

DYNAMICS OF STRATEGIC IMPLEMENTATION IN HIGHER EDUCATION IN KHYBER PAKHTUNKHWA (PAKISTAN) WITH FOCUS ON THE ROLE OF MIDDLE MANAGEMENT

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Abstract. *This study looks into various aspects of strategy execution in the context of higher education institutions in Khyber Pakhtunkhwa*

(Pakistan). Most studies on this subject have been conducted in developed countries leaving much room for understanding in a context characterized by a weak regulatory framework, unique socio-cultural traditions, and a complex political environment in a country like Pakistan. A standardized questionnaire was used to collect data from respondents selected through stratified random sampling technique in both academic and administrative sections of universities. The Structure Equation Modeling (SEM) was employed for exploratory and confirmatory factor analyses while Partial Least Squares Structural Equation Modeling (PLS-SEM 3.0) was used for the measurement of path models of the study. The results show that the role of middle management was significant in terms of championing alternative strategic options, synthesizing information, and executing deliberate strategy whereas it was insignificant in facilitating adaptability. The results of this study have theoretical significance in that it looks at strategy implementation from the perspective of a developing country. Practically, the results suggest giving more power to middle management in all aspects of strategic management. The results, however, have to be understood with some of the study's limitations that have been discussed later at length.

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Introduction

Intense competition and complexity, the outcomes of changes in the global environment, have brought in its wake unique challenges to all sorts of organizations. Higher education institutions, in particular, are confronted with

challenges such as students' migration, dwindling educational institutions' resources, increasing education cost, changing teaching methodologies with technology, changing demographics, and maintaining high-quality standards are some of the challenges which are facing by universities both public and private facing today (Glass, 2014). It is in this context that organizations, especially HEIs (Higher Education Institutions) are increasingly focusing on formulating viable strategies and implementing them for long-term success.

The Higher Education Commission of Pakistan is committed to supporting higher education institutions in serving as engines of Pakistan's socioeconomic growth and development. In the last couple of years, Pakistan's government has prioritized the education sector, particularly higher education, which had previously been overlooked. Due to increased competitiveness in the higher education sector, different new public and private sector universities were given charters to commence and directed to expand their capacity and efficiency. Cumulative expenditures on education by both federal and provincial level governments in the financial year 2020 were was 1.5 % of the Gross Domestic Product (GDP) compared to 2.3% of GDP in Financial Year 2019. Educational expenditures had been increasing gradually by 2018-19, but in 2019-20 educational expenditures declined. However, the Government of Khyber Pakhtunkhwa allocated Rs.152.7 billion in FY: 2019-20 compared to Rs.142.6 billion in FY: 2018-19 witnessed a higher increase in it (PES, 2020-21).

Changes in the global, regional and local environment brought many challenges to organizations in terms of intense competition and complexity (Tidd & Bessant, 2020). This shift has encouraged the organization to invest their resources to develop and implement strategies to meet market demands and serve the interests of their stakeholders. In this sense, the term strategy implementation became a 'buzzword' in different organizations. Developing comprehensive strategies and implementing them accordingly is the growing demand of the stakeholders of both public and private sector organizations (Berchin et al., 2018). Strategy implementation is the total sum of choices and actions needed to execute a strategic plan (Wheelen & Hunger, 2012). It is the mechanism by which the strategies and policies are implemented by introducing new programs, and policies, allocating budgets, and adopting procedures and programs.

The process of strategy formulation in the organization is challenging and implementation of the formulated strategy throughout the organization is even more challenging. Managers have been observed to work more on the strategy formulation and pay less concentration to its implementation stage (Hrebiniak, 2006). However, in the real world, most of the time is required in strategy implementation instead of its formulation. Many real problems crop up during the implementation stage—financial, Human Resource (HR), and communication problems. Successful strategy implementation depends on the human resource

working in the organizations and can disrupt the implementation process if not efficiently dealt with.

Strategy formulation and implementation in the developed world are widely known today and are also deeply embedded in developing countries. There are growing numbers of studies found on strategy implementation in the American universities to place these universities strategically and to show advantageous performance in the changing world.

The implementation of strategy is influenced by many different factors including the role that middle managers actually play, the particular context in which the strategy is implemented, and the process being followed to put proposed changes into action.

Many factors including middle-management roles, practices, and contexts significantly Gjerde and Alvesson (2020) state that middle-management act as both subordinate to top-management and superior to its subordinates. This definition is also supported by Tarakciet al (2018) according to them a middle manager is a person who accepts the responsibilities for strategy implementation and is also responsible to his senior management as they receive directions from top-management and supervise the subordinates to ensure the smooth functioning of all units of an organization. Middle-management has been given the responsibilities of implementing strategies and at the same time facing many challenges including minimum authority. Due to a lack of autonomy middle-management is stuck in the middle to implement strategies (Creaton& Heard-Laureote, 2019).

This study has critically scrutinized different middle-management roles in both public and private sector universities to develop a conceptual view of the middle-management roles in the overall strategic plan implementation in universities of Khyber Pakhtunkhwa. The researcher's motivation for choosing this area has many aspects including: first, strategy implementation studies are found mostly in the developed world, and exploring the topic from the perspective of a developing country like Pakistan is largely missing (Sherani, 2019). Secondly, the researcher's motivation to know the missing link between strategy formulation and implementation where according to Kaplan and Norton (2005) more than percent of strategic initiatives of various organizations fail not due to ineffective formulation of strategies but due to lack of proper implementation efforts. Third, the middle management is either taken for granted during strategy formulation or they are not fully motivated/empowered to put a given strategy into effect (Kamel, 2019). Above all, the researcher wanted to see whether empirical evidence supports the idea that middle management has a defining role in the success of a particular strategy.

Literature Review

According to Johnson (2002), top-level management is primarily responsible for the development of the vision and purpose of an organization, the formulation of strategic objectives, the analysis of organizational culture, and the creation of the comprehensive implementation plan of the strategy. Middle or tactical management is accountable for developing operational goals and developing communications strategy and strategy execution policies and procedures. Through introducing and implementing the different tactics described in the implementation plans and policies originating from middle-management officials, operational workers are responsible for the implementation of the strategy (Dlodlo, 2011).

Middle-level management and strategy implementation

According to Weiner (2012) middle managers are supervised by top management, oversee front-line managers, and finally facilitate the strategy implementation in an organization (Liu, 2017). Mbaabu (2013) defines middle managers as those people who are responsible directly for planning, coordinating, and monitoring, and who bridge the gap between top and lower-level management. Nzinga et al. (2013) state that in the process of formulating, implementing, and controlling strategic plans in organizations, middle managers have important roles to perform.

The research indicates that the coaching role for front-line workers is played by middle managers as they assist and coach the behavior patterns of these workers to stay connected with the organization's strategic objectives (Woiceshyn, Huq, Blades, & Pendharkar, 2020). In the goal-setter role, middle managers play set the performance standards that workers need to meet following the plan. Being the motivators middle managers inspire middle-level managers, employees, and team members for achieving targets set for success (Nzinga et al., 2013). The middle managers perform their fourth role as a communicator, as they keep their group members informed about business operations, growth, and development. Negotiator and problems solver are the fifth and sixth roles respectively as they negotiate among the conflicted parties and solve the problems faced by lower-level managers or lower-level employees (Kehoe & Han, 2020). McGurk (2011) notes that maintaining organizational effectiveness is the main purpose of middle managers. Middle managers act as the bridge between top-level management and lower management (Clegg & McAuley, 2005). Middle managers convert the corporate plan into concrete, functional strategies (Cabansag, 2013). To persuade senior management, the middle managers try to achieve their strategic goals, while at the same time inspiring, directing, guiding, and controlling their front-line workforce (Anzengruber, Goetz, Nold, & Woelfle, 2017).

Birken and Weiner (2012) argue that the important roles performed by organizational middle managers include information interpretation, information dissemination, and mediation between strategy and day-to-day operations. Middle managers inspire team members to follow the appropriate behaviors following the

changes and strategic objectives. They also help the lower-level managers and staff members to identify and overcome barriers that potentially hinder their strategic objectives (Birken et al., 2012).

McGurk (2011) claims that middle managers are considered the managers of change. Middle managers play a crucial role in the execution of change strategies. As long as middle managers are dealt with and consulted can be reliable and effective stakeholders of change in the organization (Bukh & Svanholt, 2020). To facilitate the successful implementation of the business plan, the middle-management must be involved. Top-management must interact clearly during the transformation process with middle managers so that their concerns and perceptions can be addressed (Kerzner, 2019).

Much of the literature emphasizes the importance of middle managers as they connect the lower-level managers with top management (George, Walker, & Monster, 2019). Middle management, thus forms the connection between the top-management staff who devise the organizational strategy and the lower-level management who implement the strategy (Clegg, 2005; Dlodlo, 2011; White, 2011). The middle-management dual role thus leads to the company getting a competitive advantage over other market competitors who do not support this view of middle managers. White (2011) argues that these suggestions and ideas provided by lower-level management are interpreted by middle managers and then delivered in the form of standardized creative and visionary proposals to the top management. Thus, this research indicates that middle managers play an active role in implementing strategies by linking top-management with lower-level management (Kerzner, 2019).

Middle-Management role of championing alternatives and strategy implementation

One key role of middle management is to persuade top management to explore new strategic options (Pfister, Jack, & Darwin, 2017). Some studies (Wang, Gibbons, & Heavey, 2017) suggest that middle managers could have a greater impact on the success of an organizational strategy by using bottom-up approach in strategy formulation. Other researchers (Dutton & Ashford, 1993) also contributed to sense the middle-management role as champion of alternatives for implementing strategy include; upward influence, claiming, and impression management actions are all part of the meaning-creation process; the ability of middle managers to arbitrate between internal and external selection settings gives them strategic power (Floyd & Wooldridge, 1997); In terms of idea production, initiative development, and strategic reintegration, middle managers' diverging activity and competencies are critical to strategy renewal (Jafar, 2017). Middle managers affect the strategic agenda, according to Dutton and Ashford (1993), by prioritizing and

determining which topics should be brought to upper management's attention during the strategy process. Through the lenses of three independent theories (i.e., impression management, social problem theory, and upward influence), they provide a conceptual framework to account for middle managers' behaviours in garnering attention and resources from senior management (Weiser, Jarzabkowski, & Laamanen, 2020).

Middle managers can also play a crucial role in reducing the gap between an organization's strategic and operational levels by proposed alternative options (Jafar, 2017). In essence, championing alternatives is all about communicating various strategic options to top management persuasively and consistently. This role is apparently different from assisting the corporate executives in adaptation to the external environment (Van Rensburg et al. 2014). Championing strategy, for the purpose of this research, is a way of influencing strategy formulation rather than limiting oneself to performing operational duties (Guo, et al., 2017). This activity is ascending and integrative, and it concerns middle-level managers' aspirations to push ideologies as well as their ability to participate in bottom-up activities that could aid their firms to renew strategy processes. Middle managers come up with alternatives to the current plan and submit them to upper management together with employee suggestions (Dery, Sebastian, & van der Meulen, 2017). The purpose of advocating alternatives is to create a strong sense of urgency for the initiative while also keeping top-management informed (Schreurs, 2010). If middle-level managers are included in planning, they will have greater power over their future in the business and will become an important component of it. Middle-level administrators must participate in planning since it may help them feel less alienated or deal with targets that they did not help set or agree to (Floyd & Woodridge, 2014). The input of middle-level managers has yet to be heavily incorporated in plan execution. Furthermore, middle-level managers have not received adequate assistance from top-management by incorporating them in the formulation and execution of strategy, even though they are familiar with the demands of consumers and operational personnel due to their day-to-day interactions with them (Jafar, 2017). Middle managers' divergent upward drives are crucial for upper management to gain a better and more comprehensive understanding of the challenges and possibilities in the external or internal business environment. As a result, most study has focused on the importance of middle managers in the early stages of strategy development. Thus, it can be hypothesized that:

H1: The role of middle managers, in championing strategic alternatives, positively affects the implementation of organizational strategy in higher education in Pakistan.

Middle-management role of synthesizing information and strategy implementation

The second function is information synthesis, which is described as the interpretation and assessment of data (Engle, et al., 2017). This has an impact on the perceptions and intentions of top management, and that how middle managers can influence strategy formation from the bottom up (Floyd & Wooldridge, 1992). Middle managers interpret and send information to senior management in this function. Middle managers' synthesized data could become the major basis for upper management decision-making (Shujahat et al., 2017). Middle managers perform as uncertainty observers, relying on the consistency of their environmental judgments to build their reputations (Mantere, 2008). The synthesizing job is strongly related to the clever interpreter role described by Nordqvist and Melin (2008). "Middle-management can most effectively minimize the disturbance, fluctuations, and confusion inside an organization, the information generating structure by serving as the beginning point for action to be done by upper and lower levels," Nonaka (1988). According to Dutton and Duncan (1987), synthesizing is a requirement for pursuing a strategic aim. These findings were enhanced by Dutton et al. (2001), who sought to disentangle and make sense of the micro-processes that comprise strategic transformation. Dutton and her colleagues looked at how manager or administrator appraise the organizational backdrop for issue-selling, as well as the actions that go along with successful and unsuccessful issue-selling attempts. Their findings show that to benefit themselves and their organizations, managers must be able to read and navigate their strategic and structural settings. Balogun and Johnson (2004) have some interesting ideas about middle manager sense-making. Balogun and Johnson (2004) investigated the function of middle managers in change processes, focusing on middle managers' sense-making throughout a top-down change project. Middle-management is not beneficiaries of change only, but also implementers. Finally, Mantere, (2008) asserts that top-management responsiveness in organization is the most critical enabling condition for information synthesis. He discovered several instances in which senior managers expect input but do not respond to it in strategy practice. Synthesizers assess information from both external as well as internal sources and channel it upward through upward integrative practices to the senior management team to support strategic initiatives (Noyes et al., 2018). Reporting on the outcomes of key performance efforts and issues in present business operations is an example. Middle managers' roles have traditionally been limited in strategy research to providing feedback on strategy development, with strategy making considered to involve primarily the top manager (Wooldridge, Schmid, & Floyd 2008). Senior managers' interpretations of various challenges throughout time, based on intermediate managers' interpretation and delivery of selected informa-

tion, may lay the groundwork for strategic transformation (Floyd & Wooldridge 1992). However, there is very little empirical studies on the roles and behaviours of middle managers during strategic shift.

H2: The middle managers' role in synthesizing information positively influences the effectiveness of strategy implementation.

Middle-management role of facilitating adaptability and strategy implementation

This role of middle management entails encouraging and promoting adaptation of strategy downwards in the organization (Currie & Procter, 2005). It is a kind of social craftsperson role (Nordqvist & Melin, 2008) and requires flexibility in tailoring strategy to the ground realities. This role, thus, is a kind of encouragement of behaviors and structures that might deviate from the official expectations (Floyd & Wooldridge, 1992). Middle managers have often been observed to be hiding such deviations from the top management (Moss-Kanter, 1983). Middle managers enable strategic plan effective implementation by addressing the subordinates' negative feelings about downsizing (Basuki, 2020). The expectation to ease flexibility, according to Mantere (2008), also has the potential to enable middle-management strategic agency. Based on the foregoing discussion, one can hypothesize that:

H3: The middle managers' role in facilitating adaptability positively influences the effectiveness of strategy implementation.

Middle-management role of implementing deliberate and strategy implementation

The last responsibility is to carry out a well-thought-out strategy. As previously indicated, middle-management's involvement in strategy implementation is very important. Floyd and Wooldridge (1992) define the role of implementing deliberate strategy as managerial interventions that link organizational action to the strategic goals. Guth and MacMillan (1986) looked at how middle-management was motivated to carry out the strategy. In their study they concluded that one of the most critical general management implementation skills is the capacity to comprehend, anticipate, and manage the processes required to ensure middle management's positive and widespread commitment to the strategy. Mantere and Vaara (2008), proposed four enabling and critical criteria for the expectation of deliberate plan implementation: First and foremost, senior management should be focused and give full attention to processes that lead to the creation of the objectives to be implemented. According to Mantere (2008), this is very critical in assisting middle managers in understanding how current objectives relate to prior ones. Second, when the top-down objectives to be achieved are contextualized. When the objectives are well defined, the middle manager's task becomes more focused, and contextual decision-making becomes easier. Third, the strategy

implementation expectations in an organization may enable the middle-management agency if there is an adequate shift in resource allotment to hold up the implementation of the established and well-defined top-down objectives. According to Mantere (2008), middle-management see top-management as "walking the talk," or "suggestive of top-management commitment.". When resource allocation is consistent and aligned with top-down objectives, middle managers perceive top-management as walking the talk. Respect is the fourth and final enabling prerequisite, which entails another representation of top-management commitment to implementation with little or no resources expended. If top-management displays respect for everyday problem solving or practical coping, the execution expectation may permit middle manager agency (Chia & Holt, 2006). This enables the middle managers to see his or her work as important and worthwhile. Respect in execution may be based on the belief that top-management tactics are worthless if they aren't implemented well. As a result, the strategist requires the implementer's help and vice versa.

H4: The middle managers' role of implementing deliberate strategy positively influences the effectiveness of strategy implementation.

Theoretical Framework

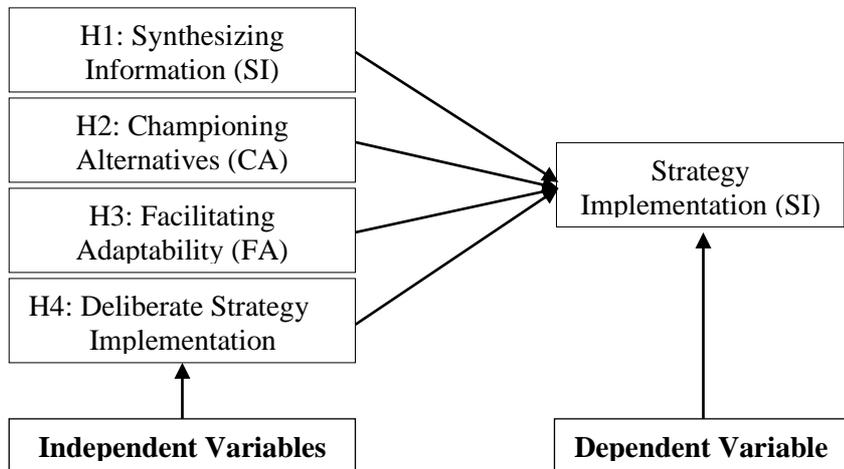


Figure 1 Conceptual Framework of the Study

Research Methodology

Data collection method

The different methods used in social science research are questionnaires, structured interviews, and content analysis, but most common among these is the questionnaire (Mohajan, 2018). Surveys are conducted in a structured way so that the results may replicate in other similar settings. In a questionnaire, the researcher is supported to collect a large amount of data (Chu & Ke, 2017). This tool helps the researcher to quantify the participants' attitudes and perceptions about the given phenomenon and to analyze it in a given social or organizational setting. There is minimum researcher interference in the data collection phase which can ensure objectivity in the study (Nardi, 2018). Based on the relevancy, merits and to check causal associations of the middle-management roles for strategy implementation in universities, questionnaire survey is considered as the most relevant tool for data collection in this study.

Questionnaire design

Design and measuring scales in a questionnaire play a significant part in scientific research (Krosnick, 2018). Closed-ended and open-ended questions were classified (Alston & Bowles, 2020). They recommend using the open-ended one for comprehensive and in-depth information. However, caution should be exercised while choosing this kind because interpretation becomes a tiresome effort when dealing with a complicated and diverse set of responses (Brace, 2018). Closed-ended questionnaires, on the other hand, where a respondent must select one or more alternatives from a list, are fairly simple for both respondents and researchers. Respondents can complete surveys more quickly and precisely, and the researcher can analyze the results more objectively (Babbie, 2020). The current study adopted a questionnaire survey for the study, keeping in mind all of the requirements of the current research in connection with the advice and suggestions of many specialists in the field of survey research. Respondents were also sent a covering letter with this questionnaire (Boparai, Singh, & Kathuria, 2018).

For the purpose of data collection, questionnaire of 5-point Likert scale has been used. Other researchers have also tested it either on, a 5-point scale or 7–9-point scales, is comparable to good, and upgrading to a 7 or 9-point scale (Li & Ali, 2021). Likert scale is commonly used to measure psychometric dimensions in social sciences. All of the questions were taken from various study publications and theses by social scientists. The questionnaire has been divided into two parts: the first collect demographic information such as the respondent's name (optional), gender, age, department/section, designation, highest qualification, age, and years of experience; the second collects information on all variables of the study. Total questions in the questionnaire were 54 (Championing alternatives = 05, facilitating adaptability = 05, synthesizing information = 04, implementing deliberate strategy = 05, enhancing students' intake = 05, market expansion = 05, service quality = 04,

faculty development = 05, research promotion = 08 and provision of students' support facilities = 08). All questions were closed-ended and about the middle-management perceptions about these variables and their components.

Sample size

A sample size of 100 or more than 100 is appropriate for the analysis of the data (Hair, Hollingsworth, Randolph, & Chong, 2017). On the other hand, Gaur and Gaur (2009) suggested 200 to 300 is adequate sample size for data analysis. The current study examines both public as well as private universities in the province of Khyber Pakhtunkhwa, in terms of their strategy implementation with a focus on middle managers. The study population is 572 respondents from both sector universities. The sample size selected for the current study is 231 which is selected based on Krejcie and Morgan's table, 1970.

Sampling technique

This study has employed two different techniques as sampling techniques. In the first stage, stratified sampling techniques has selected in the first phase for dividing the whole population into two groups and purposive sampling technique has been used to access to middle management cadre in the target universities. The present study has selected various universities based on judgmental or purposive sampling techniques. There is a total of 38 universities in Khyber Pakhtunkhwa (HEC, 2017). The current study has taken some specific universities based on personal judgment. The logic behind the purposive sampling is some of the universities are newly born universities that cannot be compared with well-established universities. A well-established university has a formal strategic plan, a good reputation, and other factors than a new one. The study has included the universities which are founded prior to 30th of June 2010. This technique was also used by various researchers such as (Asaduzzaman, Rahman, & Hossain, 2013; Hasan & Masri 2013; Malik). The current study will use proportionate stratified random sampling techniques.

Table 1 *Population and Sample Size of Public Sector Universities (N = 174)*

Strata Name	Public Sector Universities	Population	Sample
Pb 1	Abdul Wali Khan University, Mardan	49	19
Pb 2	Hazara University, Mansehra.	43	17
Pb 3	Islamia College University, Peshawar	34	14
Pb 4	KUST Kohat	31	13
Pb 5	Shaheed Benazir Bhutto University, Sheringal	35	14
Pb 6	S. Benazir Bhutto Women University, Peshawar	41	17
Pb 7	University of Malakand, Chakdara	43	17

Pb 8	University of Peshawar, Peshawar	73	29
Pb 9	University of Science and Technology, Bannu	32	13
Pb 10	Gomal University, D.I. Khan	36	15
Pb 11	IM Sciences Peshawar	13	6

Table 2 *Population and Sample of Private Sector Universities (N = 57)*

Strata name	Private Sector Universities	Population	Sample
Pr1	Abasyn University, Peshawar	12	5
Pr2	CECOS University of IT & Emerging Sciences, Peshawar	13	5
Pr3	City University of Science & Information Technology, Peshawar	15	6
Pr4	Preston University Kohat	17	7
Pr5	Qurta University, Peshawar	16	6
Pr6	Sarhad University, Peshawar	27	11
Pr7	GIK Swabi	19	8
Pr8	Nothern University Nowshera	23	9

Results and Discussion

The current study employed Principal Component Analysis (PCA), KMO and BTS, and the correlation matrix to validate the given instrument for data collection as well as to ensure the sample adequacy for the study.

Reliability and validity

Cronbach's Alpha test was used for the reliability of each instrument using either independent variables or dependent variable measurement. Cronbach's Alpha has been recommended by different other researchers like Byrne, (2010) and Kline, (2011). The tables given below show the reliability statistics for each instrument of the study. According to Hair et al. (2017), Cronbach's Alpha values should be equal to or greater than 0.6. A greater value for Cronbach Alpha like 0.70 considers greater reliability. The table that follows demonstrates that both the independent variables, such as facilitating adaptability, synthesizing information, implementing deliberate strategy and Championing alternatives dependent variables, such as strategy implementation, have a greater Cronbach's Alpha value, which is almost greater than 0.70 for each of the given instruments. Other methods that can be utilized to determine whether or not a particular instrument can be relied upon are as follows: rho, where the threshold value for which is greater than 0.70; composite reliability, where the standard limit for which is larger from 0.70; and for convergent validity, the AVE, where the value should be larger from 0.50 (Hair et al. 2017). The findings of each instrument are presented in the table below, which was generated by utilising Smart-PLS.3. Each of these findings fall within the normal range, showing that each construct used in the research, whether for the

independent variable or the dependent variable, is reliable. In addition, convergent validity has indeed been proven, allowing more study to be undertaken on the issue.

Table 3 *Construct Reliability and Validity*

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Champ_Alter	0.898	0.957	0.927	0.762
Facili_Adapt	0.817	0.7	0.727	0.544
Imp_Deleb_Strgy	0.916	0.934	0.936	0.786
Strategy_Imp	0.817	0.829	0.792	0.626
Synth_Inform	0.947	0.947	0.96	0.826

Discriminant validity

The HTMT and the Fornell-Larcker Criterion are two methodologies for assessing discriminant validity. According to Fornell and Larcker (1981), Discriminant validity may be shown if the square root of AVE in each latent variable is greater than other correlation coefficients between the variables. The square root of AVE is computed by hand and placed in a visible place along the diagonal of the table. Table's bottom left triangle contains latent variable correlations taken directly from "Latent Variable Correlation" section of default report.

Table 4 *Discriminant Validity by using Fornell-Larcker Criterion*

Variables	Champ _Alter	Facili _Adapt	Imp _Del_Str	Sy_In	Stra _Imp
Champ_Alter	0.872				
Facili_Adapt	0.158	0.782			
Imp_Deleb_Strgy	0.167	0.13	0.888		
Strategy_Imp	0.156	0.398	0.069	0.84	
Synth_Inform	0.211	0.634	0.123	0.479	0.909

Note: The square roots of AVE are shown diagonally in bold

The value of the calculated AVE is written in bold in diagonal lines for all variables of the study. To establish the Discriminant validity each AVE calculated should be greater than both from horizontal line correlation as well as values given below the AVE calculated values. In this table, the AVE values are greater for synthesizing information, implementing deliberate strategy championing alternatives and facilitating adaptability in their respective columns and rows correlations values. It has now been determined that the Discriminant validity has also been confirmed based on the results.

Discriminant validity (HTMT0.90 Criterion)

If the HTMT score is less than 0.90, Discriminant validity between two reflective constructs will consider being established.

Table 5 Discriminant Validity (HTMT0.90 Criterion)

Variable	Champ	Facili	Imp_Del	St.imp	Synth_I
Champ_Alter	1.00				
Facili_Adapt	0.344	1.00			
Imp_Deleb_Strgy	0.186	0.14	1.00		
Strategy_Imp	0.303	0.39	0.178	1.00	
Synth_Inform	0.225	0.5	0.115	0.304	1.00

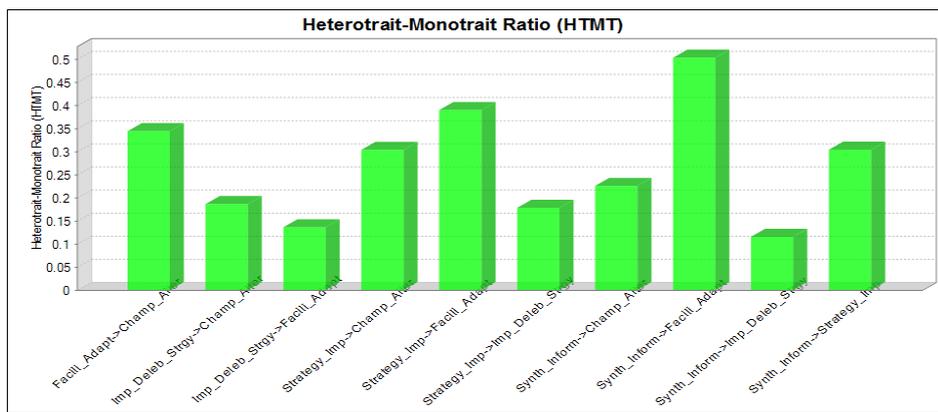


Figure 1 Discriminant Validity (HTMT0.90 Criterion)

Structural equation modeling (SEM)

According to Kline, (2016), there are multiple models available in Structural Equation Modeling (SEM) for checking the relationship between observed variables given in the theoretical models of the study. With the help of SEM, the developed constructs are validated for further hypothesis testing in the study. SEM checks whether the observed data support the hypotheses of the study or not. The present study included four constructs of independent variables which include; synthesizing information, implementing deliberate strategy championing alternatives and facilitating adaptability. Strategy implementation has been used as a dependent variable construct. This study included each construct for confirmatory factor analysis to ensure data fitness for measurement models as well as for structural models.

Confirmatory Factory Analysis (CFA) for Synthesizing Information

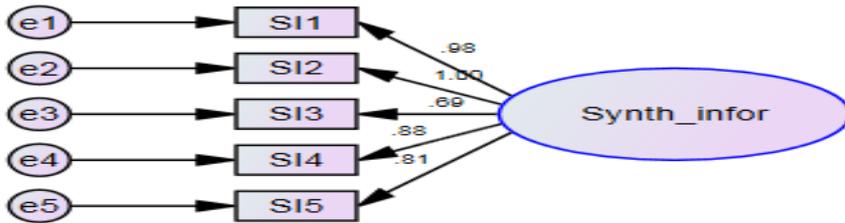


Figure 2 Synthesizing Information Model

The accompanying diagram depicts the measuring model for the concept of information synthesis. This model has a single reflecting factor with five components. The findings of the measurement confirmation analysis indicate that the supplied model is a good fit. The model fit indices also demonstrate excellent model fit, as illustrated below:

Confirmatory Factory Analysis (CFA) for Facilitating Adaptability

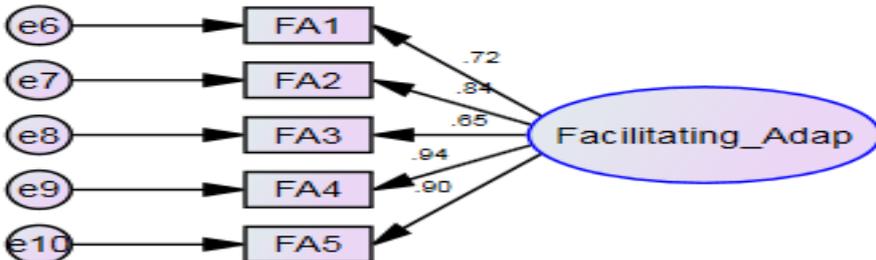


Figure 3 Facilitating Adaptability (FA)

Table 6 Baseline Comparisons for Model Fit

Model	CMIN/DF	NFI	RFI	IFI	TLI	RMSEA
Default model	3.792	0.97	0.93	0.97	0.94	0.97

In the above diagram, we can see how facilitating adaptability is measured. An integrated 5-item reflection factor is used in this model. Results from the examination of confirmed measurements indicate that the proposed model is a suitable fit. Here, a p-value of less than 0.001 i.e., p 0.001 indicates that the Chi-square value is really statistically significant. In addition to the RMSEA, the findings of the following model fit indices are also promising:

Table 7 Baseline Comparisons for Model fit

Model	CMIN/DF	NFI	RFI	IFI	TLI	CFI	RMSEA
Default model	2.69	0.92	0.89	0.92	0.85	0.92	0.09

Confirmatory Factory Analysis (CFA) for Championing Alternatives

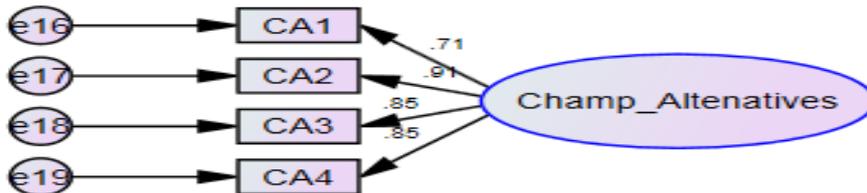


Figure 4 Championing Alternatives (CA)

In the following diagram, we can see how championing alternative is measured. The 04 components in this model all contribute to a single reflective factor. Results from the examination of confirmed measurements indicate that the proposed model is a suitable fit. A good model fit is also shown by the model fit indices in this case:

Table 8 Baseline Comparisons for model fit

Model	CMIN/DF	NFI	RFI	IFI	TLI	CFI	RMSEA
Default model	2.36	0.96	0.88	0.96	0.89	0.96	0.087

Confirmatory Factory Analysis (CFA) for Implementing Deliberate Strategy

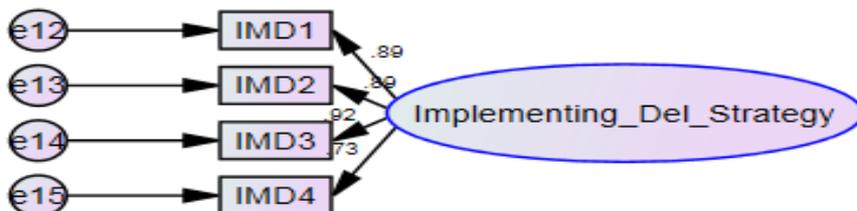


Figure 5 Implementing the Deliberate Strategy Model

The graphic above is a measuring model for the concept of implementing deliberate strategy. In this scheme, we have a single component that is reflecting and it has four things. The findings of the analysis of confirmed measurements demonstrate the validity of the proposed model. Here, too, we see excellent results from the model fit indices:

Table 9 Baseline Comparisons for Model Fit

Model	CMIN/DF	NFI	RFI	IFI	TLI	CFI	RMSEA
Default model	2.421	.958	.873	.960	.880	.960	.0967

Summary of Confirmatory Factory Analysis (CFA) for all Independent Variables

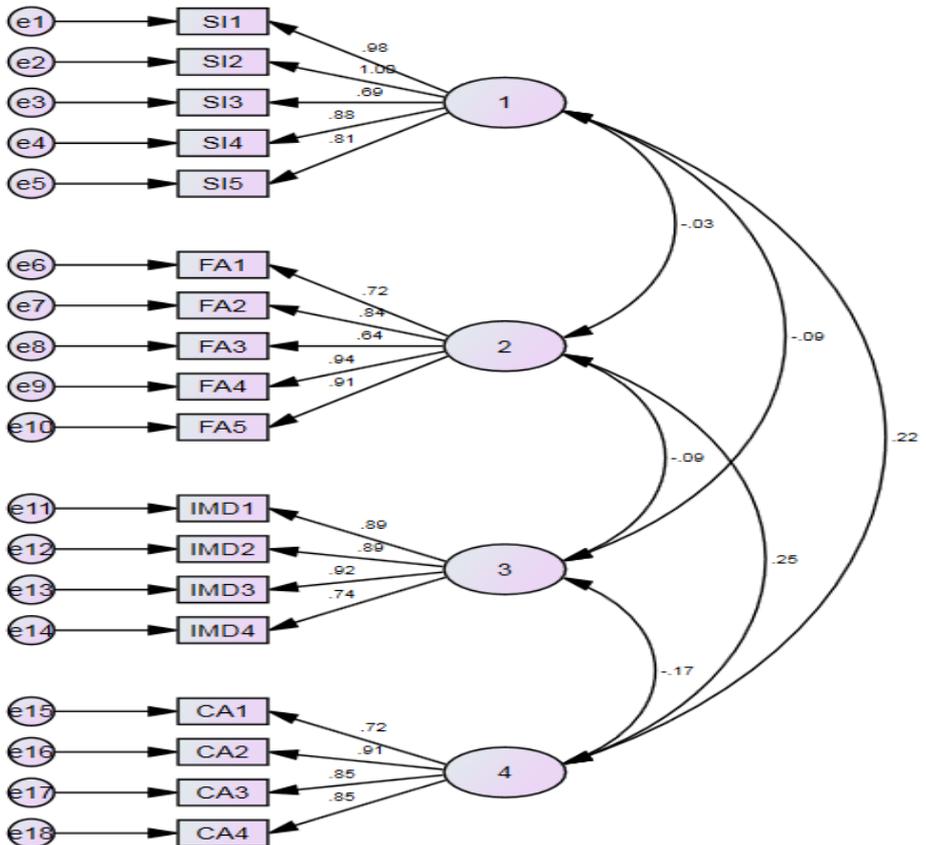


Figure 6: Summary of Confirmatory Factory Analysis (CFA) for all independent variables

The above diagram depicts the model for evaluating all of the independent variables. A total of 18 elements comprise the single reflective factor in this model. Results from the examination of confirmed measurements indicate that the proposed model is a suitable fit. A good model fit is also shown by the model fit indices in this case:

Table 10 *Baseline Comparisons for Model Fit*

Model	CMIN/DF	NFI	RFI	IFI	TLI	CFI	RMSEA
Default model	2.404	.920	.905	.951	.942	.952	.078

Confirmatory Factory Analysis (CFA) for Strategy Implementation

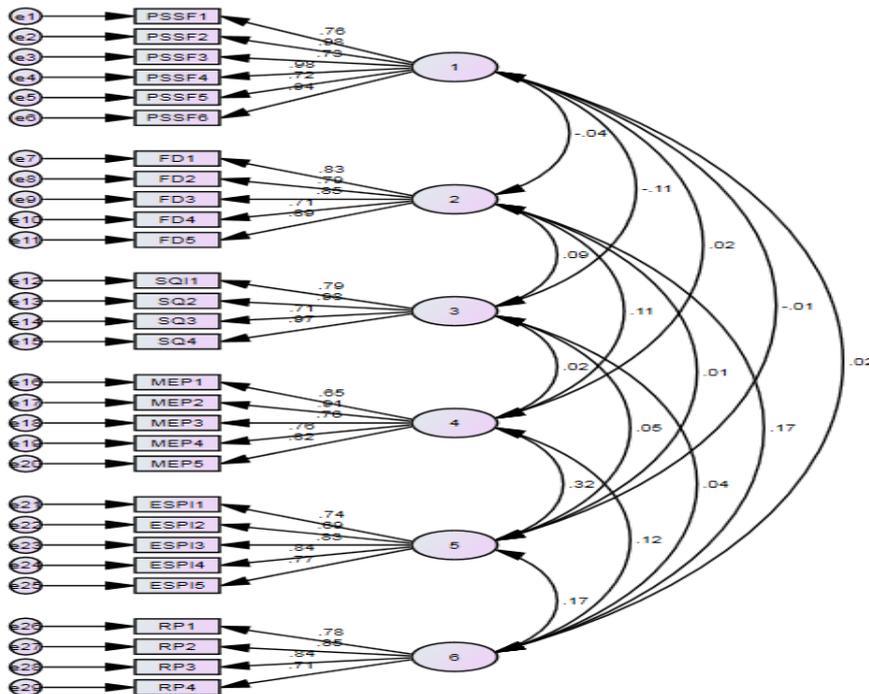


Figure 7 Strategy Implementation Model

The above diagram depicts the build measurement model for strategy implementation. A total of 29 elements comprise the sole reflective component in this model. Results from the examination of confirmed measurements indicate that the proposed model is a suitable fit. Here, a p-value of less than 0.001 i.e., $p < 0.001$ indicates that the Chi-square value is really statistically significant. In addition to the RMSEA, the findings of the following model fit indices are also promising:

Table 11 Baseline Comparisons for Model Fit

Model	CMIN/DF	NFI	RFI	IFI	TLI	CFI	RMSEA
Default model	3.44	.872	.854	.925	.892	.885	.109

CFA for Overall SEM, Test of Reliability and Validity

In the previous sections, the results of Confirmatory Factor Analysis (CFA) for each component were presented separately. To assess the overall model goodness of fit, additional statistical analysis in the form of Confirmatory Factor Analysis (CFA) and Principal Confirmatory Analysis (PCA) is required. The maximum likelihood technique is used to determine the overall model goodness of fit. All of the goodness of fit indices in this investigation agreed with the overall

measurement scales. With a P-value of 0.000, the chi-square test and all other major models for fitness indicators tests, as well as the degree of freedom, produce significant results. All models of fitness indices such as CFI = 0.915, GFI = 0.912, SRMR = 0.081, and RMSEA 0.037 were used in this investigation. Using reliability statistics for the provided instruments, ensure that the internal elements are consistent with one another. Hair, among other things (Hair et al., 2018). A figure greater than 0.70 is considered acceptable in reliability statistics. Aside from that, another method for measuring the constructions' dependability is the variance extracted approach. The larger the variance extracted method's values, the better the dependability statistics will be, according to this approach. To be considered acceptable, the recovered variance values must be more than 0.50.

The above structural model illustrates the predicted relationship between four explanatory factors and a single outcome variable. The t-values of 2.900, 3.796, 4.915, and 0.643, respectively, for the management duties of advocating alternatives, implementing deliberate strategy, synthesizing information, and promoting adaptation, all showed statistical significance at the 0.0001 level, confirming the associations. The path coefficients of 0.234, 0.213, 0.290, and 0.045 show significant correlations between the first three predictor variables and the dependent variable (strategy implementation), supporting H1, H2, and H4 while showing insignificant values for implementing deliberate strategy and strategy implementation, but not supporting the last of H3.

The coefficient of determination (R²)

Overall, a model's projecting power may be measured by its coefficient of determination (R²). It provides an explanation for the total amount of variability in the dependent variables attributed to all predictor factors. There is no consensus among scholars on what constitutes a sufficient R-squared number. The thresholds for high, moderate, and weak R² values were calculated to be 0.75, 0.50, and 0.25, respectively (Hair, et al., 2011). To determine whether or not one or more exogenous factors significantly explain the variation in endogenous variables, Falk and Miller (1992) suggested using an R-squared value of 0.10. Cohen (1988) suggests using a R square value of 0.26 (considerable), 0.13 (moderate), and 0.02 (minimal) as cutoff and recommended values (weak). The value of R² depends on the discipline in which the research study has been conducted. For some disciplines, this value lies close to a high threshold value and in another discipline, the value is either close to 0.50 or 0.25. In this study, the value of R² is 0.52 which shows the ideal predictive capability of the given model. Using the R² value alone to indicate a model's predictive potential is a poor technique, especially when the model contains more exogenous factors. The adjusted coefficient of determination (R² adj) is used to address this bias, which takes into account the number of

predictor variables as well as the relative sample size. The current model's modified R² value is 0.37. Researchers also propose several statistical metrics, such as the f² impact size and Q² predictive relevance, to describe how much each predictor variable contributes to the dependent variable. Because the current study's model comprises four exogenous factors and only one endogenous variable.

The effect Size f² of model (Step 4)

By making the value of f² explicit, it would be possible to correct any biases or constraints associated with R². The removal of a predictor variable or construct from the model and the documentation of the corresponding change within R² value of the model is done in order to establish the significant impact of a predictor variable or explanatory variable in establishing the variance of a dependent variable. This is done so that it is possible to determine whether or not the predictor variable or explanatory variable is responsible for the majority of the variance of the dependent variable. This is done so that the significance of the impact of the predictor variable or explanatory variable can be established. Effect Size f² is the name of this metric. The routing model estimates twice while determining the effect size f² in PLS. When a specific predictor variable is included for the first time, and then when it is omitted for the second time. The Effect Size f² values for small, medium and large effects are 0.02, 0.15, and 0.35, respectively (Cohen, 1988). The dependent variable is unaffected by predictor factors with an f² less than 0.02. The middle-management role of synthesizing information, implementing deliberate strategy championing alternatives and facilitating adaptability have a substantial influence with f² of 0.281, 0.254, and 0.293 in the current model, whereas the FA has a slight effect with f² of 0.021.

Predictive relevance Q² (Step 5)

Predictive relevance Q² can also be used to measure how much R² a model has in terms of predicting accuracy. Smart-PLS3's blindfolding method, in which an observation is omitted after a predetermined distance D, can be used to obtain this value. Each data point of the distance is eliminated from the indication when the dependent variable's indicator is blinded, and parameters are derived using the remaining data (Henseler, et al., 2009; Lauro, 2005). These missing data points are treated as missing values by Smart-PLS, and they are calculated as such. The predictive relevance of Q² is determined by the difference between the omitted and expected values. There are three levels of predictive significance: small, medium, and large. Q² values of 0.02, 0.15, & 0.35, respectively. To compute the predictive relevance of Q², both the cross-validated redundancy technique and the cross-validated communality approach can be employed. A cross-validated redundancy approach was applied in this study. The blindfolding method is often utilized when the dependent variables have a reflective model that has already been addressed. In this study, the endogenous variable (i.e., strategy implementation) has a predictive relevance of Q² = 0.452, indicating that the model is highly predictive.

Calculating the effect size q^2 (Step 6)

The effect size q^2 investigates the proportionate influence of predictive significance, whereas the effect size f^2 analyses R^2 values. The difference in R-Square after an exogenous variable has been eliminated from the model is equivalent to the value of F-Square. The F-square, according to Cohen (1988), represents the size of the influence (a small value equals 0.02, a medium value equals 0.15, and a big value equal 0.35). Based on the statistical test Q^2 which measures the predictive relevance, different effect sizes, for example 0.35, 0.12 and 0.02 were categorized as larger, medium and small respectively in order to check the predictability of the independent variables. In order to measure the predictive relevance of the independent variables in this study the Q^2 score is 0.43 which comes under most favorable category of the predictability of the model. Falk and Miller (1992) recommended that the threshold value for significant R-square is equal to 0.10 to explain the variance in endogenous variables caused by one or multiple exogenous variables. According to Cohen (1988), the recommended and threshold R square values are 0.26 (substantial), 0.13 (moderate), and 0.02 (weak).

Conclusion

The main aim of the study is to examine the middle management roles and influence in an effective strategy implementation in both public and private universities in Khyber Pakhtunkhwa, Pakistan, plays a role in facilitating adaptability (FA), championing alternatives (CA), synthesizing information (SI), and making deliberate strategy implementations (DSI). We theoretically devised and experimentally evaluated an inclusive model of the influence of four distinctive strategizing roles of middle-management for the purpose of successful strategy execution and its dimensions. Strategy implementation consists of service enhancement, market growth, and student facilities was shown to be significantly influenced by middle management's strategic tasks of advocating alternatives (CA), synthesizing information (SI), and executing deliberate strategy (IDS). The results also showed that the strategic role of middle management in facilitating adaptability (FA) in strategy implementation is not significantly related to FA. Management and policymakers in Khyber Pakhtunkhwa, Pakistan, may use findings of the study to better understand the critical nature of middle management in higher education, particularly as it pertains to the development and execution of effective strategies in the setting of universities there. As a result, the research has relevance for both academia and business professionals in the administration as well as in the management of organization.

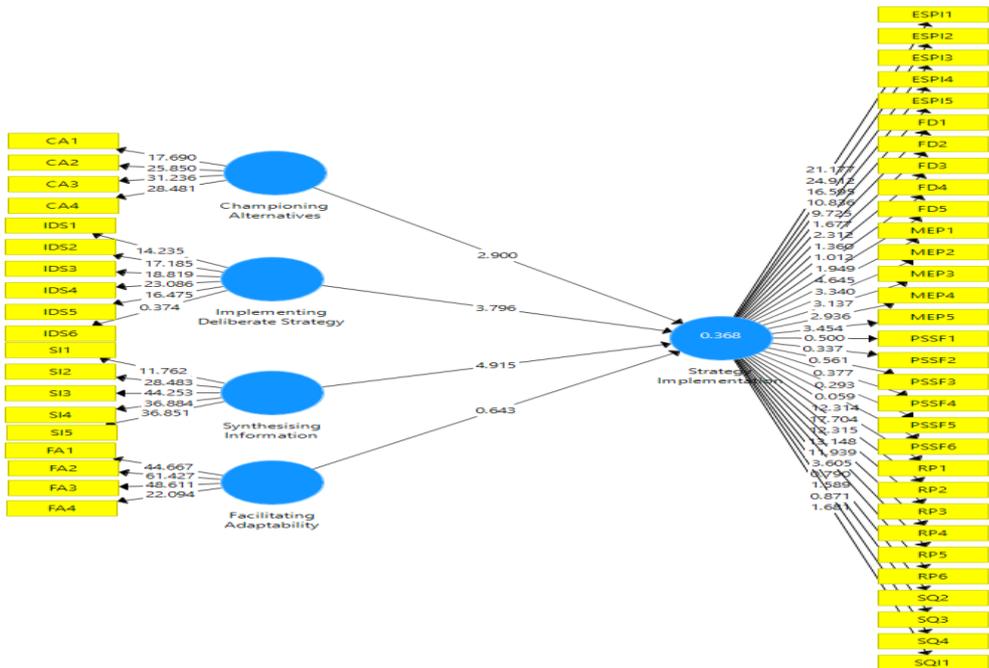


Figure 8 Path Coefficients and T Values and R Square of Structure Model for Strategy Implementation

Four distinctive strategizing roles of middle management in strategy implementation and its different unique dimensions were theoretically developed from the literature review and empirically tested as part of a single, unified model. Specifically, the results showed that the strategy implementation’s dimensions of research promotion in the university, the provision of quality education to students, expanding the markets by developing linkages with other universities and industries, and facilitating students through career counseling is significantly influenced by strategizing roles of middle management which include implementation of deliberate strategy, synthesizing information (SI), championing alternatives (CA). However, the results for the strategizing role facilitating adaptability in strategy implementation was insignificant in the context of university settings in both public and private sector universities. This may be because of the adaptation of formal procedures for conducting day today activities and formal organization structures. This study’s findings give management and policymakers with sufficient information to understand the significance of middle-management positions in academia for effective strategy creation and execution in the university contexts of both sectors universities of Khyber Pakhtunkhwa, Pakistan. Thus, the study has both theoretical as well as academic and professional contributions for scholars, administrators and management of different educational and other similar institutions. For successful and effective strategy implementations, policymakers and decision-makers in both the public and private university

sectors of Pakistan should consider the major middle-management tasks of promoting alternatives, synthesizing information, and executing a deliberate plan. According to empirical evidence, each of these three middle management roles has a considerable and positive contribution and influence on the critical strategy implementation components of enhancing student enrollment, launching aggressive promotional campaigns, especially in the untapped market, introducing attractive scholarships for talented students, and increasing alumni activities on campus.

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