

# Do generic strategies impact performance in higher educational institutions? A SEM-based investigation

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This study set out to initiate an investigation into the linkage between generic strategy and performance in higher educational institutions and the moderating effect of institution-type. Using structural equation modeling (SEM), it examined the responses of a stratified sample of academics and administrative staff (n= 333) randomly selected from eight universities in northern Cyprus. Findings suggest that while there is a weak effect of differentiation strategy on performance, a strong effect was recorded for focus strategy on performance. However, no significant relationship was found between cost leadership strategy and performance in higher educational institutions. Findings further indicated that respondents from public-private universities perceived the strongest generic strategy-performance effect for their institution, followed by those from the public sector. Respondents from private institutions perceived the weakest strategy-performance effect for their institutions.

**JEL Classifications:** L1, L10, L11, L13, L2, L20, L21, L22, L25, L32, M1

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## Introduction

Does the type of generic strategy implemented by a higher educational institution affect its performance? If it does, how does the nature of such an institution (private or public) moderate the observed effect? These two research questions reflect the two major objectives of this study which are primarily motivated by the exponential increase in the degree of competitiveness experienced in the higher education industry over the past decade (Leland and Moore, 2007; Leebron, 2014; King, 2015)

Porter (1980) introduced the concept of generic strategy when he introduced differentiation, cost leadership and focus strategies are potentially successful strategies which organizations could use to acquire for themselves a strategic position in any given market, which they can easily defend. The first of these strategies while not relegating the need to provide quality products or aftersales services to consumers to the background; however focuses achieving low cost production of goods and services relative to existing rivals. The second known as the differentiation strategy demands that implementing organizations, develop a product or service whose uniqueness is easily recognizable in the marketplace by both competitors and customers, and based on which the implementing organization can demand premium prices. The third generic strategy basically entails the implementation of either a cost leadership strategy or a differentiation strategy but targeting a very narrow niche market (Porter, 1980).

While Kaplan and Norton (1996) introduced the balanced score card as a multifaceted tool to enable managers solve a vast array of strategic issues, it is most famously used as a performance measurement tool in organizations and aims to enable managers effectively measure the performance or attainment of strategic goals from four perspectives-financial, customer, internal and innovation and learning perspectives.

A considerable amount of qualitative and empirical research has demonstrated a growing trend in the adoption of broad market oriented strategies especially Porter's three generic strategies (differentiation, cost leadership and focus) by both public and private higher educational institutions (Balzer, 2010; Mazzoral and Soutar, 1999; Mazzoral and Soutar, 2008; Lynch and Baines, 2004); while others have investigated the performance of higher educational institutions using uni- and multi-dimensional approaches (Pithers and Soden, 2000; Abowitz, 2008; Brighouse and McPherson, 2015; Kim, 2009; Kukulska-Hulme, 2012; Chan, 2016; Hanover Research, 2014; Christensen and Eyring, 2011).

However there exists literally no research focused on empirically investigating how the implementation of each of the three generic strategies impacts the higher educational institution. In other words, the generic strategy-performance relationship has not been empirically investigated. This might not be unrelated to the position of Leebron, (2014), that both regulatory agencies and senior management of higher educational institutions are slow to recognize the increasingly competitive nature of the industry and hence rely on superficial strategies and performance measurement outcomes which although satisfying their academic needs might not accurately reflect their strategy and performance from a competitive strategy perspective.

This study is thus the first installment of a two-part research series which intends to fill this crucial gap in literature. The first installment involves examining the impact of generic strategies applied by institutions on their performance measured using the balanced score card instrument (BSCI) as well as examining how the type of institution (public, private or both) moderates any observed relationship; as observed from the perspective of academic and administrative staff from eight universities in the northern region of Cyprus. The second installation in a future paper would further expand the findings of this study by providing a comparative analysis of the observed phenomenon across three continents with a high volume of higher educational traffic.

Thus given the fact that no prior empirical research investigating the generic strategy-performance (BSC) relationship exists, this study is a pioneer research in this regard, and its findings make a pioneer contribution upon which future studies would build in developing and expanding academic literature on this relationship path, thereby generating a considerable and authoritative body of knowledge which higher education leaders and management can rely upon in steering higher educational institutions on the right path in the increasingly competitive higher education industry.

### **Research questions**

RQ1a: What is the impact of the implementation of each of the generic strategies on the performance of higher educational institutions as measured using the balanced score card?

RQ1b: What is the moderating effect of institution-type on the generic strategy-performance relationship?

### **Research hypotheses**

**H1: There is a statistically significant and positive effect of generic strategy on the performance of higher educational institutions**

H1a: There is a statistically significant and positive effect of differentiation strategy on all four performance dimensions of higher educational institutions

H1b: There is a statistically significant and positive effect of cost leadership strategy on the all four performance dimensions of higher educational institutions

H1c: There is a statistically significant and positive effect of focus strategy on the all four performance dimensions of higher educational institutions

**H2: Institutional type significantly moderates the observed effect of each generic strategy on the four dimensions of performance in higher educational institutions.**

## **Methodology**

To test the hypotheses posed above, this study adopted a quantitative research design in which two standardized instruments- the Generic Strategy Instrument (GSI) developed by Dess and Davis (1984) and the Balanced Score Card Instrument (BSCI) adapted from Venkatesh and Dutta (2007). The study sample were randomly selected using the stratified sampling technique in which each of the eight Cypriot universities were considered independent strata, after which participants were then randomly selected from each. Out of a total population of 3500 academic and administrative staff present in the eight universities under study at the time of data collection, a sample size of 346 was estimated using Saunders, et al (2009) sample size estimation procedure. However 450 of the amalgamated questionnaires were distributed in a cross-sectional manner, out of which 333 useful questionnaires were returned representing a 74% response rate.

The choice of only academic and administrative staff as the population from which to collect data for this analysis might raise some curiosity given the fact that universities do have and often publish their long term strategic plans. However notable strategic management methodology researchers have pointed to two key issues which hinder the collection of accurate strategy related information from firms and institutions of all types. Godfrey and Hill (1995), reveal that most theories which underlie strategic management literature such as the resource based view, agency theory as well as the generic strategy - performance postulations (as related to business firms) are plagued with the problem of unobservables. They noted that the element of surprise is often a key ingredient in strategies implemented by organizations and to the extent to which organizations are interested in protecting such information (present and past), researchers are limited in their ability to obtain sufficient and or accurate data from members of an organization's board of directors or top executives.

Also, Dorweiler and Yakhou (2005), note that it is common knowledge that some universities may have two versions of strategic plans- one for public consumption and one for internal application, thus further encumbering the process of collecting factual data relying on the publicly available strategic plans. Thus, this study focuses on collecting data from academic and administrative staff on the premise that for a university to implement any strategic plan and its underlying generic strategy, it would have to communicate key aspects of the strategy to top executives who then pass it down through the functional level administrative hierarchy and seeing that at the functional level, positions such as deanship and head of departments are typically occupied by tenured academics who have worked themselves up the hierarchy. In other words, while a few administrative staff might not be academics, a majority of administrative staff are either active academics or were active academics and now fully administrative staff members. This study group is in addition best suited to providing their perspectives on each of the items contained in the GSI and BSCI instruments, from which we then deduce the predominant generic strategy implemented at their university of employment.

### **Endogenous variables**

The first endogenous variable in this study is the independent variable generic strategy. Each of the three generic strategies -differentiation, cost leadership and focus strategies were measured using the singular GSI instrument developed by Dess and Davis (1984). Participants were asked to rate from 1 (not important) to 5 (extremely important) their perceptions of the 18 performance-indicating items. Mean responses were as follows: differentiation ( $M = 3.01$ ); cost leadership ( $M = 2.57$ ) and focus strategy ( $M = 2.71$ ). While internal consistency for all items of the GSI instrument was also estimated ( $\alpha = .948$ )

Next is our second endogenous variable performance as measured using the balanced score card. Again, each of the four performance dimensions of the balanced score card for each university was measured using the BSCI instrument. To measure the Financial, Customer-related, Internal Processes and Learning and innovation performance dimensions, respondents were prompted to rate from 1 (very low) to 7 (very high) their perceptions of the 15, 30, 33 and 8 respective performance-indicating items of the balanced score card. Mean responses were as follows: financial performance ( $M = 3.41$ ); customer related performance ( $M = 3.73$ ); internal processes ( $M = 3.22$ ) and learning and innovation ( $M = 3.35$ ). While the overall mean and internal consistency for all items of the BSCI instrument was also estimated ( $M = 5.02$ ;  $SD = 1.60$ ;  $\alpha = .98$ )

Finally our third endogenous variable is the ordinal moderator institution-type which was determined by prompting respondents to indicate 1 (public institution), or 2 (private institution) or 3 (public-private university). Again, each of the four performance dimensions of the balanced score card for each institution type was measured using the BSCI instrument. Again to measure the Financial, Customer-related, Internal Processes and Learning and innovation performance dimensions, respondents were prompted to rate from 1 (very low) to 7 (very high) their perceptions of the 15, 30, 33 and 8 respective performance-indicating items of the balanced score card. Mean responses for respondent in the public, private and public-private institution types respectively for each of the four performance dimensions were as follows: financial performance ( $M = 3.85$ ;  $M = 3.81$ ;  $M = 4.71$ ); customer related performance ( $M = 4.20$ ;  $M = 4.15$ ;  $M = 5.03$ ); internal processes ( $M = 3.62$ ;  $M = 3.57$ ;  $M = 4.32$ ) and learning and innovation ( $M = 3.76$ ;  $M = 3.71$ ;  $M = 4.43$ ).

### **Exogenous variables**

Age was introduced into our study model as a control variable. It was estimated with a single uncategorized variable asking respondents to report their age. Mean score for age was consequently estimated ( $M = 42$ ;  $SD = 9.76$ ).

### **Data analysis and results**

In this study structural Equation modeling was used to investigate the direct effect of the independent and dependent endogenous variables, while the moderating endogenous variable was investigated using multi-group analysis. All of the analysis was conducted using version 22 of IBM's AMOS statistical package.

### **Preliminary analysis and measurement model**

Having adopted and adapted all of the measures used in this study from extant literature, we conducted a confirmatory factor analysis (CFA) in AMOS to investigate both the psychometric and dimensional properties of each of the latent endogenous constructs featured in this study.

The CFA was conducted using the default Maximum Likelihood (ML) estimation method involving all of the constructs (generic strategy indicated by the three types: differentiation, cost leadership and focus strategies parceling each type's indicating items; and performance as indicated by four dimensions parceling each dimension's indicating items). The entire measurement model demonstrated acceptable fit (Chi-square/df = 3.10, RMSEA = .045, CFI = .90, and SRMR = .03) going by the recommendations of Hair et al (2010) and Gaskin, (2016). In addition, all of the factor loadings were significant and greater than .70; had construct reliability (CR) values above .70 and average variance estimates (AVEs) all above .50 showing that the constructs had convergent validity (Hair et al, 2010; Gaskin, 2016; Fornell and Larcker, 1981).

TABLE 1. VALIDITY AND CRITERION RELIABILITY OF THE MEASUREMENT MODEL

	CR	AVE	MSV	MaxR (H)	Focus	Fin	Cus	Intpro	Linov	Diff	Clead
Focus	0.829	0.625	0.618	0.830	<b>0.790</b>						
Fin	0.956	0.960	0.951	0.965	0.426	<b>0.980</b>					
Cus	0.966	0.987	0.986	0.983	0.412	0.975	<b>0.993</b>				
Intpro	0.971	0.988	0.986	0.989	0.413	0.967	0.993	<b>0.994</b>			
Linov	0.878	0.891	0.887	0.990	0.380	0.914	0.919	0.942	<b>0.944</b>		
Diff	0.882	0.653	0.650	0.991	0.786	0.380	0.378	0.376	0.331	<b>0.808</b>	
Clead	0.844	0.652	0.650	0.991	0.758	0.338	0.348	0.339	0.325	0.806	<b>0.807</b>

Source: Own data generated using Gaskin (2016) stats tool package.

### **Estimating the direct effects of generic strategy on performance**

To test the first hypothesis H1, after ensuring that the constructs were valid and reliable, we used version 22 of the AMOS software to conduct structural equation modeling in which differentiation, cost leadership and focus strategies were the independent variables, institution type the moderating variable and financial, customer related, internal processes and learning and innovation, were the dependent variables. The fit indices for the structural model indicated an acceptable fit (Chi-square/df = 3.05, RMSEA = .048, CFI = .99, and SRMR = .024) going by the recommendations of Hair et al (2010) and Gaskin, (2016). Table 2a reveals the results of the structural equation modeling (SEM) and shows that for endogenous variables, all of the direct effects of differentiation strategy on three of the performance dimensions were significant, positive but weak, while the effect of differentiation strategy on the fourth performance dimension- learning and innovation was not significant. This shows **partial support for hypothesis 1a (H<sub>1a</sub>)**. Secondly, results in the table show that the direct effect of cost leadership strategy on all four performance dimensions were not significant, showing **no support for hypothesis 1b (H<sub>1b</sub>)**. However, results show that the direct effect of focus strategy on all four performance dimensions were significant ( $p < 0.001$ ), positive and strong, showing **full support for hypothesis 1c (H<sub>1c</sub>)**.

Although not hypothesized, it is important to note that for the results for the direct effect of the exogenous control variable 'Age' on all four performance dimensions reveal a significant, positive but weak effect.

TABLE 2. RESULT FOR THE DIRECT EFFECTS

a) Direct effects (endogenous)					
Direct relationships tested			$\beta$	S.E.	P
Fin	<---	Diff	.134	.057	.010
Cus	<---	Diff	.130	.061	.013
Intpro	<---	Diff	.138	.052	.009
Fin	<---	Clead	-.056	.065	.268
Cus	<---	Clead	.002	.070	.966
Intpro	<---	Clead	-.022	.060	.672
Linov	<---	Clead	.061	.062	.234
Fin	<---	Focus	.477	.059	***
Cus	<---	Focus	.417	.063	***
Intpro	<---	Focus	.428	.054	***
Linov	<---	Focus	.422	.056	***
Linov	<---	Diff	.032	.054	.547
b) Direct effects (exogenous)					
Direct relationship tested					
Fin	<---	Age	.212	.003	***
Cus	<---	Age	.206	.003	***
Intpro	<---	Age	.199	.002	***
Linov	<---	Age	.173	.003	***

Source: Own data generated using IBM's AMOS program

Note: Fin= Financial performance; Cus= Customer related performance; Intpro= Internal processes; Linov= Learning innovation; Diff= Differentiation strategy; Clead= Cost leadership strategy; Focus= Focus strategy. \*\*\* -  $P < 0.001$ .

### **Estimating the moderating effect of institution-type**

To test the moderating effect of institution type, respondents were asked to fill in '1' if their institution of employment was a public university, '2' for private universities and '3' for public-private universities, based on the degree of government ownership. To control for common method bias, we also depended on the official Higher Education Council of the Turkish Republic of Cyprus' (YODAK) classification of each of the eight universities included in this study. Once classified, we compared the respondents' perception of the effect of each of the generic strategies on the four dimensions of performance across all three institutional types by carrying out a multi-group analysis in AMOS and examining the chi-square value and its significance to establish the presence of an actual difference in perception across institution-types. As shown in table 3 below, institutional type moderates the observed effect of generic strategy and performance. In particular, it reveals that respondents from public-private universities perceived the strongest effects of each of the three generic strategies on all four performance dimensions for their institutions, followed by respondents from public universities, while the effect of each of the three generic strategies on all four performance dimensions diminished for respondents from private universities

TABLE 3. RESULT OF THE MODERATING EFFECT OF INSTITUTION TYPE

	Effects	S.E	P	Public	Private	Public-Private
				universities	universities	universities
				$\beta$	$\beta$	$\beta$
Fin	<--- Diff	.051	.012	.120	.102	.148
Cus	<--- Diff	.054	.015	.116	.099	.148
Intpro	<--- Diff	.046	.009	.124	.106	.160
Fin	<--- Clead	.060	.070	-.085	-.074	-.103
Cus	<--- Clead	.064	.584	-.026	-.023	-.032
Intpro	<--- Clead	.054	.289	-.050	-.044	-.063
Linov	<--- Clead	.057	.456	.036	.032	.043
Fin	<--- Focus	.054	***	.443	.382	.445
Cus	<--- Focus	.057	***	.383	.331	.398
Intpro	<--- Focus	.049	***	.396	.342	.416
Linov	<--- Focus	.051	***	.390	.339	.386
Linov	<--- Diff	.049	.723	.017	.015	.021
Fin	<--- Age	.002	***	.211	.165	.356
Cus	<--- Age	.003	***	.204	.160	.355
Intpro	<--- Age	.002	***	.196	.154	.346
Linov	<--- Age	.002	***	.169	.133	.281

Source: Own data generated using IBM's AMOS Program

Note: Fin= Financial performance, Cus= Customer related performance; Intpro= Internal processes; Linov= Learning innovation; Diff= Differentiation strategy; Clead= Cost leadership strategy; Focus= Focus strategy. \*\*\* - P < 0.001.

Having confirmed that institution-type moderates the effect of each of the three generic strategies on the four performance dimensions of higher educational institutions, we then use a chi-square test to examine if the moderating effect observed above was significant or not. Result of the chi-square test in table 4 below reveals that the observed moderating effect of institution-type on the generic strategy-performance relationship path is significant ( $p < 0.001$ ), thus providing **full support for hypothesis 2 (H<sub>2</sub>)**.

TABLE 4. SIGNIFICANCE OF THE MODERATING EFFECT OF INSTITUTION-TYPE

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Structural weights	32	77.503	.000	.003	.003	-.005	-.005

Source: Source: Own data generated using IBM's AMOS Program.

## Discussion

This study investigated the effect of the three generic strategies (differentiation, cost leadership and focus strategies) on the performance (financial, customer related, internal processes and learning and innovation) of higher educational institutions.

We examined this primary path in the context of the higher education industry of northern Cyprus due to its image as a global higher education destination. Findings reveal that differentiation strategy significantly but weakly influenced financial, customer -related and internal processes based performance. However it had no significant influence on learning and innovation based performance. Findings also showed that cost leadership strategy had no significant influence on any of the four performance dimensions of higher educational institutions. However, focus strategy was found to significantly, positively and strongly influence all four performance dimensions of higher educational institutions. Furthermore, the study found that the type of institutions respondents were from either strengthened or weakened their perception of the direct effects of the generic strategies on performance. In particular we found that respondents from public-private universities had the strongest perception of the relationship of each generic strategy on each dimension of performance followed by those from public universities. Respondents from private universities recorded the lowest perception of the effect of each of the three generic strategies on performance.

### **Contributions to theory**

This research contributes to generic strategy and performance literature in a significant number of ways. First of all we introduce a pioneer empirical research on the effect of the pursuit of market oriented strategies in form of generic strategies on multidimensional performance levels in the higher education industry as extant literature contains no research examining this primary relationship. Secondly, our findings that differentiation and focus strategies partially (for differentiation) and fully (for focus strategy) influenced multi-dimensional performance levels, was similar to extant postulations and findings on the generic strategy-performance relationships in businesses operating in the corporate world (firm level). However our finding that cost leadership strategy did not influence performance in the higher education industry, negates extant postulations and findings at the firm level. However more interestingly is the fact that focus strategy showed the strongest influence on all four dimensions of performance as this raises interesting questions as to possible reasons why that would be the case in the higher education industry.

Thirdly, while it might not be a novelty to find that institution-type moderated the observed relationship between generic strategy and performance, our finding that respondents from public-private institutions recorded the strongest perception of the influence of generic strategy on performance, followed by those from public universities and private universities which recorded the lowest perception; is not only interesting, but differs from what is often obtained in the corporate world where employees of corporate entities without government ownership outperformed government run or co-run companies (Nellis 1999, 2000; Shleifer 1998; Shirley and Walsh 2000). In fact, Shleifer (1998) explains it better when he implied that since the primary aim of governments is to achieve social goals which are usually in the lines of improving social welfare, a good government would hardly have to own production facilities, factors of production or producers to be able to meet this objective. Further implying that it the private sector was more effectively well positioned to do so. However, we see that in the higher educational industry, the reverse is the case, and this is not unconnected with the fact that this study focused on examining the perception of academic and administrative staff of the affected institutions. This is because, it may be that due to the robust funding opportunities available in public-private and public universities, respondents from such institutions might judge the four dimensional levels to be higher, than would participants from private institutions where such opportunities do not exist.

Thirdly the reliance on data from academic and administrative staff of the affected universities rather than publicly available strategic plans, is an additional contribution which adheres to Godfrey and Hill's (1995) recommendation that strategy researcher avoid the problem of 'unobservables' in strategy research by finding indirect means to deducing strategy-related outcomes.

Fourth and finally, our research is a direct response to the recommendation for future research made by Venkatesh and Dutta (2007). who in his article where he developed and psychometrically tested a balanced score card instrument for the measurement of performance in higher educational institutions, suggested that future research should examine the strategy-performance linkage in the higher education industry.

### **Contributions to practice**

Our study makes two major contributions to practice. First of the fact that respondents perceived the implementation of cost leadership strategy to have no significant influence on all four dimensions of performance while differentiation strategy weakly but significantly influence three of the performance outcome with focus strategy strongly and positively influence all four performance dimensions, implies that in the higher education industry, while focusing on differentiation strategy alone might influence a great number of performance outcome, such influence would be very weak and possibly negligible. However, the pursuit of a focus strategy which according to Porter, (1980) means the pursuit of either a differentiation or cost leadership strategy which focusing on a narrow niche market; is the only generic strategy-type guaranteed to strongly and significant lead to a strong increase in all four performance dimensions.

Secondly, our finding that respondents from public-private institutions recorded the strongest perceived influence of generic strategy on performance followed by public institutions, indicate that the robust opportunities made possible by the involvement of the government on such institutions, gives them a perceived competitive edge over private universities who do not have access to such funding and other supporting opportunities.

### **Conclusion**

This study set out to pioneer an investigation into the linkage between generic strategy and performance in higher educational institutions. Using structural equation modeling methodology it examined the responses of a stratified sample of academics and administrative staff (n= 333) randomly selected from the eight universities under study. Findings suggest that while there is a weak relationship between differentiation and performance, there was a strong relationship between focus strategy and performance. Findings further indicated that respondents from public-private universities perceived the strongest generic strategy-performance relationship for their institution, followed by the public sector. No effect was observed for the cost leadership-performance link.

### **Limitations and recommendations for future research**

In line with all extant research, this study is not without its intrinsic limitations. A couple of limitations which should be taken into consideration while interpreting findings from this study include the fact that first of all, this study relies solely on the perception of academic and administrative staff and may or may not accurately reflect the true nature of the generic strategy applied at a particular institution nor its performance. Secondly, while the findings of this study provides pioneer and generalizable insights into the strategy-performance linkage in the higher education industry, it is important that the economic, geographic and socio-cultural background of northern Cyprus- the context within which

this study was conducted, is not ignored during the interpretation of the findings of this study.

The pioneering nature of this research begs for confirmation through replication, and it is thus our first recommendation for future research that this study be replicated in both the same geographic context as well as in far removed geographic contexts. Secondly, researchers should further extend the findings of this study by carrying out comparative empirical analysis across geographic locations to see how if findings hold up or differ across borders. Thirdly, while this research focused on examining the moderating effect of institutional-type on the observed strategy-performance linkage in this study, it is possible that other variables such as employee experience, and employee diversity might significantly moderate the primary path under study, thus future research could be conducted to investigate this.

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