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The Mediating Effect of Strategic Implementation Between Strategy Formulation and Organizational Performance Within Government Institutions in Yemen

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Abstract: The purpose of this study is to investigate the relationship between strategy formulation, strategy implementation and organizational performance within government institutions in Yemen. Evaluation of the proposed model was done through questionnaire survey data collected from one hundred and twenty valid responses among employees within the Ministry of Health. The analysis examines the relationship between the variables of the proposed model, Including Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) via AMOS. The results show that the data fits the proposed model well, including three second-order constructs; namely strategy formulation which contains three first-order constructs (vision, mission and goals), strategy implementation which contains three first-order constructs (strategy, structure and human resources) and organizational performance which contains four first-order constructs (financial, customer, operation and learning and growth). The model proposed by the research and evidenced by the goodness of fit of the model to the data, explained 80% of the variance in organizational performance. The findings of the multivariate analysis demonstrates three main results. Firstly, strategy formulation has a positive impact on strategy implementation; secondly, strategy implementation has great influence on organizational performance; and finally, strategy implementation mediates the relationship between strategy formulation and organizational performance (as shown by the bootstrapping analysis). The theoretical and practical implications are also discussed.

Key words: Strategy formulation, strategy implementation, organizational performance, Yemen, AMOS

INTRODUCTION

Although, government institutions around the world are placing greater emphasis on performance, particularly with regard to the expectations of their stakeholders and customers, Yemeni government institutions are still lagging behind in terms of government institutional effectiveness compared to other countries (Fig. 1). Most organizations operate as a network of various departments that are inextricably interconnected and decisions necessarily affect the activities and outcomes in other network areas, driving the growing need for transparency and focus on performance (Mackie, 2008).

Strategic management is an important topic and has attracted concern among scholars (Wheelen and Hunger, 2012). It has also been a concern of private and public organizations (Kang, 2006). Failure of having strategic management, namely at the formulation and implementation stage which is considered critical, will result in poor performance and effectiveness in the organization (Michaela, 2008). This is also a concern of the Yemen of Ministry of Health, which as reported by COCA (2014), faced issues in terms of its performance. A preliminary study and report from the Yemen Ministry of Health (PMO, 2014) indicated that the performance of ministry is rather weak, ad this has affected the full achievement of its expected vision, mission and goals. This study attempts to achieve the following research objectives:

- To examine the effect of strategy formulation on strategy implementation
- To examine the effect of strategy implementation on organizational performance
- To determine whether the construct of strategy implementation mediates the relationship between Strategy formulation and organizational performance

Literature review

Organizational performance: Organizational performance is one of the most important variables in the management research and arguably the most important indicator in

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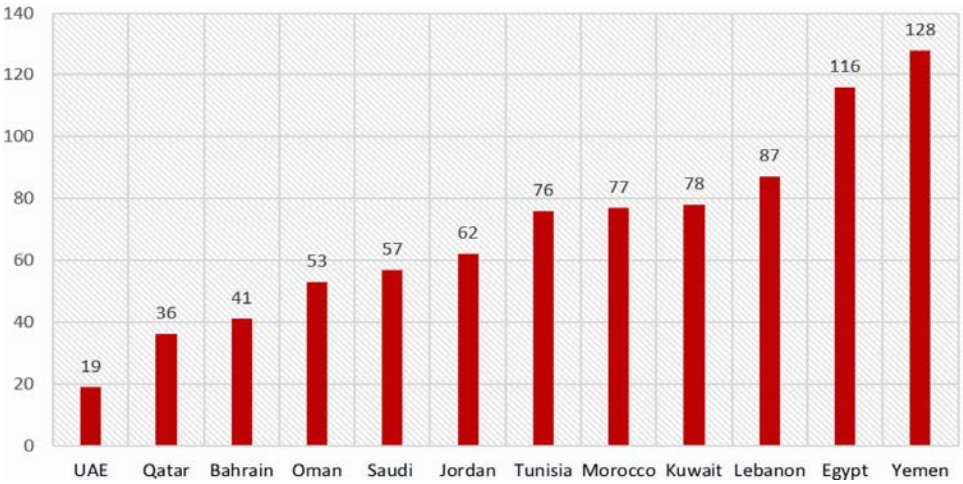


Fig. 1: Government institutions effectiveness: Yemen versus Arab countries (Rank among 143 countries) Global Innovation Index, 2016

determining the overall organizational success (Gavrea and Stegerean, 2011). An organization's performance is the measure of standard or prescribed indicators of effectiveness, efficiency and environmental responsibility such as cycle time, productivity, waste reduction and regulatory compliance (Muchira, 2013). In short, organizational performance is the most important criterion in evaluating organizations, their actions and environments. This is reflected in the pervasive use of organizational performance as a dependent variable in previous research (Richard *et al*., 2009). According to Qaoud (2006), four areas of performance namely financial (the ability of the organization to have good planning and implementation related to financial aspects for stakeholders needs); public (to achieve the organizational vision, mission and goals); internal processes (the commitment of organization to deliver excellence service to the stakeholders); and learning and growth (the availability of budget for programs to improve employee competency and provide excellent service to the stakeholder).

Strategy formulation: Strategy formulation refers to the assessment of the external and internal environment and integrating the results into goals and strategies (Daft, 2012). It is defined as the developed phase of long-term plans for the effective management of environmental opportunities and threats on the principle of companies' strengths and weaknesses (Awang, 2012). It has also been examined by various scholars and found to differ from one institution to another and be riddled with several challenges (Njeru, 2014). A study conducted by (Ongonge, 2013), examined strategy formulation to enhance organizational performance in Kenya. The empirical findings indicated that formulation strategy directly contributed to organizational performance of government agencies and partner organizations involved in the study. The study also revealed that there is a difference between the results and approaches of measuring formulation strategy effectiveness and organizational performance which confirms the case that selecting the appropriate approach to measuring the relationship between implementation strategy and organizational performance must be done with caution. This agree with numerous studies that found that strategy formulation has a positive relationship with strategy implementation and impacts organizational performance (Denison, 2000; Daft, 2012; Franklin, 2011; Aldehayyat and Twaissi, 2011; Owolabi and Makinde, 2012). Therefore, the following hypothesis is proposed:

- H_1: Strategy formulation has a positive effect on strategy implementation

Strategy implementation: Strategy implementation involves the structure of an organization's resources and motivation of its staff to achieve objectives (Muchira, 2013). It is the direction and scope of an organization over the long-term in order to achieve an advantage for itself through its configuration of resources (Johnson *et al*., 2008). It requires organizations to establish objectives, devise policies, motivate employees and allocate resources to execute formulated strategies (Zaei *et al*., 2013). Earlier research has provided support for the link between strategy implementation and organizational

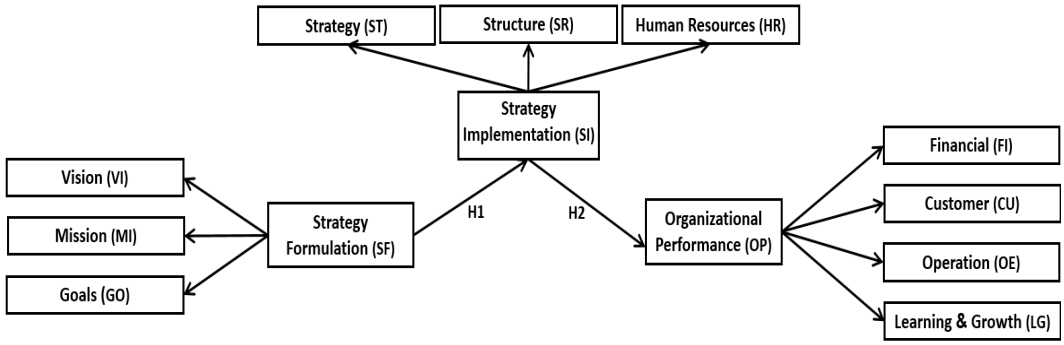


Fig. 2 : Proposed research model

performance. In a cross-sectional study of other industries to access their performance, Muchira (2013) found that implementation strategy influenced organizational performance through various measures such as projected performance of competitors, organization goals, past performance of the business and projected performance of the organization. Ibrahim *et al.* (2012), Gitonga and Newman (2013), also observed the influence of implementation strategy on organizational performance.This leads to the following hypothesis:

- H_2: Strategy implementation has a positive effect on organizational performance

Various scholars studying strategic management have agreed that strategy implementation is the link between strategy formulation and organizational performance (Daft, 2012), This means that strategy implementation mediates the relationship between strategy formulation and organizational performance, or in other words, strategy formulation impacts the organizational performance through strategy implementation, leading to the following hypothesis:

- H_3: Strategy implementation mediates the relationship between strategy formulation and organizational performance

MATERIALS AND METHODS

Overview of the proposed research model: This study proposes a research model based on a strategic management model postulated by Qouod (2006) which examined the relationship between strategic management (formulation strategy consist of vision, mission, goals; implementation consists of strategy, structure and human resource) and organizational performance (consists of financial, customer, internal operational processes, growth and learning aspects). Based on the above, the research model for this study is depicted in Fig. 2.

Development of instrument: In this study, the questionnaire (Appendix A) adopted for this study was taken from studies by Qouod (2006) as his research has been widely used and validated by other studies. The questionnaire was distributed in two languages (English and Arabic) and respondents were invited to respond in the language they are most comfortable with. It was divided into three sections, each representing the variables and items being measured, as follows: section A: Demographic; section B: strategy formulation and strategy implementation; and section C: organizational performance. All items in Section B and C were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In this research, in order to recognize whether the questionnaire was properly constructed and the questions were easy to understand, a pilot study was carried out by distributing 20 questionnaires to middle and top management staff in the Ministry of Health in Yemen.

Data collection: In this study, the quantitative approach was chosen as the most appropriate. To collect the data, 130 self-administered questionnaires were distributed to middle and top management staff in the Ministry of Health in Yemen. Respondents were asked to send their replies in the self-addressed envelope which was with the questionnaire. The survey was conducted during the period from 20th of September to 16th of October 2015 with a follow-up reminder sent every seven days. The researcher requested the help of a co-worker in the Ministry to distribute and collect the questionnaires. He began by requesting permission from the General Office at the Ministry of Health to distribute the questionnaires and requesting a list of the total staff in the Ministry of

Health. On receiving permission and the list, he distributed the questionnaires to the departments. Out of 130 questionnaires distributed, 125 were returned, a response rate of 96%.

After examining the returned questionnaires, only 120 questionnaires were found usable in this study, reducing the response rate to 80% which is still high. Table 1 presents the profile of respondents in the study. It shows that the majority of the respondent were males 81.7% with 18.3% being female. In terms of hierarchical position in the Ministry, 52 (43.3 %) were department managers, 44 (36.7%) managers, 22 (18.3%) general manager, with 2 (1.7%) working as deputy sector. In terms of respondent age, the majority between 36-45 year (42.5%), followed by 46-55 year (37.5%); 20-35 (14.2%) and >55 (5.8%). The educational background of respondents revealed 55 (45.8%) with a bachelor degree, 32 (26.7%) holding a master degree. 25 (20.8%) with diploma and 8 (6.7%) holding a Ph.D. In terms of years of experience, 45.8% had >11-20 years, 23.3% had 6-10 years. 20.9% had more than 20 years and 10% had 5 year or <of experience (Table 1).

Table 1: Summary of demographic profile of respondents

Demographic item	Categories	Frequency	Percentage
Gender	Male	98	81.7
	Female	22	18.3
Position	Department manager	52	43.3
	Administrative manager	44	36.7
	General manager	22	18.3
	Deputy sector	2	1.7
Age	20-35	17	14.2
	36-45	51	42.5
	46-55	45	37.5
	>55	7	5.8
Level of education	Diploma	25	20.8
	Bachelor	55	45.8
	Master	32	26.7
	PhD	8	6.7
Years of experience	1-5	12	10.0
	6-10	28	23.3
	11-20	55	45.8
	>20	25	20.9

Table 2: Mean and standard deviation

2nd-order construct	1st-order construct	M	SD
SF	VI	2.99	0.998
	MI	2.94	0.891
	GO	3.09	0.909
SI	ST	3.14	0.902
	SR	2.91	0.831
	HR	3.04	1.016
OP	FI	2.85	0.831
	CU	3.24	1.106
	OE	3.04	1.005
	LG	2.92	0.936

M = Mean; SD = Standard Deviation, The measurement used is five-point scale ranging from 1 (strongly Disagree) to 5 (strongly Agree); SF: Strategy Formulation, VI: Vision, MI: Mission, GO: Goals, SI: Strategy Implementation, ST: Strategy, SR: Structure, HR: Human Resources, OP: Organizational Performance, FI: Financial, CU: Customer, OE: Operation and LG: Learning and Growth

RESULTS AND DISCUSSION

Descriptive analysis: Table 2 presents the mean and standard deviation of each variable in the study. Respondents were asked to give their opinion based on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The customer construct for organizational performance records the highest mean score of 3.24 out of 5.0, with a standard deviation of 1.106 which indicates that the employees agree that the Ministry maintain a positive relationship with the public. The financial construct for organizational performance records the lowest mean score of 2.85 out of 5.0, with a standard deviation of 0.831 which indicates that the employees agree that the Ministry's budget is not enough to accomplish its strategy.

Measurement model assessment and Confirmatory Factor Analysis (CFA): As shown in Table 3, all the goodness-of-fit indices exceeded their respective common acceptance levels as suggested by previous research, thus demonstrating that the measurement model exhibited a fairly good fit with the data collected (X^2/df = 1.328, CFI = 0.945, RMSEA = 0.052, NFI = 0.814, TLI = 0.940, IFI = 0.946, PNFI = 0.733 and PGFI = 0.661). However, in this study, GFI and AGFI (0.785 and 0.745, respectively) do not fit. In such a case, Sharma *et al.* (2005) recommend that these indices should not be used because of the sensitivity and the fact that they have becomes less popular in recent years. Therefore, the psychometric properties of the measurement model in terms of construct reliability, indicator reliability, convergent validity and discriminant validity were evaluated as follows.

For the Construct reliability, this study tested the individual Cronbach's alpha coefficients to measure the reliability of each of the three constructs in the measurement model. The results indicate that all the individual Cronbach's alpha coefficients of the three constructs ranging from 0.904 to 0.931 were greater than the recommended level of 0.7 (Kannan and Tan, 2005). Additionally, for testing construct reliability all the Composite Reliability (CR) values ranging from 0.945-0.992 were higher than 0.7 (Kline, 2010; Gefen *et al*., 2000) which adequately indicates that the construct reliability is fulfilled as shown in Table 4. Therefore, the achieved Cronbach's alpha and CR for all constructs were considered to be sufficiently error-free.

Factor loading was used to test Indicator reliability. High loadings on a construct indicate that the associated indicators seem to have much in common which is captured by the construct (Hair *et al*.,

Table 3: Goodness-of-fit indices for the measurement model

Fit index	Cited	Admissibility	Result	Fit (Yes/No)
χ^2			520.382	
df			392.000	
P value		>.05	0.000	No
X^2/DF	Kline (2010)	1.00 - 5.00	1.328	Yes
RMSEA	Steiger (1990)	<.08	0.052	Yes
GFI	Joreskog and Sorbom (1993)	>.90	0.785	No
AGFI	Jöreskog and Sörbom (1993)	>.80	0.745	No
NFI	Bentler and Bonnet (1980)	>.80	0.814	Yes
PNFI	Bentler and Bonnet (1980)	>.05	0.733	Yes
IFI	Bollen (1990)	>.90	0.946	Yes
TLI	Tucker and Lewis (1973)	>.90	0.940	Yes
CFI	Byrne (2010)	>.90	0.945	Yes
PGFI	James *et al.* (1982)	>.50	0.661	Yes

Note: X^2 = Chi Square, DF = Degree of freedom, GFI = Goodness-of-fit, NFI = Normed fit index, IFI = the increment fit index, TLI = Tucker-Lewis coefficient Index, CFI = Comparative-fit-index, RMSEA = Root Mean Square Error of Approximation, PNFI = Parsimony Normed Fit Index, AGFI =Adjusted Goodness of Fit Index; ***The indexes in bold are recommended since they are frequently reported in literature (Awang, 2012)

Table 4: Loading, cronbach's alpha, CR and AVE

2nd-order construct	1st-order construct	Item	Loading (above 0.5)	α(above 0.7)	CR (>0.7)	AVE (above 0.5)
SF	VI	VI1	0.77	0.927	0.973	0.924
		VI2	0.74			
		VI3	0.79			
	MI	MI1	0.79			
		MI2	0.82			
		MI3	0.80			
	GO	GO1	0.82			
		GO2	0.82			
		GO3	0.76			
SI	ST	ST1	0.67	0.904	0.945	0.853
		ST2	0.83			
		ST3	0.76			
	SR	SR1	0.73			
		SR2	0.81			
		SR3	0.75			
	HR	HR1	0.71			
		HR2	0.80			
		HR3	0.80			
OP	FI	FI1	0.53	0.931	0.992	0.967
		FI2	0.74			
		FI3	0.69			
	CU	CU1	0.82			
		CU2	0.80			
		CU3	0.87			
	OE	OE1	0.74			
		OE2	0.68			
		OE3	0.69			
	LG	LG1	0.80			
		LG2	0.71			
		LG3	0.80			

α = Cronbach's alpha; CR = Composite Reliability, AVE = Average Variance Extracted, CR= $(\sum K)^2 / (\sum K)^2 + (\sum 1\text{-}K^2)$, AVE= $\sum K^2 / n$; where K= factor loading of every item, n= number of item in a model; SF: strategy formulation, VI: vision, MI: mission, GO: goals, SI: strategy implementation, ST: strategy, SR: structure, HR: human resources, OP: organizational performance, FI: financial, CU: customer, OE: operation, and LG: learning and growth.

2013). Factor loadings >0.50 are considered to be very significant (Hair *et al*., 2010). The loadings for all items exceeded the recommended value of 0.5 as shown in Table 4. The loading for all items in the model have fulfilled all the requirements without being eliminated from the scale.

This study used the Average Variance Extracted (AVE) to test convergent validity, which indicated that all AVE values were higher than the recommended value 0.50 (Hair *et al*., 2010), ranging from 0.924-0.967. The convergent validity for all constructs was therefore successfully fulfilled and exhibited adequate convergent validity as Table 4 shows.

The discriminant validity of the measurement model was checked using Fornell-Larcker criterion (Fornell and Larcker, 1981). As shown in Table 5, the correlations between the factors ranging from 0.841-0.885 are smaller than the square root of the average variance extracted estimates which are in the range of 0.923 to 0.983. This indicates that the constructs are strongly related to their

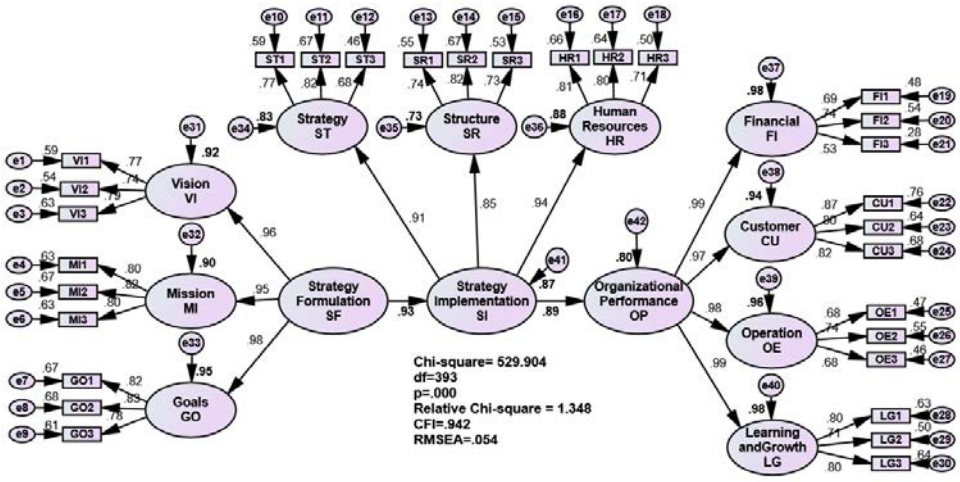


Fig. 3: Research structural model results

Table 5: Results of discriminant validity by fornell-larcker criterion for the model

	1	2	3
Factors	SF	SI	OP
SF	0.961		
SI	0.885	0.923	
OP	0.876	0.841	0.983

Diagonals represent the square root of the average variance extracted while the other entries represent the correlations; SF: strategy formulation, SI: strategy implementation, OP: organizational performance.

respective indicators compared to other constructs of the model. Hence, the discriminant validity of the constructs is fulfilled.

Structural model assessment: The goodness-of-fit of the structural model was comparable to the previous CFA measurement model. In this structural model, the values are recorded as $X^2/df = 1.348$, CFI = 0.942 and RMSEA = 0.054. These fit indices provide the evidence of adequate fit between the hypothesized model and the observed data (Byrne, 2010). Thus, we could proceed to examine the path coefficients of the structural model.

Hypotheses tests: The hypotheses of this study were tested using structural equation modeling as presented in Figure 3 and the structural model assessment as shown in Table 6, provides the indication of the hypotheses tests. The results of the three main hypotheses indicate that strategy formulation significantly predict the strategy implementation. Hence, H1 is accepted ($\beta = 0.93$; $p < 0.001$). Strategy implementation, also significantly predicts organizational performance, thereby supporting H2 ($\beta = 0.89$; $p<0.001$). Note that the standardized path coefficient indicates the strengths of the relationships between the independent and dependent variables, so the direct effects of strategy formulation on strategy implementation is much stronger than the direct effects of strategy implementation on organizational performance as evident from the values of path coefficient.

The R^2 value indicates the amount of variance of dependent variables which is explained by the independent variables. Hence, a larger R^2 value increases the predictive ability of the structural model. It is crucial to ensure that the R^2 values should be high enough for the model to achieve a minimum level of explanatory power (Urbach and Ahlemann, 2010). Falk and Miller (1992) recommended that the R^2 values should be equal to or greater than 0.10 in order for the explained variance of a particular endogenous construct to be deemed adequate. Cohen (1988) suggested R^2 is substantial when it is greater than 0.26. with acceptable power above 0.02 and according to Chin (1998) that R^2 is substantial when it is greater than 0.65 with acceptable power above 0.19. On the other hand, Hair *et al*. (2013) recommended that R^2 has to be >0.75 in order to be deemed substantial with acceptable power above 0.25. Table 7 shows the result of R^2 from the structural model, which indicates that all the R^2 values are high enough for the model to achieve an acceptable level of explanatory power. Note that the highest variance explained in endogenous construct found in the strategy implementation (87%) by exogenous construct strategy formulation. And explained 80% of the variance in organizational performance by strategy implementation.

Mediation assessment: Assessing the direct and indirect relationships between the exogenous and endogenous latent variable is another important evaluation of a

Table 6: Structural path analysis result

Hypothesis	Dependent variables	Independent variables	Estimate B (path coefficient)	SE	C.R (t-value)	p-value	Decision
H1	SI	SF	0.93	0.131	7.566	***	Supported
H2	OP	SI	0.89	0.127	6.743	***	Supported

SF = Strategy Formulation, SI = Strategy Implementation, OP = Organizational performance, ***, **, *p<0.001; 0.01; 0.05, SE = Standard Error, CR = Critical ratio

Table 7: Coefficient of determination result R^2

Exogenous construct	Endogenous construct	R^2	Cohen (1988)	Chin (1998)	Hair *et al.* (2013)
SF	SI	.87	Substantial	Substantial	Substantial
SI	OP	.80	Substantial	Substantial	Substantial

SF: Strategy Formulation, SI: Strategy Implementation, OP: Organizational Performance

Table 8: Mediation effect of strategy implementation

Variable	Parameters	Estimate B (path coefficient)	SE	C.R (t-value)	p-value	Result
path c	OP<---SF	0.61	0.183	3.404	***	Significant
path a	SI<---SF	0.93	0.131	7.566	***	Significant
path b	OP<---SI	0.89	0.127	6.743	***	Significant
path c'	OP<---SF	0.87	0.126	6.968	***	Significant

Sf: Strategy Formulation, SI: Strategy Implementation, OP: Organizational Performance, ***p<.000; **p<.01; *p<.05, SE = Standard Error, CR = Critical Ratio

Table 9: Bootstrapping the indirect effect of strategy implementation

Hypothesis	Relationship	Std. beta	SE	t-value	Decision
H3	SF→SI→OP	0.828	0.143	5.790**	Supported

Preacher and Hayes 2004 (2008); SF: Strategy Formulation, SI: Strategy Implementation, OP: Organizational Performance

structural model (Henseler *et al*., 2009). This section tests the mediation Hypothesis (H^3) as follow: Strategy implementation mediate the relationship between strategy formulation and organizational performance.

According to Field (2013) for this hypothesis to be true: strategy formulation must predict organizational performance in the first place (path c); strategy formulation must predict strategy implementation (path a); strategy implementation must predict organizational performance (path b) and the relationship between strategy formulation and organizational performance should be smaller when strategy implementation is included in the model than when it isn't. We can distinguish between the direct effect of strategy formulation on organizational performance, which is the relationship between them controlling for strategy implementation and the indirect effect, which is the effect of strategy formulation on organizational performance through the strategy implementation.

Table 8 shows the result of the direct path (c) in which the relationship between strategy formulation and organizational performance is significant (β = 0.61, $p<0.001$) suggesting that the direct effect condition is satisfied. Furthermore, the path coefficients (a) in this model indicate that strategy formulation is positively linked to strategy implementation (β = 0.93, $p<0.001$) while the path coefficients (b) indicate that strategy implementation is positively linked to organizational performance (β = 0.89, $p<0.001$). Finally, the findings show the direct (c') relationship between strategy formulation and organizational performance (β = 0.87, $p<0.001$), shrinks upon the addition of strategy implementation to the model but is still significant, indicating that a mediation effect exists. While the path coefficient value decreased, the R^2 value on organizational performance increased from 0.76 (or 76%) to 0.80 (or 80%) when strategy implementation was included in the model.

The second method to test the mediation effect was based on the (Preacher and Hayes, 2004, 2008) method of bootstrapping the indirect effect. Table 9 shows the result of the bootstrapping analysis which indicates that the indirect effect β = 0.83 was significant with a t-value of 5.790. Preacher and Hayes (2008) indicated that if a 0.83, 95% Boot CI: [LL = 0.586, UL = 0.932] does not straddle a 0 in between, it indicats there is mediation. Thus, this study concludes that the mediation effect of a strategy implementation variable is statistically significant, indicating that H3 was also supported.

The major purpose of the study is to investigate the relationship between strategy formulation, strategy implementation and organizational performance within government institutions in Yemen. This study discusses its findings based on the three main objectives mentioned earlier.

Findings related to objective 1: The first objective was to examine the effect of strategy formulation on strategy implementation. This objective was studied, though hypothesis H1 and the results indicated that strategy formulation has a significant and positive impact on

strategy implementation. Thus (H1) is supported. This result is consistent with the finding of a study conducted by Owolabi and Makinde (2012) who found a significant positive effect of strategy formulation on strategy implementation. As well as Muogbo (2013) and Gichunge (2011a, b) emphasized the positive relationship between strategy formulation and strategy implementation.

Findings related to objective 2: The second objective of this study was to examine the effect of strategy implementation on organizational performance. This objective was studied, though hypothesis H2 and the findings showed that the strategy implementation has a significant and positive influence on performance. Thus, H2 is supported. This result supports by a research finding of Muchira (2013) which concluded that strategy implementation influences organizational performance positively, along with Mohamud and Mohamud (2015) and Aligholi and Gheshlagh (2014) who they also indicated that strategy implementation has a significant positive impact on organizational performance.

Findings related to objective 3: The third objective of this study was to determine whether the construct of strategy implementation mediates the relationship between strategy formulation and organizational performance. This objective was studied through hypothesis H3 and the findings showed that strategy formulation indirectly influences organizational performance through the strategy implementation. Thus, H3 is accepted. These results were consistent with the work of Daft (2012) both of whom state that the strategic planning process is an interdependent relationship of strategy formulation, strategy implementation and organizational performance.

Implications for research: The main contribution of this research is the role of strategy formulation on strategy implementation, the role of strategy implementation on organizational performance and the role of strategy implementation as a mediating variable between strategy formulation and organizational performance. The main contribution of this study is the highlighting of strategic management components that contribute significantly to organizational performance. It provides evidence of research synthesizing empirical research, theories and ideas from various sources of academic disciplines and will contribute to the existing body of knowledge especially on strategic management, formulation and implementation strategy and organizational performance and the possible extension of study development in these areas. This study has also reaffirmed the applicability of the theory to government organizations and developing countries and undoubtedly will provide better insights for researchers and be a reference point for further research.

Implication for practice: The study is important from both a scientific and a practical perspectives for researchers and scholars in public administration. It will provide the Ministry of Health in Yemen and other stakeholders with important data and insights on their current state and practice of formulation and implementation strategies. The findings are expected to improve the application of such formulation and implementation strategies to overcome national health challenges, improve the health care system, enhance delivery services and make such services accessible, affordable and equitable. The study could lead to improved health system efficiency, reduced waste and better use of idle potentials. These in turn will enable the Ministry of Health to provide more services per unit cost, thus making the best use of the available budget. This study and its findings will serve as a reference source in the field of strategic planning in developing countries.

Limitations and suggestions for future work: This research has the potential to open horizons for researchers to conduct other studies in the filed of strategic planning and prompts several suggestions for the future researches. There is a need for more studies to examine the relationship between strategic management practices and organizational performance and examining the moderating effect of leadership style on this relationship. The research could be conducted over a wider area to include employees from all or other government and selected private sectors. A new approach health development could be through studying the causes of the strategic management failure of many of ministries in Yemen. A study of the impact of personal characteristics (such as namely, educational attainment and experience) could possibly enhance strategic management and planning practices. A study could be done to investigate and compare ministries and organizations in Yemen in terms of their current strategic planning practices. The impact of good practices of strategic planning or strategic management on government performance is possible by focusing on employees' performance. Another study could be done to investigate the relationship between culture and performance. Ultimately, there might be a need for more studies related to strategic management in Yemen as well as separate studies on governmental initiatives and policies in relation to it.

CONCLUSION

Clear and well-defined strategy formulation and implementation policies, which are important corporate governance issues, are needed to help a leader make the right decision about ways to obtain outstanding performance (Sioncke and Parmentier, 2007). This study investigated the relationship between strategy formulation, strategy implementation and performance within government institutions in Yemen. Based on the findings in relation to this objective, the study concluded that the results indicated that strategy formulation has a significant and positive impact on strategy implementation, that organizational performance is influenced significantly and positively by strategy implementation and that strategy formulation positively impacts organizational performance through strategy implementation, meaning that strategy implementation worked as a mediating variable in the proposed model for this study.

APPENDIX

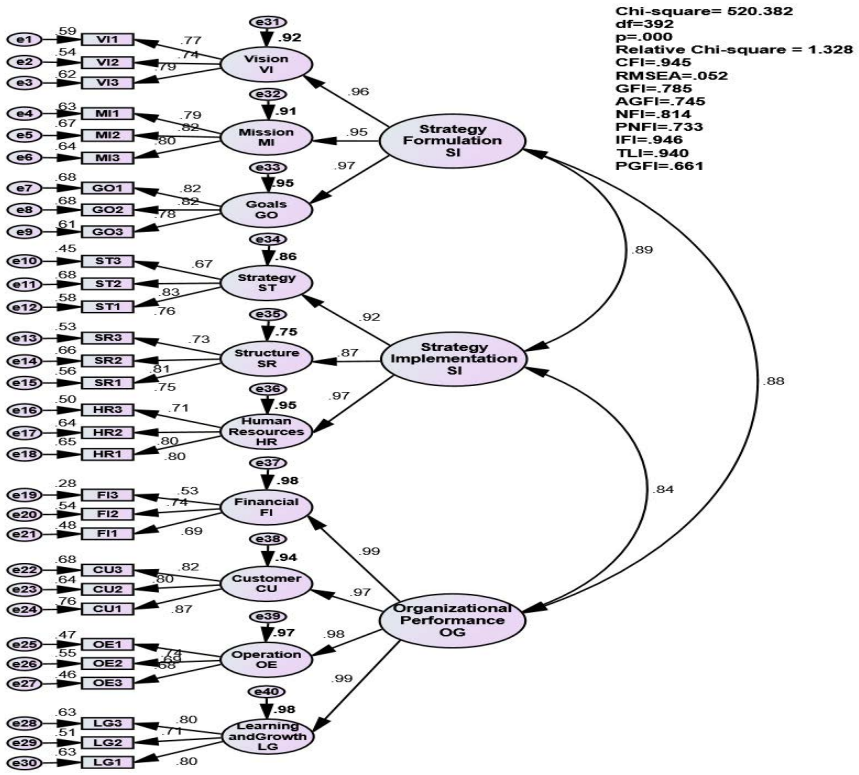
Appendix: Instrument for strategy formulation

2nd-order Construct	1st-order	Items	Rating scale	Source
Strategy formulation	Vision			
	VI1	The vision of the ministry is stated clearly.	5-point Likert scale: (1)	Qouod (2006)
	VI2	The vision of the ministry is used to set priorities.	Strongly disagree to	
	VI3	The vision of the ministry is widely known and drives activities	(5) Strongly agree	
Mission	MI1	The mission of the ministry is consistent with its philosophy		
	MI2	The mission of the ministry helps to formulate its strategy.		
	MI3	Ministry reviews its mission after analyzing strengths, weaknesses, opportunities and threats.		
Goals	GO1	The objectives of the ministry are formulated collectively according to the priorities.		
	GO2	Ministry reviews its objectives after analyzing strengths, weaknesses, opportunities and threats		
	GO3	The vision, mission, and objectives are integrated and consistent		
Strategy implementation				
Strategy	ST1	The pass process of implementation of the strategy in the light of the vision and mission directives	5-point Likert scale: (1) Strongly disagree To (5) Strongly agree	Qouod (2006)
	ST2	Administrative systems and communications support, incentives and decisions help the implementation of the strategy		
	ST3	Providing information systems and control contribute to the effective implementation of the strategy		
Structure	SR1	Ministry depends to initialize organizational structure in the implementation of the strategy		
	SR2	Hierarchy and responsibilities within the ministry are clear and established		
	SR3	The current structure of the ministry is appropriate to implement its strategic plans and goals.		
Human Resources	HR1	Ministry has concrete and realistic human resource plan		
	HR2	There exists plan for staff training and development and improve their performance		
	HR3	Ministry regularly conducts performance appraisal and reviews		
Organizational performance				
Financial	FI1	Represents the financial side in one of the most important priorities of theperformance of senior management	5-point Likert scale: (1) Strongly disagree To (5) Strongly agree	Qouod (2006)
	FI2	Ministry's budget is enough to accomplish its strategy.		
	FI3	The ministry is working to assess the impact of fiscal spending in different areas		
Customer	CU1	Ministry focused on fulfilling quality and speed required by the public		
	CU2	Ministry's reputation in the performance of its business and maintain a positive relationship with the public		
	CU3	The ministry has programs in the social and environmental responsibility check public satisfaction		
Operation	OE1	The internal operations focus on transforming internal goals into reality		
	OE2	The internal processes of planning, organizing, directing and controlling had directly impacted the performance of the strategy		

Appendix: Continue

2nd-order Construct	1st- order	Items	Rating Scale	Source
	OE3	Internal operating processes are integrated with the other aspects of institutional performance		
Learning and growth				
	LG1	The ministry seeks to see what is new in the business world and apply it to their work		
	LG5	The ministry focuses on growth and learning in order to enhance the department's ability to adapt to changing circumstances		
	LG3	The ministry based foundations of scientific research to solve problems faced by the ministry		

Final Result of CFA:



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