The Interactions of Business Environment, Generic Strategy, Operations Strategy, and Business Performance in the Lebanese Industries

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Abstract

Nowadays, it is crucial for any business to implement a unique strategy to compete and survive in the market. The purpose of this thesis is to investigate the interactions between business environment, generic strategy, operations strategy, and business performance in the Lebanese economy during the COVID-19 pandemic. Also, this study will examine the mediation effects of both generic and operations strategies between the business environment and business performance. Hence, drawing upon the theory of contingency, theory of strategic management, and resource-based view theory, a conceptual model was developed and empirically tested. The study was conducted by analyzing data collected via an online questionnaire from employees working in different Lebanese companies. Several statistical techniques were employed to conduct the data analysis phase of the study using the statistical software SPSS package. The statistical techniques included reliability and validity analysis, factor analysis, correlation and regression analysis, hypothesis testing, and mediation analysis. From our findings, the results confirmed the significance of the direct effects at the aggregate level. In addition, analysis at the sub-dimensions level revealed mixed results regarding the significance of the proposed relationships. Moreover, partial mediation effect was detected as the generic strategy was found to partially mediate the relationships between business environment and operations strategy. Similarly, generic strategy partially mediated the relationship between business environment and business performance.

Keywords
Business Environment, Generic Strategy, Operations Strategy, Business Performance, COVID-19.

1.1 Introduction

External factors greatly influence firms' business performance, including business environment uncertainty, competition intensity, and global market changes (Zand and Rezaei 2020). The COVID-19 outbreak has escalated uncertainty levels, underscoring the importance of strategic choice for competitive advantage and survival. Also, enhancing manufacturing requires tailored operations strategy for competitive edge (Nassereddine and Wehbe 2018). In Addition, Acquah and Amoako-Gyampah (2008) stress the alignment of operations strategy with generic strategy for goal attainment. Therefore, exploring relationships among business environment, generic strategy, operations strategy, and business performance is vital. However, limited research examines these four variables. This study delves into Business environment, generic strategy, operations strategy, and business performance, integrating the contingency theory, strategic management theory, and resource-based view theory to analyze these elements.

1.2 Research Objective and Questions

This study has two primary objectives. Firstly, it aims to analyze interactions among business environment, generic strategy, operations strategy, and business performance within the context of COVID-19 in the Lebanese economy. Secondly, it seeks to determine whether generic and operations strategies can mediate the relationship between business environment and performance. To address these objectives, the study poses the following research questions: Does business environment significantly impact business performance, generic strategy, and operations strategy? Does generic strategy significantly influence operations strategy, and do both generic and operations strategies significantly affect business performance? Can generic strategy mediate the relationship between business environment and operations strategy, as well as between business environment and business performance? Can operations strategy mediate the relationship between business environment and business performance, and between generic strategy and business performance?

2.1 Literature Review

This chapter revisits three key theoretical foundations: contingency theory, strategic management theory, and the resource-based view theory. It then reviews literature on business environment, generic strategy, operations strategy, and business performance. Additionally, the study delves into the conceptual framework and hypotheses.

2.2 Theoretical Framework

Contingency theory examines business environment and management practices, influencing business outcomes (Doh, Park, and Kim 2017). Also, exploring strategy-environment interactions enhances insights. Porter's generic strategy aids understanding of strategic management theory. In addition, resource-based view theory emphasizes optimizing business performance through efficient resource utilization.

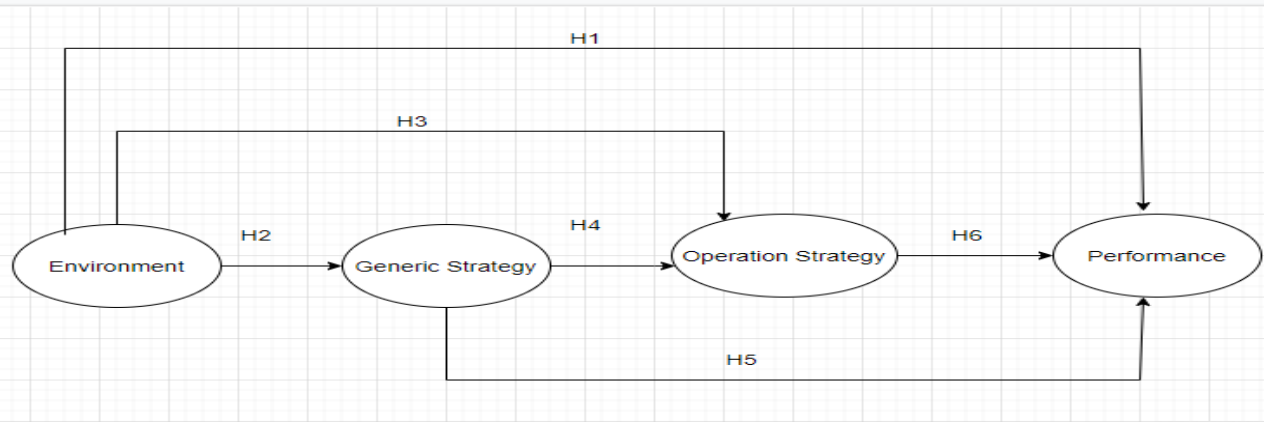
2.3 Constructs of the study framework

The study centers on business environment, generic strategy, operations strategy, and business performance. Its relevance is supported by Swamidass and Newell (1987) and Ward and Duray (2000). Business environment includes three scopes: dynamism, complexity, and hostility (Dess and Robinson 1984). Also, Porter (1980) details differentiation, cost leadership, and focus strategies as generic strategy dimensions. Operations strategy involves low-cost, quality, delivery, and flexibility strategies (Ward, Bickford, and Leong 1996). Finally, the study focuses on financial and non-financial performance (Keats and Hitt 1985).

2.4 Conceptual Framework

According to Ward and Duray (2000), both generic and operations strategies mediate the business environment-business performance link, enhancing competitive advantage, decision making, and performance. The research framework is depicted in Figure 1.

Figure 1. The Conceptual Framework for the Study



2.5 Hypothesis for Testing

From Figure 1 framework, incorporating environmental hostility and complexity alongside focus strategy led to ten hypotheses: H1: Business environment significantly relates to business performance. H2: Business environment significantly relates to generic strategy. H3: Business environment significantly relates to operations strategy. H4: Generic and operations strategies significantly relate. H5: Generic strategy significantly relates to business performance. H6: Operations strategy significantly relates to business performance. H7: Generic strategy mediates the relationship between business environment and operations strategy. H8: Generic strategy mediates the relationship between business environment and business performance. H9: Operations strategy mediates the relationship between business environment and business performance. H10: Operations strategy mediates the relationship between generic strategy and business performance. Testing will assess direct effects from H1 to H6, followed by mediation effects from H7 to H10 involving three variables.

3.1 Research Methodology

This paper will employ a cross-sectional method for one-time data collection. An exploratory approach aligns with the research questions to enhance comprehension of variable relationships (Saunders, Lewis, and Thornhill 2009). A survey strategy, involving tools like questionnaires, will efficiently amass substantial data.

3.2 Delivery and Collection Method of Questionnaire Administration

A questionnaire gathers data for explanatory and descriptive research. Google Forms facilitated the creation of online questionnaires distributed among diverse Lebanese graduates in various industries. This technique is ideal during the COVID-19 pandemic, offering time and cost savings, efficiency, and participant ease. The questionnaire covered Demographics, Business Environment, Generic Strategy, Operations Strategy, and Business Performance.

3.3 Measurement Development

Literature survey, being swift and economical guided the study. It involved reviewing recent literature and questionnaires to inform the research questionnaire development. Data collection employed a five-point Likert Scale rank order format. The table below displays studies assessing the constructs and symbols' names:

Table 1. Sources of Construct Measurement

S#	Construct Name	No. of Items	Sources	Symbol
A	Business Environment	3	Haleem (2020)	
1	Dynamism	5		DYN
2	Complexity	5		CMP
3	Hostility	6		HOS
B	Generic Strategies	3	Baraza (2017)	
1	Cost Leadership	8		CLS
2	Differentiation	6		DIF
3	Focus	5		FOC
C	Operations Strategies	4	Haleem (2020)	
1	Low Cost	5		LCS
2	Quality	5		QTY
3	Delivery	5		DEL
4	Flexibility	5		FLX
D	Business Performance	2	Haleem (2020)	
1	Financial	5		FIN
2	Non-Financial	5		NFIN

3.4 Ethical Considerations

The respondents would first confront an informed consent form to understand the topic, see its IRB approval, and an option to proceed with it. The survey pledged to keep the collected data always private, confidential, and anonymous.

3.5 The Credibility of Research Finding

3.5.1 Reliability

In this study, conducting a reliability analysis test for the variables' using SPSS was established. The results are shown below in table 2:

Table 2. Reliability Analysis showing Cronbach's Alpha and the excluded responses from each dimension.

Scale		Cronbach's Alpha Value	Excluded Responses
Business Environment	Dynamism (DYN)	0.62	3
	Complexity (CMP)	0.711	1
	Hostility (HOS)	0.607	3
Generic Strategies	Cost Leadership (CLS)	0.757	3
	Differentiation (DIF)	0.783	1
	Focus (FOC)	0.783	1
Operational Strategies	Low Cost (LCS)	0.739	3
	Quality (QTY)	0.76	1
	Delivery (DEL)	0.793	0
	Flexibility (FLX)	0.87	0
Business Performance	Financial (FIN)	0.891	0
	Non-Financial (NFIN)	0.812	0

To assess reliability, Cronbach's alpha was employed for variables. An alpha exceeding 0.6 signifies strong reliability, while values under 0.5 are often disregarded (Nunnaly and Bernstein 1994). The conducted reliability test yielded satisfactory Cronbach's Alpha results across all variables, confirming high reliability. Next, factor analysis will ascertain the one-dimensionality of scales and subscales.

3.5.2 Factor Analysis

In this study, the factor analysis process involved examining the one-dimensionality of each scale and subscale. Using SPSS, the results are summarized in table 3:

Table 3. Factor analysis showing the descriptive statistics, KMO and Bartlett's test, component matrix, and the variance explained for each dimension and sub-dimension for each variable

Main Variables	Dimensions	Sub-Dimensions	Descriptive Statistics			KMO and Bartlett's Test	KMO and Bartlett's Test Significance	Component Matrix	Total Variance Explained
			Mean	Std. Deviation	Analysis N				Cumulative Percentage
Business Environment	Dynamism (DYN)	DYN1	4	0.849	51	0.5	0.001	0.855	73.138%
		DYN2	4.37	0.662	51			0.855	
	Complexity (CMP)	CMP2	3.82	1.09	51	0.684	0	0.671	54.249%
		CMP3	3.9	0.922	51			0.751	
		CMP4	3.9	0.922	51			0.763	
		CMP5	3.78	0.879	51			0.757	
	Hostility (HOS)	HOS1	4.18	0.842	51	0.588	0	0.838	57.130%
		HOS3	3.73	0.777	51			0.788	
		HOS6	4.02	0.948	51			0.625	
	Business Environment (ENV)	DYN	-	-	-	0.613	-	0.684	57.495
		CMP	-	-	-			0.823	
		HOS	-	-	-			0.761	
Generic Strategies	Cost Leadership (CLS)	CLS4	3.47	0.924	51	0.7	0	0.607	51.035%
		CLS5	3.69	0.948	51			0.743	
		CLS6	3.92	0.913	51			0.77	
		CLS7	4.14	0.96	51			0.646	
		CLS8	3.75	1.055	51			0.788	
	Differentiation (DIF)	DIF1	3.94	0.881	51	0.699	0	0.561	54.546%
		DIF2	4.08	0.796	51			0.787	

		DIF3	3.67	1.244	51			0.851	
		DIF5	3.82	0.994	51			0.678	
		DIF6	3.94	0.925	51			0.78	
	Focus (FOC)	FOC1	3.8	0.872	51	0.736	0	0.753	60.846%
		FOC2	4	0.917	51			0.861	
		FOC3	4.06	0.904	51			0.719	
		FOC5	3.92	0.977	51			0.779	
	Generic Strategies	CLS	-	-	-	-	-	0.83	75.945%
		DIF	-	-	-			0.899	
		FOC	-	-	-			0.883	
Operational Strategies	Low Cost (LCS)	LCS4	3.92	1.074	51	0.5	0	0.895	80.103%
		LCS5	3.86	0.849	51			0.895	
	Quality (QTY)	QTY1	3.96	0.958	51	0.75	0	0.873	60.958%
		QTY2	4.24	0.907	51			0.855	
		QTY3	4.31	0.547	51			0.772	
		QTY5	3.96	0.979	51			0.592	
	Delivery (DEL)	DEL1	3.94	0.881	51	0.745	0	0.69	54.74%
		DEL2	4.2	0.849	51			0.715	
		DEL3	4.14	0.96	51			0.719	
		DEL4	3.76	0.971	51			0.755	
		DEL5	3.78	1.026	51			0.814	
	Flexibility (FLX)	FLX1	3.59	1.043	51	0.819	0	0.811	65.783%
		FLX2	3.69	1.086	51			0.843	
		FLX3	3.61	1.168	51			0.84	
		FLX4	3.9	1.005	51			0.717	
		FLX5	3.9	1.1	51			0.838	
	Operational Strategies	LCS	-	-	-	-	-	0.703	63.892
		QTY	-	-	-			0.881	
		DEL	-	-	-			0.887	
		FLX	-	-	-			0.706	
Business Performance	Financial (FIN)	FIN1	3.41	0.898	51	0.772	0	0.864	70.438%
		FIN2	3.49	0.857	51			0.839	
		FIN3	3.35	0.744	51			0.735	
		FIN4	3.45	0.757	51			0.844	
		FIN5	3.37	0.692	51			0.905	
	Non-Financial (NFIN)	NFIN1	3.9	0.831	51	0.715	0	0.751	57.35%
		NFIN2	3.59	0.942	51			0.79	
		NFIN3	3.31	1.029	51			0.856	
		NFIN4	3.49	0.857	51			0.58	
		NFIN5	3.22	1.026	51			0.781	
	Business Performance	FIN	-	-	-	-	-	0.883	78.039%
		NFIN	-	-	-			0.883	

In Table 3, DYN 1 has a mean of 4 and DYN 2 has a mean of 4.37. The standard deviation for DYN is 0.849, and for DYN 2, it's 0.662. Both DYN 1 and DYN 2 share the same value analysis N of 51. The KMO and Bartlett's Test for DYN is 0.5 with a significance level of 0.001. Both DYN 1 and DYN 2 exhibit a component matrix component of 0.855, signifying significance due to the value exceeding 0.4. DYN's cumulative percentage is 73.138%, confirming its reliability in our analysis with over 50%. Sub-dimensions under the business environment (ENV) are all significant. Thus, DYN, CMP, and HOS can be merged into the business environment entity. For ENV, the KMO and Bartlett's Test is 0.613. DYN, CMP, and HOS have loading factors of 0.684, 0.823, and 0.761, respectively, indicating significance. ENV's cumulative percentage is 57.495, exceeding 50%, confirming its significance. This process is replicated for dimensions under generic strategy, operations strategy, and business performance. The factor analysis in Table 2 shows each item yields a significant result.

4 Research Findings

4.1.1 Business environment and business performance

This will be essential to test the first hypothesis (H1). A regression model is constructed using factor scores generated by SPSS. Hypothesis 1 and its dimensions are summarized in table 4 and figure 3 below:

Table 4. Table Summary for H1 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result	R-Squared
H1	ENV → PER	0.573	0.828	4.893	0.000	Significant	0.328
H1 a	DYN → PER	0.365	0.9404	2.746	0.008	Significant	0.133
H1 b	CMP → PER	0.573	0.8277	4.897	0.000	Significant	0.329
H1 c	HOS → PER	0.350	0.9462	2.616	0.012	Significant	0.123

From these results, business environment accounts for 32.8% of business performance variability. The model confirms significance with a regression coefficient of 0.573 (beta), p-value of 0.000, and p-value < 0.05 (0.000 < 0.05), establishing a significant effect between dependent variable PER and independent variable ENV. The F-statistics is F (1, 49) = 23.938, t-statistics is t (49) = 4.893, and p-value = 0.000, affirming the relationship's significance. Thus, the first hypothesis (H1) is significant. Subsequently, the impact of each business environment dimension on business performance was assessed, as summarized in the above tables.

4.1.2 Business Environment and Generic Strategy

This will be essential to test the second hypothesis (H2). A regression model is constructed using factor scores generated by SPSS. The output between ENV and GEN is as follows:

Table 5. Table Summary for H2 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result	R-Squared
H2	ENV →GEN	0.564	0.834	4.784	0.000	Significant	0.318
H2 a	DYN → CLS	0.301	0.9633	2.209	0.032	Significant	0.091
H2 b	DYN → DIF	0.218	0.9859	1.562	0.125	Not Significant	0.047
H2 c	DYN →FOC	0.222	0.985	1.592	0.118	Not Significant	0.049
H2 d	CMP →CLS	0.451	0.9015	3.538	0.001	Significant	0.204
H2 e	CMP →DIF	0.615	0.7968	5.454	0.000	Significant	0.378
H2 f	CMP →FOC	0.491	0.8801	3.944	0.000	Significant	0.241
H2 g	HOS → CLS	0.152	0.9984	1.078	0.286	Not Significant	0.023
H2 h	HOS → DIF	0.4	0.9259	3.054	0.004	Significant	0.16
H2 i	HOS →FOC	0.429	0.9126	3.323	0.002	Significant	0.184

In Table 5, 31.8% of generic strategy variability is accounted for by the business environment. The model affirms significance with a regression coefficient of 0.564 (beta), p-value of 0.000, and p-value < 0.05 (0.000 < 0.05), indicating a significant effect between dependent variable GEN and independent variable ENV. F-statistics is F (1, 49) = 22.887, t-statistics is t (49) = 4.784, and p-value = 0.000, attesting to the relationship's significance. Thus, hypothesis H2 is significant. Subsequently, the impact of each business environment dimension on generic strategy was evaluated, as summarized in the above tables.

4.1.3 Business environment and Operations Strategy

This will be essential to test the third hypothesis (H3). A regression model is constructed using factor scores generated by SPSS. The output between ENV and OPP are summarized in table 6 and figure 4 below:

Table 6. Table Summary for H3 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result	R-Squared
H3	ENV → OPP	0.653	0.7651	6.034	0.000	Significant	0.426
H3 a	DYN → LCS	0.434	0.9102	3.37	0.001	Significant	0.188

H3 b	DYN → QTY	0.338	0.9507	2.515	0.015	Significant	0.114
H3 c	DYN → DEL	0.185	0.9927	1.317	0.194	Not Significant	0.034
H3 d	DYN → FLX	0.108	1.0043	0.758	0.452	Not Significant	0.012
H3 e	CMP → LCS	0.499	0.8753	4.033	0.000	Significant	0.249
H3 f	CMP → QTY	0.424	0.9149	3.277	0.002	Significant	0.18
H3 g	CMP → DEL	0.532	0.8555	4.396	0.000	Significant	0.283
H3 h	CMP → FLX	0.478	0.8875	3.805	0.000	Significant	0.228
H3 i	HOS → LCS	0.457	0.8984	3.598	0.001	Significant	0.209
H3 j	HOS → QTY	0.468	0.8928	3.706	0.001	Significant	0.219
H3 k	HOS → DEL	0.388	0.931	2.948	0.005	Significant	0.151
H3 l	HOS → FLX	0.408	0.9224	3.125	0.003	Significant	0.166

The above results indicate 42.6% of operations strategy variability is explained by the business environment. The model confirms significance, with a regression coefficient of 0.653 (beta), p-value of 0.000, and p-value < 0.05 (0.05 > 0.000), establishing a significant effect between dependent variable OPP and independent variable ENV. F-statistics is F (1, 49) = 36.412, t-statistics is t (49) = 6.034, and p-value = 0.000, confirming the relationship's significance. Therefore, hypothesis H3 is supported. Subsequently, the impact of each business environment dimension on operations strategy was examined.

4.1.4 Generic Strategy and Operations Strategy

This will be essential to test the fourth hypothesis (H4). A regression model is constructed using factor scores generated by SPSS. The output between GEN and OPP is as follows:

Table 7. Table Summary for H4 and its dimensions

Hypothesis	Effect	Beta	Std.Error	T	P-value	Result	R-Squared
H4	GEN → OPP	0.596	0.8109	5.201	0.000	Significant	0.356
H4 a	CLS → LCS	0.507	0.8708	4.115	0.000	Significant	0.257
H4 b	CLS → QTY	0.316	0.9584	2.33	0.024	Significant	0.1
H4 c	CLS → DEL	0.282	0.9693	2.055	0.045	Significant	0.079
H4 d	CLS → FLX	0.075	1.0073	0.526	0.601	Not Significant	0.006
H4 e	DIF → LCS	0.496	0.8774	3.994	0.000	Significant	0.246
H4 f	DIF → QTY	0.55	0.8433	4.616	0.000	Significant	0.303
H4 g	DIF → DEL	0.662	0.7574	6.177	0.000	Significant	0.438
H4 h	DIF → FLX	0.509	0.8696	4.137	0.000	Significant	0.259
H4 i	FOC → LCS	0.474	0.8895	3.767	0.000	Significant	0.225
H4 j	FOC → QTY	0.386	0.932	2.925	0.005	Significant	0.149
H4 k	FOC → DEL	0.46	0.8967	3.631	0.001	Significant	0.212
H4 l	FOC → FLX	0.223	0.9848	1.598	0.117	Not Significant	0.05

Results show that 35.6% of generic strategy variability is accounted for by operations strategy. The model confirms significance with a regression coefficient of 0.596 (beta), p-value of 0.000, and p-value < 0.05 (0.05 > 0.000), signifying a significant effect between dependent variable OPP and independent variable GEN. F-statistics is F (1, 49) = 27.046, t-statistics is t (49) = 5.201, and p-value = 0.000, attesting to the relationship's significance. Therefore, hypothesis H4 is significant. Subsequently, the impact of each generic strategy dimension on operations strategy was assessed and summarized above.

4.1.5 Generic strategy and Business Performance

This will be essential to test the fifth hypothesis (H5). A regression model is constructed using factor scores generated by SPSS. The output between GEN and PER is as follows:

Table 8. Table Summary for H5 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result	R-Squared
H5	GEN → PER	0.572	0.8284	4.884	0.000	Significant	0.327
H5 a	CLS → PER	0.505	0.8721	4.091	0.000	Significant	0.255
H5 b	DIF → PER	0.439	0.9077	3.419	0.001	Significant	0.193
H5 c	FOC → PER	0.555	0.8403	4.669	0.000	Significant	0.308

From Table 8 and Figure 6, 32.7% of generic strategy variability is accounted for by business performance. The model confirms significance with a regression coefficient of 0.572 (beta), p-value of 0.000, and p-value < 0.05 (0.05 > 0.000), establishing a significant effect between dependent variable PER and independent variable GEN. F-statistics is F (1, 49) = 23.858, t-statistics is t (49) = 4.884, and p-value = 0.000, affirming the relationship's significance. Thus, hypothesis H5 is validated.

4.1.6 Operations Strategy and business performance

This will be essential to test the sixth hypothesis (H6). A regression model is constructed using factor scores generated by SPSS. The output between OPP and PER is as follows:

Table 9. Table Summary for H6 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result	R-Squared
H6	OPP → PER	0.499	0.8754	4.031	0	Significant	0.249
H6 a	LCS → PER	0.473	0.8899	3.76	0	Significant	0.224
H6 b	QTY → PER	0.401	0.9253	3.065	0.004	Significant	0.161
H6 c	DEL → PER	0.451	0.9016	3.537	0.001	Significant	0.203
H6 d	FLX → PER	0.268	0.9731	1.949	0.057	Not Significant	0.072

The above results show that 24.9% of operations strategy variability is accounted for by business performance. The model confirms significance with a regression coefficient of 0.499 (beta), p-value of 0.000, and p-value < 0.05 (0.05 > 0.000), indicating a significant effect between dependent variable PER and independent variable OPP. F-statistics is F (1, 49) = 16.251, t-statistics is t (49) = 4.031, and p-value = 0.000, affirming the relationship's significance. Therefore, hypothesis H6 is supported. Subsequently, the impact of each operations strategy dimension on business performance was examined and summarized above.

4.2.1 Business Environment, Generic Strategy, and Operation Strategy

The relation between the dependent variable OPP, and the two independent variables ENV and GEN will be observed. After conducting SPSS, the following table and figure were conducted:

Table 10. ANOVA Summary for the relationship between the two independent variables ENV and GEN with the dependent variable OPP

	R-Squared	Regression Coefficient (Beta)	P-Value	F-statistics	t-statistics
ENV	0.503	0.464	0	24.245	3.765
GEN		0.334	0.009		2.712

The model yielded an R-Squared value of 0.503, explaining 50.3% of OPP variability. Additionally, the model confirms significance between mediator GEN and dependent variable OPP, with a regression coefficient (b) of 0.334 (beta) and p-value of 0.009, where p-value < 0.05 (0.05 > 0.009), establishing a significant effect between OPP and GEN. F-statistics is F (2, 48) = 24.245, t-statistics is t (48) = 2.712. Results demonstrate a significant relationship

between mediator GEN and dependent variable OPP, considering the presence of independent variable ENV, where p-value for ENV is 0.000 (< 0.05), with Direct Effect (c) of 0.464. F-statistics is F (2, 48) = 24.245, t-statistics is t (48) = 3.765. The indirect effect (c') of ENV on OPP, obtained through ab = (0.564) * (0.334) = 0.189, or Total Effect – c = 0.653 – 0.464 = 0.189. Thus, hypothesis H7 is supported, signifying partial mediation between ENV, GEN, and OPP. Refer to the figure below for a summary of H7:

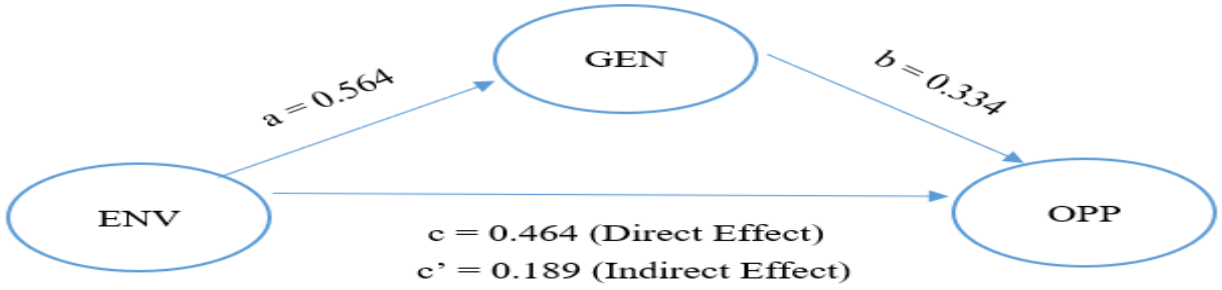


Figure 2. Diagram showing the mediation effect between the mediator GEN, the independent variable ENV, and the dependent variable OPP.

4.2.2 Business Environment, Generic Strategy, and Business Performance

The relationship between the dependent variable PER, and the two independent variables ENV and GEN will be observed. After conducting SPSS, the following tables are conducted:

Table 11. ANOVA showing the relationship between the two independent variables ENV and GEN with the dependent variable PER

	R-Squared	Regression Coefficient (Beta)	P-Value	F-statistics	t-statistics
ENV	0.419	0.367	0.008	17.319	2.753
GEN		0.365	0.009		2.742

The model produced an R-Squared value of 0.419, explaining 41.9% of PER variability. The model also validates the significance of the relationship between mediator GEN and dependent variable PER, with a regression coefficient (b) of 0.365 (beta) and a p-value of 0.009, where p-value < 0.05 (0.05 > 0.009), signifying a noteworthy impact between PER and GEN. F-statistics is F (2, 48) = 17.319, t-statistics is t (48) = 2.742. Results highlight a meaningful connection between mediator GEN and dependent variable PER, considering the presence of independent variable ENV, where p-value for ENV is 0.008 (< 0.05), with a Direct Effect (c) of 0.367. F-statistics is F (2, 48) = 17.319, t-statistics is t (48) = 2.753. The indirect effect (c') of ENV on PER is ab = (0.564) * (0.365) = 0.206, or Total Effect – c = 0.573 – 0.367 = 0.206. Thus, hypothesis H8 is substantiated, denoting partial mediation among ENV, GEN, and PER. Refer to the figure below for a H8 summary:

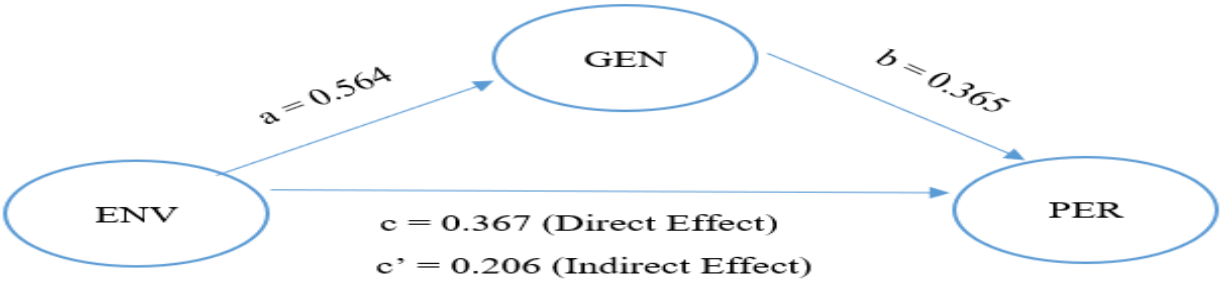


Figure 3. Diagram showing the mediation effect between the mediator GEN, the independent variable ENV, and the dependent variable PER.

4.2.3 Business Environment, Operations Strategy, and Business Performance

Observing whether operations strategy mediates the relationship between business environment and business performance will be tested. Hence, the relationship between the dependent variable PER, and the two independent variables ENV and OPP will be tested. After conducting SPSS, the following tables were observed:

Table 12. ANOVA for the relationship between the two independent variables ENV and OPP with the dependent variable PER

	R-Squared	Regression Coefficient (Beta)	P-Value	F-statistics	t-statistics
ENV	0.355	0.431	0.007	13.234	2.815
OPP		0.218	0.161		1.424

The model yielded an R-Squared value of 0.355, explaining 35.5% of PER variability. However, the model does not affirm the significance of the relationship between mediator OPP and dependent variable PER. The regression coefficient (b) is 0.218 (beta), with a p-value of 0.161, where p-value > 0.05 (0.161 > 0.05), signifying no significant effect between PER and OPP. F-statistics: F (2, 48) = 13.234, t-statistics: t (48) = 1.424. Results indicate that the relationship between mediator OPP and dependent variable PER in presence of independent variable ENV is not significant. However, the relationship between independent variable ENV and dependent variable PER is significant (p-value = 0.007 < 0.05). Direct Effect (c): 0.431, F-statistics: F (2, 48) = 13.234, t-statistics: t (48) = 2.815. The indirect effect (c') of ENV on PER is ab = (0.653) * (0.218) = 0.142, or Total Effect – c = 0.573 – 0.431 = 0.142. Hypothesis H9 is not supported, though results suggest potential significance of the indirect effect, possibly due to small sample size. Refer to the figure below summarizing H9:

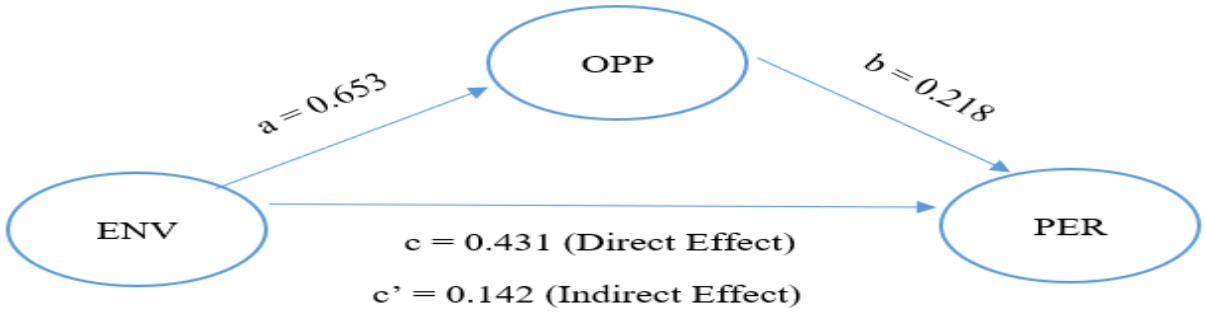


Figure 4. Diagram showing the mediation effect between the mediator OPP, the independent variable ENV, and the dependent variable PER.

4.2.4 Generic Strategy, Operations Strategy, and Business Performance

Observing whether operations strategy mediates the relationship between generic strategy and business performance will be tested. After conducting SPSS, the following tables were observed:

Table 13. ANOVA for the relationship between the two independent variables GEN and OPP with the dependent variable PER

	R-Squared	Regression Coefficient (Beta)	P-Value	F-statistics	t-statistics
GEN	0.366	0.426	0.005	13.861	2.977
OPP		0.245	0.094		1.711

The model yielded an R-Squared of 0.366, explaining 36.6% of PER variability. However, the model does not confirm significance between mediator OPP and dependent variable PER. Regression coefficient (b) is 0.245 (beta), with p-value 0.094, where p-value > 0.05 (0.094 > 0.05), implying no significant PER-OPP effect. F-statistics: F (2, 48) = 13.861, t-statistics: t (48) = 1.711. The results show no significant relationship between mediator OPP and dependent variable PER in presence of independent variable GEN. But independent variable GEN to dependent variable PER is significant (p-value = 0.005 < 0.05). Direct Effect (c): 0.426, F-statistics: F (2, 48) = 13.861, t-statistics: t (48) = 2.977. The indirect effect (c') of GEN on PER is ab = (0.596) * (0.245) = 0.146, or Total Effect – c = 0.572 – 0.426 = 0.146. Hypothesis H10 is unsupported, yet results hint at the indirect effect's potential significance, possibly due to small sample size. Refer to figure below summarizing H10:

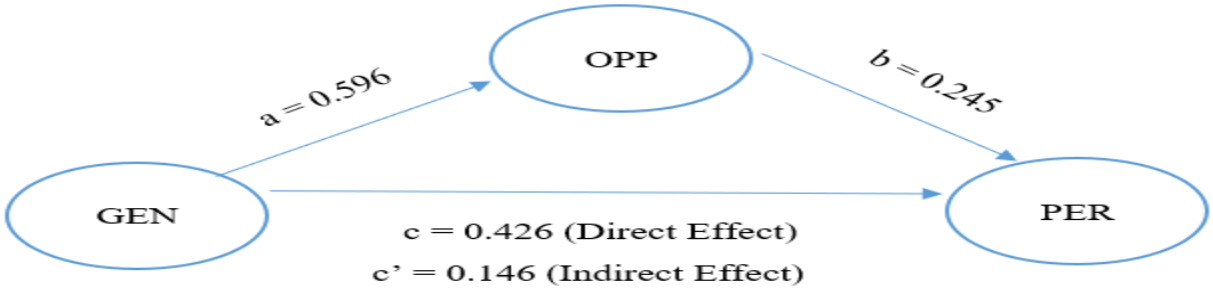


Figure 5. Diagram showing the mediation effect between the mediator OPP, the independent variable GEN, and the dependent variable PER.

5 Discussion

5.1 Direct Effects

Significant effects emerged between ENV and PER (β = 0.573, p = 0.000). Each business environment dimension significantly impacted PER, in line with Zand and Rezaei (2020), and Prajogo (2016). A significant ENV and generic strategy effect was found (β = 0.564, p = 0.000), confirming Haleem (2020) and Ward, Bickford, and Leong (1996). Also, ENV and operations strategy yielded a significant effect (β = 0.653, p = 0.000), like Ellitan (2017) and Ward and Duray (2000). In addition, a significant effect between generic and operations strategies was noted (β = 0.596, p = 0.000). Haleem (2020) and Ward, Bickford, and Leong (1996) supported this, while Ellitan (2017) found exceptions. Moreover, a significant generic strategy and business performance effect was evident (β = 0.572, p = 0.000). Islami, Latkorikj, and Mustafa (2020) agreed. Finally, operations strategy showed a significant effect on business performance (β = 0.499, p = 0.000), aligning with Ward, Bickford, and Leong (1996). Notably, exceptions were observed, e.g., Ellitan (2017) on flexibility.

5.2 Mediation Effects

Partial mediation occurred between business environment, generic strategy, and operations strategy. Both the direct (0.464) and indirect (0.189) effects were significant. In prior studies, mediation was noted among these variables. Ward and Duray (2000) reported full mediation, with an insignificant direct effect and significant indirect effect. Conversely, Ellitan (2017) found no mediation due to an insignificant effect between business environment and generic strategy. Similarly, partial mediation was evident between business environment, generic strategy, and business performance. The direct (0.367) and indirect (0.206) effects were significant. In the literature, Li (2001) saw mediation through differentiation strategy, while Ellitan (2017) observed no mediation due to an insignificant relationship between business environment and generic strategy. No mediation emerged between business environment, operations strategy, and business performance. The direct effect (0.431) was significant, but the indirect effect (0.142) was not. Also, Ellitan (2017) found no relationship between operations strategy, environmental dynamism, and business performance. Contrarily, other studies showed mediation, such as Newell and Swamidass (1987) despite the current findings possibly being impacted by a small sample size. Lastly, no mediation existed between generic strategy, operations strategy, and business performance. The direct effect (0.426) was significant, while the indirect effect (0.146) was insignificant. Finally, Ellitan (2017) observed no mediation due to weak

operations strategy-business performance ties. However, Ward and Duray (2000) reported mediation. The limited sample size could contribute to the absence of mediation despite potential trends.

6 Conclusion

The research had two main objectives. Firstly, it aimed to observe interactions between business environment, generic strategy, operations strategy, and business performance during COVID-19 in the Lebanese economy. Results indicated significant direct effects of each variable, with changing interactions based on other variables. Secondly, the study tested whether generic and operations strategies could mediate and significantly affect ENV and PER during COVID-19. Partial mediation was seen between various strategies and performance. This suggests that cost leadership, differentiation, or focus strategies could be more effective under changing business environments. Results align with contingency theory, strategic management theory, and resource-based view theory. The study has limitations, including no funding and a small data sample (51 participants). Future research should explore these interactions further and consider additional variables like supply chain integration and innovation strategies.

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7 Biographies

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