0.85 and the response rate was 86.16% a clear indication of high response rate for the items of FLQ. Notably, the most contributing item is FLQ6 which gained mean 4.53 and resulted in 90.6% response rate. It is also a clear indication that the studied facilities can easily entertain the problems of customers. The response means for the operational logistics quality found to be 4.14 which is also greater than the desired mean in Likert-scale studies. And most contributing item is OLQ14 whose mean is 4.59 and 91.8% response rate.

Additionally, descriptive statistics also revealed that mean response for the marketing flexibility was 3.89 which meets the bench mark of 3 in case of Likert-scale studies. Additionally, it showed a standard deviation of 1.05 which is high and 77.8% of response rate which covered more than half sample. Notably, the most contributing item is MF6 with a response mean valued at 4.35 and response rate of 87%. It affirms that the firms considered for survey are equipped with the manufacturing capabilities which enable them to alter the product characteristics easily.

Moreover, the descriptive analysis also revealed that the corporate culture items ranged from CC1 to CC7 which gained a mean response of 3.89 which is greater than 3; the desirable mean in case of Likert-scale studies. Additionally, it also reported high standard deviation valued at 1.05 and a high response rate valued at 77.8%. The response rate captured almost 2/3rd of the sample size of the study. Among all the items which measured CC; only one item CC5 found to obtained a high mean valued at 4.35 and high response rate which is 87%. This is the clear indication about the surveyed firms that they are equipped with manufacturing capabilities due to which they can bring changes in their products.

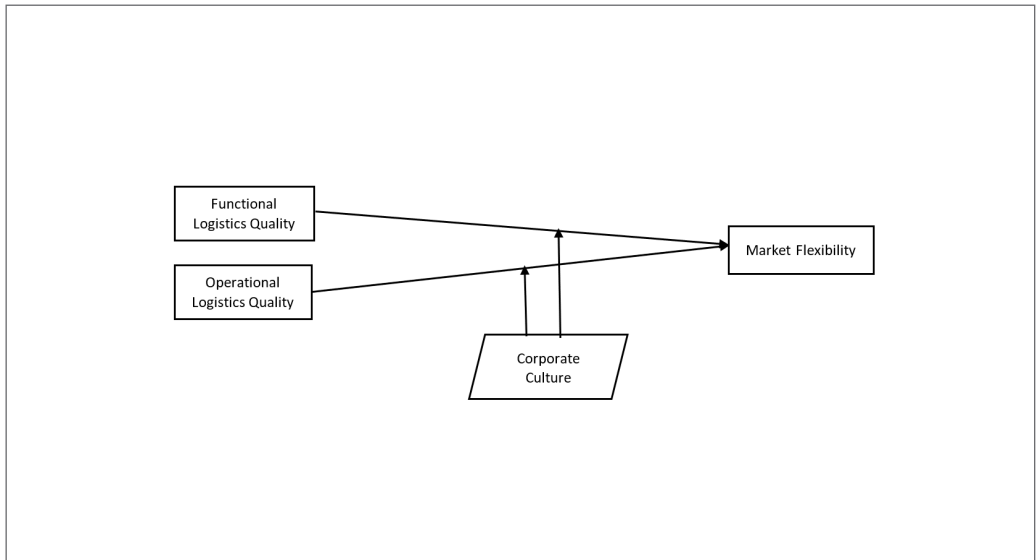


Figure 1. Research framework.

4.2. Inferential Analysis

As discussed earlier, the inferential analysis could be done by using a Smart PLS 3.0. The inferential analysis of the study was based on two models, one is the assessment of measurement model and the other one is the assessment of structural model. These two models have been discussed below.

4.2.1. Assessment of measurement model

The Partial Least Square (PLS)- Structural Equation Modeling (SEM) approach had been used in the current study. The measurement model could be assessed through the following criteria's, convergent and discriminant validity. For the convergent validity there are the following recommended values, "factor loadings >0.5 , composite reliability >0.7 , Cronbach alpha >0.7 and average variance extracted (AVE) >0.5 (Hair et al., 2014; Hair et al., 2016, 2017). All of the above discussed values are predicted in the following Table 1 which fulfill all above recommended values. In other words, discriminant validity could be assessed through the following three valid values namely, Fornell & Lacker criteria which shows that all of the square root in above diagonal values should be greater than from the other values. These findings are predicted in the following Table 2 that indicate that scale has

fulfilled the criteria of Fornell & Lacker. Moreover, the HTMT has also shown the discriminant validity of the construct. The correlation among the constructs could not be exceeded by 0.85 or 0.90. Then, the construct is considered to have a discriminant validity (Ahmad et al., 2019; Henseler et al., 2015). The above discussed results are shown in Table 1, Table 2, and Table 3.

4.2.2. Assessment of structural model

The measurement model had become the structural foundation by using a Smart PLS. The structural model is consisting of two effects, one is direct and the other one is indirect by using a SEM technique. The SEM analysis direct effect had indicated that functional logistics quality (FLQ) had a relation that is positive with market flexibility (MF). This shows that when the FLQ had increased then the MF also increased so this relation is a directly proportional result. This result had supported the (H1a). In the same vein, operational logistics quality (OLQ) had also a significant relation with the MF. These findings had indicated that manufacturing companies in Indonesia had a greater attention on the logistics service quality (LSQ) to enhance their MF. In contrast, the indirect effect had shown that corporate culture (CC) had a significant moderating impact

Table 1. The Reliability and Validity Results

Measurement Scale	Items	Loadings	Cronbach's Alpha	AVE	CR
Personal contact quality	PCQ1	0.777	0.81	0.66	0.854
	PCQ2	0.723			
Order procedure	PCQ3	0.821	0.812	0.551	0.830
	OP1	0.731			
	OP2	0.861			
Order discrepancy handling	ODH1	0.729	0.80	0.54	0.851
	ODH2	0.711			
	ODH3	0.796			
Information quality	IQ1	0.756	0.823	0.562	0.925
	IQ2	0.826			
Order release quantities	ORQ1	0.864	0.77	0.50	0.833
	ORQ2	0.954			
	ORQ3	0.785			
Order quality	OQ1	0.848	0.812	0.601	0.860
	OQ2	0.890			
	OQ3	0.791			
Order condition	OC1	0.817	0.76	0.53	0.821
	OC2	0.884			
	OC3	0.857			
Order accuracy	OA1	0.870	0.78	0.55	0.868
	OA2	0.773			

Table 1. The Reliability and Validity Results (Continued)

Measurement Scale	Items	Loadings	Cronbach's Alpha	AVE	CR
Timelines	OA3	0.864	0.840	0.65	0.892
	TIL1	0.834			
	TIL2	0.745			
	TIL3	0.905			
Market flexibility	MF1	0.810	0.860	0.690	0.890
	MF2	0.780			
	MF3	0.850			
	MF4	0.880			
	MF5	0.756			
	MF6	0.930			
Corporate culture	CC1	0.876	0.843	0.561	0.902
	CC2	0.745			
	CC3	0.834			
	CC4	0.532			

Note: PCQ- Personal contact quality, OP- Order procedure, ODH- Order release quantities, OQ-Order quality, OC- Order condition, OA- Order accuracy, TIL- Timelines, MF-Market flexibility, CC- Corporate culture

on the FLQ and MF relationship that is supported to (H2a). This result had shown that CC played an important role to improve the effect of FLQ on MF. Therefore, this moderating variable in that variable in measured to be current study contribution. While, the CC is not having moderation on the LSQ and MF relationship that is not support to (H2b). A possible reason for this findings could be that respondent did not give rating that CC could affect LSQ to increase the MF. Other possible reason for this relationship could be that there could

be overlapping of other constructs. Therefore, a future research could be established again to test the same model. The direct and indirect effect results of the study are predicted in Table 4.

5. Research Limitations and Future Directions

Besides the practical implication and recommendations, the study also carries some limitations and future directions as well. First, the study was geographi-

Table 2. Fornier Lacker Discriminant Validity

	PCQ	OP	ODH	IQ	ORQ	OQ	OC	OA	TL	MF	CC
PCQ	0.860										
OP	0.304	0.707									
ODH	0.168	0.624	0.734								
IQ	0.719	0.607	0.644	0.890							
ORQ	0.540	0.301	0.569	0.456	0.921						
OQ	0.334	0.607	0.424	0.611	0.123	0.812					
OC	0.168	0.132	0.607	0.724	0.611	0.168	0.905				
OA	0.449	0.045	0.135		0.340	0.449	0.123	0.832			
TL	0.419	0.107	0.224	0.611	0.210	0.719	0.607	0.724	0.908		
MF	0.450	0.530	0.430	0.156	0.190	0.450	0.530	0.230	0.456	0.783	
CC	0.334	0.507	0.124	0.611	0.607	0.334	0.607	0.624	0.611	0.210	0.893

Note: PCQ- Personal contact quality, OP- Order procedure, ODH- Order release quantities, OQ-Order quality, OC- Order condition, OA- Order accuracy, TIL- Timelines, MF-Market flexibility, CC- Corporate culture

cally limited particularly in Indonesian manufacturing which limits its generalizability to the developed economies context. Thus, the future research may be conducted in the developed counties which will enhance the understanding about the issues under study. Since the study has considered the moderator between the independent and dependent variable relationship. It is to be noted that there may be a potential variable which can be considered as a mediator. So, future studies may consider a possible mediator between the relationship of LQS and MF. Finally, the research study has collected data once following the cross-sectional research design which results in inability of the research study to measure the difference over a period of time. Thus, it is recommended that future studies may consider the longitudinal research design to have better understanding about the phenomenon and observe the difference

over a period of time. The current study had applied the quantitative research approach while there is also a qualitative research approach that can create a variation in the findings, therefore a future research could be established on mixed method in which both of the following approaches could be applied.

6. Conclusion and Recommendations

It has become necessary significant to improve the market flexibility for long run survival. It can be made possible by ensuring the good logistics service quality. Thus, the notion of LQS has gained much attention recently. Similarly, both of its dimensions namely; functional and operational logistics service quality have also gained much attention. Additionally, these trends are more developed in marketing and logistics domains by discovering the various dimensions and indicators from

Table 3. HTMT Discriminant Validity

	PCQ	OP	ODH	IQ	ORQ	OQ	OC	OA	TL	MF	CC
PCQ											
OP	0.104										
ODH	0.068	0.124									
IQ	0.319	0.607	0.644								
ORQ	0.240	0.174	0.569	0.456							
OQ	0.134	0.607	0.724	0.611	0.123						
OC	0.268	0.724	0.607	0.724	0.611	0.168					
OA	0.349	0.823	0.835	0.350	0.340	0.449	0.123				
TL	0.519	0.607	0.724	0.611	0.210	0.719	0.607	0.724			
MF	0.150	0.530	0.230	0.456	0.890	0.450	0.530	0.230	0.456		
CC	0.334	0.607	0.724	0.611	0.607	0.334	0.607	0.724	0.611	0.210	

Note: PCQ- Personal contact quality, OP- Order procedure, ODH- Order release quantities, OQ-Order quality, OC- Order condition, OA- Order accuracy, TIL- Timelines, MF-Market flexibility, CC- Corporate culture

Table 4. Direct and Indirect Relationship

	BETA	SD	T Statistics	P Values	
FLQ -> MF	0.241	0.039	6.144	0.000	supported
OLQ-> MF	0.636	0.058	11.033	0.000	supported
CC*FLQ -> MF	-0.098	0.035	2.79	0.005	supported
CC*OLQ -> MF	-0.048	0.035	1.39	0.165	Not supported

Note: functional logistics quality, MF-market flexibility, OLQ-operational logistics quality, CC-corporate culture.

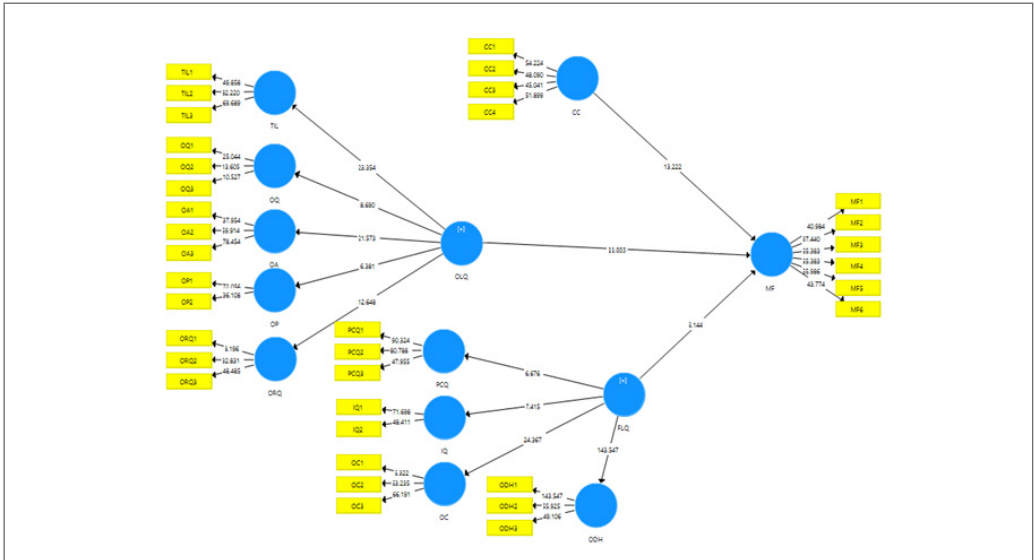


Figure 2. Direct effect.

the service quality multidimensional model. It is important to note that the surveyed factories did not reveal any particular logistics quality dimensions for adoption and to be focused on. Notably, both the functional and operational LQS found to have minor relationship with the marketing flexibility. Descriptive statistics revealed that responses of the respondents were acceptable that is the clear indication of the respondents' comprehension about the variables under study. Notably, the inferential statistics revealed that LQS dimensions and marketing flexibility are positively associated in Indonesian manufacturing context. However, the functional dimension was strongly correlated with the marketing flexibility as compared to operational dimension. Findings also put forward that corporate culture significantly moderates the relationship between FLQ and MF. On the contrary, corporate culture was not found to be a significant moderator between the association of OLQ and MF. In consistent with the results; the study also offers some valuable implications such that the study findings may serve as a guideline for the policy makers to consider while enhancing the marketing flexibility of organizations. Additionally, study also offer some recommendations as well;

1. The top management, logistics and production manager must address and focus on the LQS dimensions under the study, make distinction with the prac-

tically being followed and spread awareness as per the vision and mission of respective firm.

2. Transfer of the LQS dimensions in under study firms into practice to confront with the changes in logistics and production area.

3. It is also recommended that the surveyed organizations are required to actively focus on the marketing flexibility since it's an important strategic way out for them to confront the competition due to the internationally made products.

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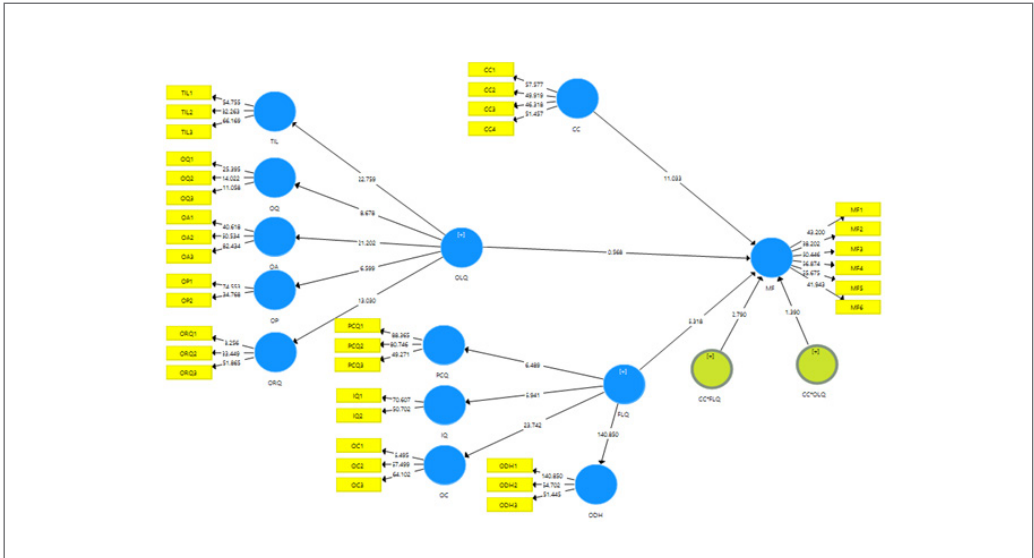


Figure 3. Indirect effect.

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