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THE IMPACT OF SUPPLY CHAIN COLLABORATION ON OPERATIONAL PERFORMANCE: THE MODERATION ROLE OF SUPPLY CHAIN COMPLEXITY

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ABSTRACT

Purpose: *Nowadays, the Supply Chain (SC) has acquired a fundamental role for organizations to increase their performance, competitiveness, market-share, and effectiveness. Performance considers as a concept that interprets the firm behaviour in harnessing the firm's resources through operations for arriving the firm's purposes. The connecting between SCM and performance measure is from the best way that judges the capability of SCM and firm success. However, the effort of current research is dedicated to insightfully explore the impact of SC collabration dimensions on Operational Performance (OP) through identifying the moderation role of SC complexity (SCC) Al-Ghalbi International Company for Engineering and Contracting in Oman.*

Design/methodology/approach: *To serve the nature of the current research and its objectives, the research is selected the quantitative method. 221 valid respondents are used for analysis purposes using SPSS program. A Multiple Linear Regression (MLR) test is employed to obtain the hypotheses findings.*

Findings: *the results of the research indicated that the Information Sharing (IS), Goal Congruence (GC), and Knowledge Creation Sharing (KCS) diminutions of the SC collabration diminutions had a direct and affirmative impact on OP where Resources Sharing (RS) and Decision-Making Synchronization (DMS) diminutions of the SC collabration did not provide empirical support. The results, further, uncovered that SCC had a moderation role between SC collabration and OP especially with IS and KCS dimensions.*

Originality/value: *the most important novelty of the current article is that it considers as the first study evaluating the moderation role of SCC on SCM context.*

Keywords: Supply Chain Management, Supply Chain Collabration, Supply Chain Complexity, Operational Performance, Oman

INTRODUCTION

Brief Background

Small and Medium Industrial Enterprises (SMEs) and large enterprises have always sought for ameliorating and maximizing their operational and financial performance by increasing efficacious of SCM. Organizations have increasingly devised their interior operations for guaranteeing persistent rivalry and continuous sustainability in a global business environment (Jermsittiparsert et al., 2019; Liu & Lee, 2018; Zhou et al., 2014). According to Stevenson & Sum (2014), the SC considers as an authentic determinant affecting organization performance in several aspects due to its components capacity and their linkage in all organization operations. The SC arrives the highest level of performance through strengthening the associations with its internal and external partners to have a maximum amount of profit. The major purpose of SCC is to increasingly

improve the organization activities for arriving the performance and competitiveness of business by strengthening the SCM strategies. Depending on Basu, et al., (2017), SMEs considers as a primary source for local economic sustainability. However, adopting SCM strategies is a crucial key for the development and sustaining of SMEs and also large enterprises. Thus, having an effective SC system can smoothly and effectively perform the business. However, SC Integration (SCI) considers an efficient approach to affirmatively impact the SMEs and large enterprises performance (Seo et al., 2015). Recently, global SCs have become more complex through the multiplicity of drivers that have arisen due to globalization, global geopolitical risks, technological disruption, market uncertainty, mass privatization, and changing laws and regulations. It can also be indicated that there are many benefits for collabration in SCs, much of the current researches have focused extensively on studying the implications of collabration on SCs (Fawcett et al., 2015).

Problem Statement

A big deal of researches attached to SCM context have explored an affirmative association between SCM and the operational and financial performance of organization (Khanuja & Jain, 2019). Furthermore, several empirical studies have connected the SCM with several kinds of performance like operational, financial, and services of client (Munir et al., 2020; Ni & Sun, 2019). In accordance with Hassan & Abbasi (2021), the authors suggested that there is a need for conducting several types of research engaged to SCM and its integration contexts such as strategic domain, tactical domain, operation domain in several types of industries and in SMEs and large enterprises. In addition, they have also asserted to discover and explore the potential moderation dimensions such as SCC that effect on SCM and SCM. However & Ma, et al., (2019) have noted that a lot of SC collaboration studies were empirically performed using the following factors: IS pattern, DMS pattern, RS pattern and coordinating contract pattern.Nowadays, international organizations have always worked to expand their market share which leads to make their interior and exterior operations more complicated and deal with a wide base of suppliers. Subsequently, the internal and external operations of organizations are come to have a high level of complexity, this may come with real challenges connected to organizations capacity and performance indicators as mentioned by several studies such as (Shahbaz et al., 2018). Depending on Bozarth, et al., (2009), many studies have indicated that the increasing level of SCC considers as the fastest growing risk to business continuity and SC collabration. In addition, studies on the SCC and its moderation role on SC collabration are few or even absent. Recently, the SCC has been considered to be one of the biggest challenges of global SCs and it is assumed to be the major barrier to raise the business performance. Depending on the abovementioned, the current study comes to explore and investigate the impact of SC collabration dimensions on the OP. Moreovere, it will discover how SCC moderate the relationship between SCC collabration and OP at Al-Ghalbi Company in Oman from the employees' perspectives. Thus, the current research will embark to response the following questions:

1) What is the impact level of SC collabration on OP at Al-Ghalbi International Company for Engineering and Contracting in Oman?
2) How SCC moderate the reationshp between SC collabration and the OP?

Research Novelty

The major objective of this article is to conceptualize SC collaboration and its contents in the domain of large organizations SC. Moreover, The current article aims at contributing in SCM context in theoretical and practical ways. The article provides a comprehensive theoretical platform engaged with SCM, SCC, and OP. Furthermore, the article support an empirical evidence to evaluate the role of SC collabration dimensions on the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman. In addition, this article considers as the first study evaluating the moderation role of SCC on SC collaboration context.

Theoretical Aspect and Development Research Model

OP Evaluation

Performance is theorized as the success of operational in the firm that can be measured through basic indicators such as the level of quality, flexibility level, the capacity of flexibility, costs, and delivery (Alfalla-Luque et al., 2015). According to Lee (2021), SCM has separately and positively affected on the performance of business; operational and financial dimensions are also shaped the operational performance. Thus, this may positively affect the financial and operational performance with maximizing the sales and increased the revenue. In the same fashion, academics had investigated the SCM and its practices in several methods such as organizational, product, logistic, financial, or OP to identify their effect (Ahmad & Saifudin, 2014; Effendi, 2015; Kauppi, et al., 2016; Li et al., 2015; Shukla et al., 2013; Sundram et al., 2016). However, the main purpose of any firm is to increasingly reinforce its performance, in this case, the firm must accurately and narrowly require to explore the indicators of performance at the first (Gunasekaran & Kobu, 2007). Furthermore, many studies indicated that a good performance measure must take into account both financial and non-financial indicators, all levels of the SC must be attracted, and all SC operations must be included, so it is recommended to focus on measuring OP (Arzu-Akyuz & Erman-Erkan, 2010; Shahbaz et al., 2018). However, the OP can be measured through several method with several attributes (Kauppi et al., 2016; Shahbaz et al., 2018).

An Evaluation of SC Collabration

Through literature review, the SC collaboration provides many various advantages. Researches signalize that SC collaboration has the ability to attain competitiveness, reduce the risk through sharing, ease to access the firm's resources, enhance the revenue and performance (Handfield & Bechtel, 2002; Sheu et al., 2006; Kogut, 1988; Park et al., 2004; Mentzer et al., 2001). In order to maximize the role of SC, organizations researchers, specialists, and practitioners have widely studied the SCM context insightfully (Khanuja & Jain, 2019) for improving their value in the marketplace (Pakur´ar et al., 2019). Most of scholars have agreed and introduced the definition of SCM are connected with integration. SCI considers valuable for the top and operational layers (Frohlich et al., 2001; Pagell, 2004; Lambert et al., 1998; Mentzer et al., 2001). Depending on (Narayanan et al., 2015), many of the previous studies accurately and specifically have not addressed the concept of collabration in the SC. According to Fu & Piplani (2004), SC collabration considered as a robust tool to place the SCM with a high extremely officious and responsive. The main purpose of SC collabration is to utilize the knowledge and innovation within firm to add value for customers. Several previous studies focused on the concept of collabration in the SC through the need for communication and participatory knowledge creation as important variables. However, several studies such as (Cao & Zhang, 2011; Lejeune & Yakova, 2005; Narayanan et al., 2015) identified SC collabration within seven overlapping elements which are IS, GC, DMS, RS, collaborative communication, DMS, and finally consensus regarding benefits and risks.

Development of Research Model

SC Collbration Dimensions

Many studies have been empirically indicated that SC collabration positively and significantly increased performance in the firms (Al-Doori, 2019; Marín-García et al., 2018). The current section provides a full description about the SC collabration dimensions and their interconnection with OP. Therefore, the current research will employ IS, GC, DMS, RS, and KSC as dimensions of SC collabration influencing on OP.

IS Dimension

Cao & Zhang (2013) defined the IS as the capability and willingness of organization to represent the data in strategic and tactical form in all organization units that shaping the SC.Grounding on (Singh, 2013), IS consists of many major attributes like quality, customer, time, market changes, design, or uncertainty. Information is considered as the most paramount feature for SC collabration (Shahbaz et al., 2019). The critical purpose of the IS is to continually boost the efficiency and effectiveness in all firms and also increasingly foster the business and OP (Qrunfleh, 2010). IS has been researched in many several sectors and is uncovered that IS has a major role in enhancing the OP (Khalil et al., 2019; Shahbaz et al., 2019; Abdallah et al., 2014; Effendi, 2015). In line with above explanation, it can be hypothesized that:

H1: IS will directly and affirmatively influence the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

DMS Dimension

Rely on (Cao & Zhang, 2013), DM is defined as the process that allows to gain the SC advantages and values through adjusting and coordinating the SC stakeholders functions in the planning level and the operations level of SC. It implicates of an adequate plans, collected a sufficient information, quick response to solve problems, and evolving rules and regulation and processes. Depending on Basu, et al., (2017), an efficient strategic alliance and eligible interconnection with clients and suppliers are demanded depending on intrinsic attributes such as exchangeable trust, loyalty, and robust relationship. According to Cao, et al., (2010), the main goal of DMS is to arrange the firm's stakeholders and to coincide decisions on order posture, inventory renew, and order distribution. Furthermore, the role of DMS has practically and empirically evaluated, DMS has a direct and significant impact on OP in the firm (Al-Doori, 2019; Effendi, 2015; Shukla et al., 2013). However, it has been revealed that DMS has a significant and affirmative association with OP when the information quality attribute comes to be in high level (Wiengarten et al., 2010). In line with prior explanation, it can be hypothesized that:

H2: DMS will directly and affirmatively influence the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

RS Dimension

RS is about leveraging capabilities and assets and investing SC partners. It includes physical resources, such as manufacturing equipment, facilities, and technology. RS includes design and improvement processes, dedicating employees to managing collaborative processes, sharing technical support, sharing types of equipment such as computers, networks, and machines, as well as pooling and harnessing financial and non-financial resources such as time, money, and training (Cao & Lumineau, 2015; Soosay & Hyland, 2015). RS has been researched in many several sectors and is uncovered that RS has a major role in enhancing the OP (Cao & Zhang, 2011; Crook et al., 2008; Zacharia et al., 2009). In line with prior explanation, it can be hypothesized that:

H3: RS will directly and affirmatively influence the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

GC Dimension

GC can be elucidated to which extent the SC actors recognize that their business purposes and objectives are accepted with an all-inclusive goal of the SC (Angeles & Nath, 2001; Cao & Zhang, 2011). When the company realizes that achieving its own goals must take into account the achievement of the goals of the entire SC, it can be indicated that there is a match in the goals

within the SC. It can be signalized through the degree of objective agreement between the parties of the SC. The GC focuses on the disparity of the goals of the partners, and when all methods seek to achieve their goal, this is directly reflected in the work towards achieving the goals of the entire SC. Howevere, GC has been researched in many several sectors and is uncovered that GC has a major role in enhancing the OP (Cao & Zhang, 2011; Lejeune & Yakova, 2005; Narayanan et al., 2015). In line with prior explanation, it can be hypothesized that:

H4: GC will directly and affirmatively influence the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

KCS Dimension

KCS refers to which level SC partners can develop a better perception and respond to the competitive environment by working together. Also, the exchange and absorption of knowledge among SC partners provide the long-term competitiveness of the SC as a whole. As SC partners look for new products and acquire relevant knowledge, they have common assimilation of relevant knowledge and how to apply it. SC partners jointly identify customer needs, discover new or emerging markets, and know competitors intentions and capabilities (Cao & Zhang, 2011; Lejeune & Yakova, 2005; Narayanan et al., 2015). KCS has been researched in many several sectors and is uncovered that KSC has a major role in enhancing the OP (Cao & Zhang, 2011; Crook et al., 2008; Zacharia et al., 2009). In line with prior explanation, it can be hypothesized that:

H5: KCS will directly and affirmatively influence the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

SCC Dimension as Moderator

Complexity is considered to be a vital matter in the SCM context. Many studies have revealed that complexity has a negative role on the firms such as diminish performance level, worsen decision-making, and increase the level of disruptions (Bozarth et al., 2009; Manuj et al., 2011; Chopra et al., 2014; Narasimhan et al., 2009). According to, Bozarth, et al., (2009) present the SCC definition as the degree of detail intricacy and dynamic intricacy manifested through products and services, operations, and correlations within the SC. According to Manuj & Sahin (2011), several studies have attempted to build a comprehensive theory for the SC and the complexity of the decision-making process by looking at complexity determinants such as size and structure of the SC, customer expectations, opposite environmental conditions, globalization, and organizational restructuring. However, Bode & Wagner (2015) identified the structural factors of SCC as can be classified into four categories: upstream, downstream, operational, and external complexity. Accordingly, our study will embark to study the moderation role of SCC with these four categories as previously discussed (Bode & Wagner, 2015; Kavilal et al., 2017). However, through the current research, it argues that the SCC may moderate the relationship between the SC collabration and the OP. To best of the authors' knowledge, the current research is the first study embarking to identify the moderation role of SCC on OP. In line with prior explanation, it can be hypothesized that:

H6: SCC will moderate the relationship between IS and the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.
H7: SCC will moderate the relationship between DMS and the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.
H8: SCC will moderate the relationship between RS and the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.
H9: SCC will moderate the relationship between GC and the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.
H10: SCC will moderate the relationship between KCS and the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman.

According to the pervious mention in section2, the recent research entails a magnitude of previous researches to develop and present a justified theoretical model (Chand et al., 2018; Kavilal et al., 2017; Kim & Um, 2018; Zhang & Cao, 2017). Figure 1 shows the developed theoretical model to measure and explore the impact of the SC collabration on the OP with moderation role of the SCC.

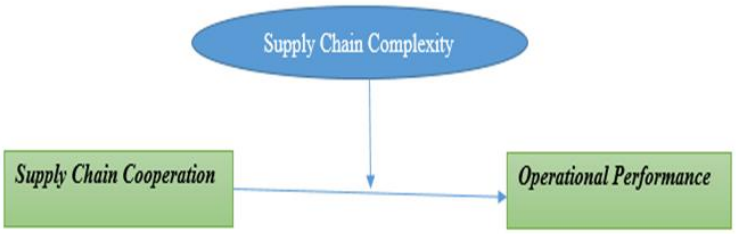

FIGURE 1
RESEARCH MODEL

RESEARCH METHOD

According to what have done in the literature review of the current research, the nature of current research entails a quantitative approach that considers the best way to serve and achieve our research purposes and to evaluate the relationship between the SC collabration and OP through the moderation effect of SCC. The research follows the descriptive analysis approach to have a full description about demographic variables and to retrieve the values of standard deviation and means for our research factors. Furthermore, the recent research applies a multiple linear regression test for retrieving the hypotheses results.The current research was developed the constructs with 35 items which were distributed between SC Corporation (25 items), OP (6 items), and SCC (4 items). In more detail, the SC Corporation construct items were adapted and developed in accordance with related prior studies (Kim & Um 2018; Zhang & Cao, 2017), the OP construct items were adapted and developed in accordance with related prior study (Chand et al., 2018), and SCC construct items were adapted and developed in accordance with related prior studies (Al-Doori, 2019; Kavilal et al., 2017). The construct items of current research were subjected to Five Likert-Scale (1-5 points) where "1" provides the high level of disagree respondent and "5" provide the high level of agree respondent.

The population of our research is all employees who work in different departments at Al-Ghalbi International Company for Engineering and Contracting in Oman. According to human resources record at the firm, the number of Al-Ghalbi employees is 1950 employee. Depending to Morgan (1983), the target sample size is equal to 322 employee. The employees are randomly chosen to participate in our research In addition, the data collection process was held from October 2020 to December 2020**.** Morovere, a pilot study was performed through asking 15 employees to voluntarily fill the first draft of questionnaire in order to reduce the mistakes and to have a final form of questionnaire. Following (Basarir-Ozel & Mardikyan, 2017), an electronic way was selected to create the questionnaire of our research for distribution purpose. After that, the researchers distributed 325 questionnaire. The number of retrieved questionnaires was 250. The number of valid questionnaires was 221 that used for analyzing purposes. According to Hair, et al., (2010), the required number of valid questionnaires should be more than 150 to continuously forward in analysis processes.

RESEARCH RESULTS

Table 1 provides the features of the research respondents. The first feature is the age that distributed between male with (64.3%) and female male with (35.7%).The second characteristic is the age that classified into Less than 30 with (64.3%), between 30 and 39 with (29.3%), between 40 to 49 with (4.1%), and 50 and above with (2.3%). The third characteristic is the education level of respondents of Al-Ghalbi Company that distributed between Secondary school with (26.7%), Diploma with (26.2%), Bachelor with (39.8%), and post-graduate the remaining percent. The fourth characteristic is the Experience that categorized into Less than 5 years range with (54.8%), Between 5 and 9 years range with (30.3%), between 10 and 14 years range with (10%), and 15 and above years range with (5%).the last feature is the Occupation that distributed between Manager position with (73.8), Co-manager position with (15.4%), Head of department position with (1.4%), and Employee position with (9.5%).

Table 1
DEMOGRAPHIC VARIABLES OF AL-GHALBI COMPANY EMPLOYEES (N=221)

Demographic variables		Frequency	Percentage
Gender	Male Female	142 79	64.3 35.7
Age	Less than 30 between 30 and 39 between 40 to 49 50 and above	142 65 9 5	64.3 29.4 4.1 2.3
Education	Secondary school Diploma Bachelor post-graduate	59 58 88 16	26.7 26.2 39.8 7.2
Experience	Less than 5 Between 5 and 9 between 10 and 14 15 and above	121 67 22 11	54.8 30.3 10.0 5.0
Occupation	Employee Head of department Co-manager Manager	163 34 3 21	73.8 15.4 1.4 9.5

Throughout the current research, SPSS version 22 has been declared to analyze the data. Several sequential operations in analysis process have been done to handle the mistakes of collected data such as encoding, missing values, and unengaged responses. As a result from these operations, data has been ready to keep going for analysis process of our research. As next step of analysis process, Cronbach alpha, mean, and standard deviations test have been calculated for providing an evidence of the data reliability. According Hair, et al., (2014), the accepted value of Cronbach alpha must be surpassed (0.7); as can be supported in Table 2, the Cronbach alpha values' of all constructs have been achieved the acceptable value condition. Furthermore, the values of mean and STD for independent and dependent variables have supported the reliability and normal distributions of the data where the mean and STD values of IS construct are (3.9783) and (0.6946) respectively, DMS construct are (4.1339) and (0.5992) respectively, RS construct are (4.1466) and (0.5938) respectively, GC construct are (4.1810) and (0.5623) respectively, KCS construct are (4.2127) and (0.6125) respectively, SCC construct are (4.0045) and (0.6917) respectively, and OP construct are (4.0897) and (0.5930) respectively.

Table 2 CRONBACH'S Ơ COEFFICIENT, MEANS AND STANDARD DEVIATIONS			
Construct	**Cronbach's ơ**	**Mean**	**STD**
IS	0.7998	3.9783	0.6946
GC	0.7717	4.1810	0.5623
DMS	0.7898	4.1339	0.5992
RS	0.8228	4.1466	0.5938
KCS	0.8355	4.2127	0.6125
SCC	0.8155	4.0045	0.6917
OP	0.8119	4.0897	0.5930

For guaranteeing the constructs of the current research are correlated, the Person correlation test has been calculated. Depending on the results in table 3, IS, GC, DMS, RS, KCS are positively and significantly linked to OP with ($r=0.565^{**}$, $p<0.01$), ($r=0.597^{**}$, $p<0.01$), ($r= 0.624^{**}$, $p<0.01$), ($r= 0.642^{**}$, $p<0.01$), and ($r= 0.690^{**}$, $p<0.01$) respectively. According to the correlation results, this provides us another evidence to carry on with our analysis.

Table 3 PERSON CORRELATION VALUES							
Construct	**IS**	**GC**	**DMS**	**RS**	**KCS**	**SCC**	**OP**
IS	1						
GC	0.495^{**}	1					
DMS	0.592^{**}	0.655^{**}	1				
RS	0.617^{**}	0.593^{**}	0.750^{**}	1			
KCS	0.556^{**}	0.613^{**}	0.729^{**}	0.761^{**}	1		
SSC	0.653^{**}	0.560^{**}	0.634^{**}	0.675^{**}	0.623^{**}	1	
OP	0.565^{**}	0.597^{**}	0.624^{**}	0.642^{**}	0.690^{**}	0.624^{**}	1
**. Correlation is significant at the 0.01 level (2-tailed).							

As the final step of the analysis process, MLR is employed for obtaining the hypotheses results of the current research. Before doing the MLR test, many considerations were evaluated to assure the MLR such as linearity, normality, homoscedasticity, and residuals independence. Relay on Shukla (2016), the MLR tests provide robust evidences to define the level of intensity and the trend of the linear relationship between research constructs. Furthermore, MLR analyses are declared for developing models linking with the dimensions of the SC collabration as an independent factors and OP as a single dependent factor. Rely on hypotheses outcomes in table 4, the returned results of the first hypothesis in the current research discovered that IS has directly and affirmatively influenced the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman ($\beta=0.172$, $p=0.004$) as a result H1 acquired empirical support. The outcomes of the second hypothesis also provided that DMS has directly, empirically, and affirmatively influenced the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman ($\beta=0.055$, $p=0.483$) as a result H2 empirically did not acquire support. The third hypothesis results detected that RS has directly, empirically, and affirmatively influenced the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman ($\beta=0.115$, $p=0.153$) as a result H3 acquired support. Moreover, the retrieved results of the fourth hypothesis signalized that GC has directly and affirmatively affected the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman ($\beta=0.172$, $p=0.002$) and as a result H4 empirically acquired support. The fifth hypothesis outcomes also exposed that KCS has directly and affirmatively impacted the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman ($\beta=0.348$, $p=0.000$) as a result H5 empirically acquired support. Therefore, the SC collabration constructs; which are IS, GC, and KCS; had an affirmative and significant effect and they demonstrated $R^2_{(OP)=}56.1\%$ of the variance.

Table 4 REGRESSION ANALYSIS FOR DIRECT EFFECT					
Construct	**Unstandardized coefficients**		**standardized**		
	β	**Strd.error**	**Beta**	**t**	**Sig**
Constant	0.529	0.222		2.377	0.018
IS	0.147	0.051	0.172	2.871	0.004
DMS	0.055	0.078	0.055	0.702	0.483
RS	0.115	0.080	0.115	1.434	0.153
GC	0.205	0.066	0.194	3.109	0.002
KCS	0.337	0.074	0.348	4.546	0.000

Table 5 provides the MLR test for estimating the moderation effect of SCC. The returned results of the sixth hypothesis mentioned that the SCC dimension positively and significantly moderated the relationship between IS dimension and OP dimensión at Al-Ghalbi International Company for Engineering and Contracting in Oman (β=0.767, p=0.000) as a result H6 empirically acquired support. In addition, the seventh hypothesis results signalized that SCC dimension did not moderate the relationship between the DMS dimension and OP dimension at Al-Ghalbi International Company for Engineering and Contracting in Oman (β=-0.073, p=0.531) as a result H7 did not acquire support. Moreover, the eighth hypothesis results signalized that SCC dimension did not moderate the relationship between the RS dimension and OP dimension at Al-Ghalbi International Company for Engineering and Contracting in Oman (β=-0.199, p=0.115) as a result H8 did not provide support. Additionally, the ninth hypothesis results signalized that SCC dimension did not moderate the relationship between the GC dimension and OP dimension at Al-Ghalbi International Company for Engineering and Contracting in Oman (β=0.064, p=0.508) as a result H9 did not provide support. Furthermore, the tenth hypothesis results signalized that SCC dimension did not moderate the relationship between the KCS dimension and OP dimension at Al-Ghalbi International Company for Engineering and Contracting in Oman (β=0.304, p=0.012) as a result H10 empirically provided support. Rely on the prior results, the SCC had a moderation role with some dimensions of SC collabration which are IS and KCS where others dimensions did not have an effect; they interrupted $R^2_{(OP)=}$71.7% of the variance.

Table 5 MODERATOR EFFECT OF SCC					
Construct	**Unstandardized coefficients**		**standardized**	**t**	**Sig**
	β	**Strd.error**	**Beta**		
Constant	2.186	0.091		23.998	0.000
IS	0.102	0.008	0.767	12.902	0.000
DMS	-0.010-	0.015	-0.073-	-0.627-	0.531
RS	-0.026-	0.016	-0.199-	-1.581-	0.115
GC	0.009	0.013	0.064	0.664	0.508
KCS	0.039	0.015	0.304	2.543	0.012

RESULTS DISCUSSION

The current study has embarked at focusing to insightfully explore and measure the impact of SC collabration dimensions on OP through measuring the moderation effect of SCC Al-Ghalbi International Company for Engineering and Contracting in Oman. The results of current study has been practically and empirically asserted and responded the research questions as they were proclaimed at the introduction section. Depending on the findings of current study, the IS, GC, and KCS dimensions of SC collabration had an essential role for shaping and improving the OP at Al-Ghalbi International Company for Engineering and Contracting in Oman. These findings upheld the current research construct with gaining a new benefits of SC collabration and OP at Al-Ghalbi

Company in Oman rhythmic with previous researches (Cao & Lumineau, 2015; Fawcett et al., 2015; Saeed et al., 2005; Narayanan et al., 2015; Soosay & Hyland, 2015). Moreover, the findings of current study provided that DMS and RS did not provide a significant impact on OP dimensions of SC collabration. The potential interpretation for rejected these theorized is that the employees of Al-Ghalbi Company may not realize the impact and significant of decision making processes and the critical role for sharing the company resources within Al-Ghalbi Company. The finding of current study indicated that the SCC partally moderated the relationship between SC collabration and OP at Al-Ghalbi Engineering and Contracting Company in Oman. Consequently, the firm's employees believe that the levels of SCC explain the change in the levels of OP, and that this effect may vary according to the interaction with independent variables. Speciafically, some of this effect can be positive (IS and KCS) and others negative (DMS, RC, and GC).

MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

Managerial Implications

The current research has widely provided a real contributions and benefits to the SCM context through exploring the impact of SC collabration on OP from the employees' perspective. Moreover, the current study has practically and empirically confirmed and addressed the previous theories engaged with SCM that revealed that SC collabration dimensions may define the OP (Chand et al., 2018; Zhang & Cao, 2017; Kavilal et al., 2017; Kim & Um, 2018). The findings of our research provided that some dimensions of the SC collabration provide a strong impact on increasing the level of OP at Al-Ghalbi Engineering and Contracting Company in Oman. However, the novelty and originality of the current article is that it considers the first study which discusses the moderation effect between SC collabration and OP. Thus, the SCC may have a primary key to boost the OP of firms. Through the current article, we suggest that SC collabration dimensions are pertinent and also point out that OP considers as the critical dimension for the firms. The present article, therefore, presents empirical evidences to determine an affirmative relationship between SC collabration and OP in the SCM context within Engineering and contracting firm domain in Oman. Consequently, policymakers who have a serious willingness for improving their firms' position in the competitive environment must take into their consideration a high level of SCM implementation that may provide effectiveness and competitive advantages. The findings of our research provided another important practical implications for managers of Al-Ghalbi Engineering and Contracting Company in Oman that maximize the coordination level within the firms elements in the SC in order to share information, and develop effective policies and constraints to identify the information which will be participated with firm parties. Moreover, enhance several processes in SC collabration within the company and other parties such as decision making, creating knowledge, establish the goal in accordance with company elements, and providing an adequate resources. The SCC should be paid attention form the managers and founders of Al-Ghalbi company that may has a primary role for increasing the level of Al-Ghalbi company performance. Moreover, the Al-Ghalbi company could adopt the newest implementation of enterprise resource planning (ERP) to adjust the business processes within parties, to guarantee for reaching the best integration of SC, and to allow company employees for participating in the DM and using the company resources.

CONCLUSION AND RECOMMENDATIONS

The current article has studied the impact of the SC collabration dimensions on the OP and discovered the moderation role of SCC at evaluating the relationship between the SC collabration and the OP at Al-Ghalbi Engineering and Contracting Company in Oman. The current research factors were justified depending on related literature review studies and were appointed to be used in current research model. The current article has practically and empirically evaluated the relationship between the SC collabration dimensions and the OP. the findings of the current article

found that the IS, GC, and KCS Dimensions of SC collabration had an effective effect on OP at Al-Ghalbi Company. Moreover, the findings uncovered that the SCC may has a critical moderation role for maximizing the OP through moderating the relationship between the IS and KCS dimensions of SC collabration and the OP at Al-Ghalbi Company. During conducting the current research, it has appeared some limitations. The current research was studied with a small sample size to somewhat. It is recommended that next studies could increase the sample size to have more reliable findings. For generalizing the findings of our research, it is proposed that the orientation of next studies could be conducted in several types of industries sectors, countries, and SMEs and large organizations. Moreover, the future studies could add other dimensions in SC collabration factor. During performing a comprehensives review of our research, there is a theoretical ground that connects the Block-chain technology with SCM. It is encouraged that researchers could deeply go through this emerging technology and performs some researches to discover the potential contributions of Block-chain technology to SCM context.

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