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Effects of contextual variables on strategic investment decision-making styles: An empirical study from Pakistan.

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ABSTRACT

There is a gap in the literature of strategic investment decision making (SIDM) concerning the links between context variables, infrastructure and SIDM practices (or SIDM styles) in developing countries. This research aims to fill that gap. Survey data (N = 128) from the manufacturing companies listed on the Pakistan Stock Exchange was collected via an e-mailed questionnaire and visits to the companies. Data are analyzed with factor analysis and multiple regression analysis. The results reveal what we call four different SIDM styles (or emphases): *managerial power-*, *financial analysis-*, *top management-*, and *strategy-based investing*. These styles are considered to be novel perspectives on SIDM that have not been discussed in the previous literature. We find that high perceived profitability is linked only to financial analysis based investing style. Further, contextual variables, such as legislation or local gas shortfalls, have a significant impact on the SIDM style. The findings provide decision-makers and analysts with a comprehensive picture of strategic investment decisions (SIDs) in a developing market. For example, firms may benefit from analyzing their decision-making styles and their own SIDM context. There are no recent studies on SIDM practices with emphasis on a developing country specific local context issues. So, this research first fills the gap in the literature, by surveying the current SIDM practices in a developing country, using local context variables, and, by analyzing the different styles of SIDM.

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1. Introduction

Strategic investment decisions (SIDs), such as acquisitions, mergers and new product lines, typically involve high risk and they have a long impact on the firm's performance (Alkaraan & Northcott, 2013; Carr et al., 2010; Abdel-Kader & Dugdale, 1998; Van Cauwenbergh et al., 1996; Slagmulder, Bruggeman, & van Wassenhove, 1995). Other examples of SID include the introduction of fundamentally new products, and substantial increases in existing capacity (Alkaraan & Northcott, 2013).

Previous research into strategic investment decision making (SIDM) has explored the use of capital budgeting techniques and prevailing corporate practices (e.g. Alkaraan & Northcott, 2006) but

there is a need to know how these practices vary across contextual settings (Verbeeten, 2006), such as in developing countries or in local context. Further, SIDs are not centered on financial considerations only, because context and infrastructure issues, such as political culture and environment, and managerial decision-making power and incentives can also influence decisions (see e.g. Carr & Harris, 2004; Chen, 2008; Hartmann & Vachon, 2018; Iyoha & Oyerinde, 2010; Perez-Estebanez et al., 2018).

Various management styles, such as participative or authoritarian (e.g. Yu et al., 2016), have been noted. On the other hand, styles of stock market investing, such as value trading or technical trading, have been noted (Keim & Madhavan, 1997). However, even though there have been investigations into strategic investment decision-making (SIDM, see e.g. Emmanuel et al., 2010; Carr et al., 2010; Alkaraan, 2015), the potential styles of strategic investment decision making (SIDM styles) in developing countries have not received attention. Also the links between local context variables, like politics and infrastructure features, on SIDM, or the perceived links between SIDM style and firm performance, have not received much attention. Therefore, in this paper we will analyze SIDM in

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Pakistani local context. Methodologically the gaps in SIDM research will be studied based on empirical survey data from Pakistan using regression and factor analyses. Pakistan is growing economy suggesting large capital investments especially in the manufacturing sector, where companies often undertake big strategic investment projects (see Abdel-Kader & Dugdale, 1998; Alkaraan & Northcott, 2013). Therefore, with our survey data (N = 128), we aim to investigate the links between contextual variables and SIDM among Pakistani manufacturing companies, and ask: whether SIDM styles are linked to firm's perceived performance?

Our survey data involves 128 survey responses from the managers of Pakistani manufacturing companies in 2018. As analysis methods, following e.g. the methodological choices made by Alkaraan and Northcott (2013), this study will employ Pearson correlation analysis, multivariate regression analysis, and explorative factor analysis, namely principal axis factoring. Based on our data and explorative factor analysis, we identify four different strategic investment styles: managerial power -based investing, financial analysis -based investing, top management -based investing and strategy-based investing. Regression analyses were then run to analyze the links between the four styles of investing found and contextual variables. The paper is organized as follows: the sections below is a literature review about SIDM and then the contextual and other variables studied are identified. Next the research methods and data employed are outlined and results introduced. Finally, discussion and conclusions follow.

2. Literature review

2.1. SIDM and research background

Capital investment decisions comprise both short-term operational investment decisions and long-term strategic investment decisions (SIDs, see Alkaraan, 2015). As an example, operational decisions include the replacement of an existing asset but SIDs are unusual events that lead the company to new directions (Alkaraan & Northcott 2006, 2007). Because investment decisions typically need to be prioritized, managerial judgment and insight are required (Alkaraan, 2015).

Emmanuel et al. (2010) suggest that strategic investment decisions are critical in supporting long-term organization performance and maintaining strategic opportunities. Moreover, SIDs such as mergers, acquisitions, new product development, investing in new facilities or adopting new business processes may have repercussions on the future success of the organization. Furthermore, each SID represents an uncertain challenge for the organization so that SIDs involve high risk, changes in the distribution of organizational power, and the SID outcomes can be somewhat unpredictable and hard to quantify (Alkaraan & Northcott, 2006, 2013). Carr & Tomkins, 1996, Carr & Tomkins, 1998 emphasize the linkage of SIDs to developments that can significantly affect long-term organizational performance. Additionally, previous studies indicate different features of SIDs that are summarized by Alkaraan and Northcott (2007) who characterize SIDs as substantial, uncertain, long-term, competitively complex, subjective, non-programmed and unusual.

This research focuses on Pakistan, a South Asian country with 200 million inhabitants neighbored by India, China, Afghanistan and Iran. Pakistan became independent in 1947 after being under British rule from 1858 to 1947. Over recent years South Asia has sustained a period of vigorous growth that has elevated living standards and facilitated advances in health and education. The World Bank reports that between 2013 and 2016, growth in South Asian countries improved from 6.2% to 7.5%, a higher rate growth than of many other nations during that period. The World Bank

expects countries in South Asia to continue this growth trajectory in the coming years (World Bank, 2019). Such economic growth suggests both that strategic investments have been made and that understanding them will continue to be managerially important.

2.2. The contextual variables affecting SIDM

SIDM research has focused for example on how capital budgeting methods have been utilized throughout contextual settings (Allameh, 2018). Conceptually, SIDM does not relate to financials only but to many issues in the field, such as strategy, culture and context (Attia & Essam Eldin, 2018). In stock market investing, Keim & Madhavan, 1997 identified different investment styles relating to the selection and timing of investments. Further, variations in management styles, such as participative or authoritarian styles have been noted (e.g. Yu et al., 2016).

However, there is a shortage of literature relating to the effects of contextual variables, such as infrastructure and demographics, on SIDM styles. The present study bridges this gap and points to implications for management on the one hand and to avenues for further research in the SID field on the other. This study will examine whether the contextual variables like company size, perceptions of the local context (politics, energy etc.), strategic objectives, corporate performance, organizational use of power, managerial judgment, as well as the demographic characteristics of decision-makers are linked to SIDM styles (Alkaraan & Northcott, 2007, 2013).

These aspects also form our conceptual framework of SIDM, where several issues like *planning procedures, strategy, managerial power, company size, local context and the accounting tools* used can affect the creation of specific SIDM styles. The literature indicates styles or dimensions of the SIDM process but the details of these SIDM styles (or factors) are yet unexplored and thus require further investigation conducted in this paper in Pakistani context. Next we look at the various conceptual aspects and details of SIDM, and form our hypotheses.

2.2.1. Types of strategic investment and company size

Not all strategic investments are similar and so the types of strategic investments typically include: acquisitions, mergers and new product development, new facilities and the adoption of new business processes (Alkaraan & Northcott, 2013; Carr et al., 2010; Elbanna & Child, 2007). Papadakis et al. (1998) separate also investments in marketing and in tangible capital equipment. Therefore, the type of investment is studied also in this study.

Contextual variables, such as the size of a company, can be contingency items affecting SIDM and other organizational processes (Ansio, 2010; Chenhall, 2003; Fredrickson, 1984; Fredrickson & LaQuinta, 1989; Mintzberg & Waters, 1982; Papadakis et al., 1998; Pike, 1996; Verbeeten, 2006). Some studies indicate that company size is related to SIDM processes, although there is mixed evidence of the direction of the relation (Ansio, 2010; Mintzberg & Waters, 1982; Papadakis et al., 1998; Verbeeten, 2006) Further, there are also studies where no impact of company size in connection with strategic investment decision was found (Huang & Huang, 2020). Such conflicting results highlight the need for further investigation. That is why this study includes company size as a contextual variable, and so our first hypothesis is:

H1. Size of the company has an impact on SIDM

2.2.2. Infrastructure and context

Strategic investment or management studies are scarce in developing countries. However, according to Herzig et al. (2012), globalization has moved many industrial and manufacturing

activities from the USA and Europe to Asia, specifically to the South-Asian region. The contextual features of the country of origin have been noted as important in many business studies or when studying SIDM (Chow et al., 1991; Jones et al., 1993).

Field studies on SIDM also indicate that cross-country differences do affect strategic investment decisions (Carr et al., 2010). Values may also influence the fundamental beliefs and observations that lead to different strategic choices, and these may vary among countries (Ziegler, 2017). However, the *local infrastructure* in a specific city and other local context issues, such as area politics or energy supply, have not been studied widely. Therefore this study highlights the context of SIDM, i.e., uses contextual variables while investigating SIDM practices. Further, despite research on decision styles or investing styles (e.g. Carr, 2005; Keim & Madhavan, 1997) and types of strategic investments (Alkaraan & Northcott, 2013; Carr et al., 2010; Elbanna & Child, 2007), the strategic investment decision making styles (SIDM styles) in developing countries have not received attention. Thus the second research hypothesis is related to the effects of contextual variables (both developing country and local area-specific variables) on the SIDM practices and styles:

H2. Local area context has an impact on SIDM practices or SIDM style

2.2.3. Firm performance

Strategic objectives and choices also shape SIDM so that for example firms choose their projects on a strategic basis, especially for big projects, such as diversification, mergers, acquisitions, or launching a new product (see Carr et al., 2010; Dean & Sharfman, 1996; Kulkarni et al., 2017). Further, financial aspects and financial performance have been seen central in SIDM analyses (e.g. Boeddeker et al., 2011).

The firm's performance, however, contains non-financial as well as financial performance (Muthueloo et al., 2017). In this study, we analyze the perceived profitability, growth, and efficiency using both financial and non-financial variables, such as flexibility and market share. Several studies have indicated the role of the firm's performance and various analysis techniques that may affect SIDM (Elbanna & Naguib, 2009; Fredrickson, 1985; Priem et al., 1995). Huang and Huang (2020) suggest that the higher a firm's performance, the lower the organization's search for information. This suggests that a firm's performance can have an inverse relationship with the quality of decision-making (Fredrickson, 1985). Yet other studies reveal that past performance has a positive connection with a firm's performance (Steinbach et al., 2017). Therefore, there is a need to investigate a firm's performance and SIDM via empirical research. For example, differing SIDM styles may be found and these may have an association with firm performance, suggesting the following hypothesis:

H3. High perceived firm performance is linked with SIDM style

2.2.4. Demographics, managerial influence and culture

Understanding the role of managers is also essential in the strategic decisions of the firm, because managerial judgment based on intuition and experience may affect strategic decision-making (Huikku et al., 2018). However, CEOs typically retain the most power in decision-making (Hui & Fatt, 2007), and there may be differences in the emphases, degree of power or ability of top managers and other managers (e.g. Steinbach et al., 2017; Wilson et al., 1986). This issue will be studied in this paper. Further, concerning the demographic characteristics of the management team, few studies are available that indicate a relationship between the demographics of senior management and SIDM practices. Differing perspectives have emerged in previous studies. For instance Lyles

and Mitroff (1980) reveal that the organizational strategic-formulation process does not have any relationship with the characteristics of senior management. Other researchers suggest that managerial experience, education, and risk tendencies can influence investment decisions (Kannadhasan & Nandagopal, 2010; Kuo et al., 2018; Papadakis, 2006; Papadakis et al., 1998). We therefore include the demographics (experience, gender) of management as contextual or control variables for explaining the SIDM styles.

Many researchers have concentrated on financial and strategic approaches (Alkaraan & Northcott, 2006) and the vital segments (Hambrick, 2003), with less emphasis on cross-cultural SIDM practices (Carr, 2005). Therefore the Pakistani local context will be considered in the current paper. Cultural features have been studied in many organization and societies for example by attempting to adopt the Hofstede (1980; 1983) studies, which concentrate for example on how managers around the world conduct themselves and therefore we also study the managerial influences on SIDM practices, such as top-management and lower level management influence, and we distinguish different SIDM styles. However, the details of organization culture are largely out of the scope of the paper and therefore we focus on the country of context features, hypothesized already in H2. The next section discusses the research approach used to give answers to the raised hypotheses.

3. Methodology

Our survey was conducted on manufacturing companies in the Islamic Republic of Pakistan in the spring of 2018. The questionnaire consisted of four pages. Respondents respond to the survey questionnaire using a Likert scale from 1 to 5 (1 = "strongly disagree" and 5 = "strongly agree"). The manufacturing company focus is used for example by Ahmadi et al. (2020) but specifically our sample and many of the survey instrument statements and methodological choices (e.g. factor analysis and multivariate regression analysis) are adapted from the Alkaraan and Northcott (2006, 2013) studies of capital investment to enable comparison. However, we add to these studies by using more local context related questions.

The context related statements (or questions) in the survey instrument (e.g. about the area-specific risks and circumstances, like political environment or shortfalls of gas or electricity) were developed by the researchers. However, the survey statements about strategy and top level manager influence were based on, or influenced by, discussions by Alkaraan and Northcott (2013). Further, the survey instrument or statements regarding political and legislative issues were partly based on discussions on political and societal issues (e.g. Gallhofer & Haslam, 2007) and partly based on developing country infrastructure special situations, including electricity shortfalls. Developing country context issues have been discussed for example by Perez-Estebanez et al. (2018) and Iyoha and Oyerinde (2010).

The sampling technique involved taking all the manufacturing companies listed on the Pakistan Stock Exchange (PSE) that have head offices in the cities or areas of Lahore, Karachi, Islamabad, Faisalabad, and Multan. Financial service and insurance companies were consequently left out of the sample as their operations and risks may differ from manufacturing companies. Most of the companies were called by telephone and then an e-mail was sent to the appropriate person (e.g. CFO). Further, it was even possible for one researcher to personally visit many (about 50) of the headquarters in Lahore (the biggest city or area) to increase the response rate. In addition to these personal visits, some reminder e-mails were sent and phone calls were made in order to increase the sample size.

Table 1
Variables used for finding SIDM styles.

Variables
Var 1 Strategic investment decisions emerge through the formal planning processes of your firm
Var 2 Strategic investment decisions derive from an explicit corporate strategy
Var 3 We have formal procedures for evaluating strategic investment decisions
Var 4 Investment opportunities are identified and proposed by top management
Var 5 Lower-level managers in the organization are involved in strategic investment decisions
Var 6 Strategic investment decisions are influenced by the relative power of various groups in the firm
Var 7 Strategic investment decisions are influenced by negotiations among groups in the firm
Var 8 Financial evaluation techniques are often used in the early analysis of strategic investments
Var 9 The evaluation of strategic investment is left to the judgment of top management
Var 10 A strategic investment proposal will be rejected if its expected financial return does not meet the minimum requirements of return on investment
Var 11 A strategic investment proposal whose expected financial return meets the minimum requirements can be rejected if it does not fit with the firm's competitive Strategy
Var 12 A strategic investment proposal whose expected financial return meets the minimum requirement of return on investment can be rejected if it does not satisfy the expectations and intuition of the top managers.
Var. A strategic investment proposal whose expected returns fall below the required level can still be accepted for strategic reasons

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These manufacturing companies represented numerous industrial sectors, such as textile, sugar, ceramics, food, pharmaceuticals, cement, fertilizers, leather, paper & board, oil, chemicals, glass, technology, wood products, automobiles, and refinery. Out of the 309 manufacturing companies, 187 participated in the survey, amounting to 60.51% of the total number that came within the scope of sampling. Out of 187 participants, 128 responses were valid for final analysis (41.4% out of the full population of 309). The questionnaires were distributed among Chief Financial Officers, Management Accountants, Finance Managers, Account Managers, and Treasury Managers of participating companies. Responses of these officials were distributed as follows: Chief Financial Officers 32.8%, Finance Managers 30.5%, Management Accountants 18.8%, Chief Operation Officers 14.8%, and Treasury Managers 3.31%. Respondents who had an accounting and finance background comprise 81.2% of the sample, leaving 18.8% with an operational background.

As analysis methods, following e.g. [Alkaraan and Northcott \(2013\)](#), this study will employ Pearson correlation analysis, multivariate regression analysis, and explorative factor analysis, namely principal axis factoring analysis, to identify SIDM factors, i.e. the SIDM styles. Explorative analysis means that the factors are built based on data, on the survey answers, and not directly on earlier literature, even if the earlier literature (e.g. [Alkaraan & Northcott, 2006](#)) has affected the creation of survey statements. Further, multivariate regression analysis will be employed to assess for example the linkages between the contextual factors and the SIDM styles (the managerial power-based investing, strategy-based investing, top management based investing, and financial analysis based investing factors found in the explorative factor analysis).

The next section shows the findings (using SPSS statistics 24) in two parts. The first part includes the identification of SIDM styles using exploratory factor analysis. The second part shows the regression analyses regarding the links between contextual variables and SIDM styles.

4. Results

The 13 survey questions or statements in [Table 1](#) capture the views about the dependent variables related to SIDM styles (see [Table 1](#)). Principal axis factoring was used to classify different factors based on these variables. These variables are collected from the previous literature. It will further investigate the concept of investment styles, which not very deeply evaluated in prior research. Also, as the first step of the analysis, a correlation matrix (see [Appendix 1](#)) was computed for the 13 variables.

4.1. Factor analysis

[Table 2](#) presents the results (pattern matrix) of factors produced by the Principal Axis Factoring with Promax rotation ^[1] as well as the factor loadings and the total variance explained by the elements. Four significant factors were found. All the 13 variables have loading for the factors, and thus no variable is excluded from the analysis. The four factors representing the four styles of strategic investment decision-making are named as *Managerial Power-based investing*, *Financial Analysis based investing*, *Top Management based investing*, and *Strategy based investing*. All the factors have an Eigenvalue greater than 1. The Eigenvalues of factors 1, 2, 3, and 4 were 2.44, 2.44, 1.83, and 1.45, explaining 22.92%, 14.93%, 9.29%, and 6.05% variance respectively and they together explain 53.17% of the variance.

The results show significant correlations among the factors (see [Appendix 2](#) for the factor correlation matrix). Managerial power-based investing is showing a positive relationship with financial analysis based investing and Strategy based investing. This suggests that managers of the companies typically base their decisions on economic analysis and also follow the Strategy of the company. On the other hand, top management based investing has a negative correlation with Strategy based investing. It suggests that senior management does not always pay attention to Strategy but may have their own agendas, or they need to adjust to the unstable political environment. Next, the factors (SIDM styles) are presented in detail.

4.2. Regression analysis

In this section, the impact of different contextual variables on the four styles of SIDM highlighted by the decision-makers (presented above) is analyzed. All the contextual variables are selected from the prior literature, but now these several contextual variables (studied individually in literature) are analyzed concerning the styles of investing. [Table 4](#) presents the results of the variance analysis of statistical significance for each equation and the best

¹ The correlation matrix (from SPSS, see appendix 1) shows that many of the variables are correlated. [Fabrigar, Wegener, MacCallum, & Strahan, 1999](#) state that correlations and correlation analyses allow for "the computation of a wide range of indices of the goodness of fit of the model and permits statistical significance testing of factor loading and correlations among factors." Further, earlier research has recommended the use of Principal Axis Factoring in SPSS ([Fabrigar, Wegener, MacCallum, & Strahan, 1999](#)). Thus, Principal Axis Factoring with Promax rotation is used.

Table 2
The SIDM styles (SPSS Pattern Matrix and variable loadings).

	Managerial power-based investing	Financial analysis based investing	Top management based investing	Strategy based investing
Var13(Top Managers Intuition)	.842	-.248	.053	-.107
Var 6 (Power of Managers)	.654	-.003	.137	.192
Var 12 (Competitive Strategy)	.633	.071	-.052	-.404
Var 5 (Lower level Managers)	.562	.045	-.122	.099
Var 7 (Negotiations)	.409	.394	-.135	.181
Var 2 (Corporate Strategy)	-.188	.816	-.190	-.102
Var 3 (Formal Procedures)	.166	.711	-.017	.233
Var 1(Formal Planning)	.127	.589	.251	-.130
Var 8 (Early Financial Analysis)	-.065	.465	.274	-.114
Var 11 (Return on investment)	-.120	.321	.214	-.259
Var 4 (Investment Opportunities)	-.102	.095	.825	.103
Var 10 (SIDM Evaluation)	.106	-.166	.781	.026
Var 14 (Strategic Reasons)	.037	-.067	.076	.874
Eigenvalues	2.44	1.83	1.83	1.45
% of variance	22.92	14.92	9.29	6.05

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

model summary of each regression model (estimated with the Stepwise method). It shows the numerical results of the F ratio and its level of significance. These regression models predict the degree to which contextual factors determine each style of SIDM. The range of explanatory power (R square) is between 0.665 and 0.862. These results are acceptable compared with prior research results (Alkaraan & Northcott, 2013; Chen, 2008).

In light of the results in Table 3 above, some variables seem to be related to SIDM styles. Table 4 below summarizes the acceptance or rejection of the developed hypotheses. In the next sections, further explanation of the regression models will be given.

4.2.1. Regression results (for factor 1, managerial power-based investing style)

In the first regression model, the managerial power is the dependent variable and is explained by other variables such as context variables. The regression coefficients in Table 3 show for example that the type of investment does not influence managerial power-based investing. This result contradicts previous research of Papadakis et al. (1998) and Alkaraan and Northcott (2013) who mentioned that different types of investment may have an impact on strategic investment decision-making (SIDM). However in our Pakistani sample the introduction of a fundamentally new product line was the main strategic investment type, and only very few mergers and acquisitions had taken place among the surveyed 128 companies. Further, there were very few female respondents in the sample. Managerial power based investing seems to be concerned for example with company image and consistency with company strategy, as well as reduced lead times (see positive coefficients in Table 3). The overall power of explanation (R square) of this model is equal to 0.862, which means this model has about 86% explanatory power.

4.2.2. Regression results (factor 2, financial analysis based investing style)

The dependent variable in the second regression model is the financial analysis based investing style. Profitability is portrayed as a key variable aligned with the financial analysis based investing style. Instead there is less focus on shareholder wealth (a negative coefficient). These results support Carr et al. (2010) and Alkaraan and Northcott (2013) that the shareholder wealth considerations may sometimes, such as in short-term, harm strategic investments, e.g., by expressing interest in risky new areas. However, besides financial consideration, there is also some focus on the company image and on the quality and reliability of outputs in the financial analysis based SIDM style. The overall power of explanation (R

square) of this model is equal to 0.665, which means this model has about 67% explanatory power.

4.2.3. Regression results (model 3, top management based investment style)

The third regression model focuses on the top management based SIDM style. The regression results suggest that with this style there needs to be a clear focus on the political environment (perhaps reflecting the firm's vulnerability to significant political changes and decisions). However, legislation focus in general is not equally important for senior management based investing style. The infrastructure issues, such as shortfalls of energy, suggest a difficult operating environment where the influence and discretion of top management may be most needed. Interestingly, only a single strategic objective called survival (avoiding bankruptcy) positively affected top management based investing. Further, economic value-added or improved delivery speed seem not to be important in this SIDM style but instead they have a significant negative influence on this SIDM style. The overall power of explanation (R square) of this model is equal to 0.701, which means this model has about 70% explanatory power.

4.2.4. Regression results (model 4, strategy based investing style)

This regression model focuses on the Strategy based investing style. The focus on economic value-added, manufacturing flexibility, reduced inventory levels, and reduced lead times characterize the strategy based investment style. These results are relatively consistent with Carr et al. (2010) regarding the importance of non-financial issues in investing, but add to Alkaraan and Northcott (2013) who largely employ the traditional financial focus. The use of financial techniques or demographics did not have a statistically significant influence on this style. However the model had a relatively good explanation power (R square = 0.675).

5. Discussion

We based our conceptual view on SIDM to several issues mentioned in the earlier literature like planning procedures, strategy, managerial power, company size, local context and the accounting tools used that can affect the creation of specific SIDM styles. Our regression results suggest a strong association between the contextual elements and the styles of SIDM. It seems that the country features (political and infrastructural) issues, SIDM styles, profitability and the firm's performance act together. The findings contribute to understanding the importance of the firm's environment in SIDM. Further, the decision-making styles seem to be

Table 3
Summary of the best models of regression analysis explaining the SIDM styles.

Variables	Managerial power-based investing (Model 1)	Financial analysis based investing (Model 2)	Top management based investing (Model 3)	Strategy based investing (Model 4)
Type of strategic investment decision				
1. Introduction of fundamentally new product line	–	–	–	–
Company size				
2. Industry	–	–	–	–
3. Sales revenue	–	–	–	–
Country/area context				
4. Country/area political environment	–	–	0.376	–
5. Current legislation	–	–	–0.358	–
6. Investors are afraid of new investments	–0.204	–	–	0.245
7. Electricity shortfall	0.167	–	0.345	–0.183
8. Sui gas shortfall	–	–	–0.251	–
Strategic Objectives				
9. Profitability (net profit)	–0.241	0.335	–	–0.275
10. Efficiency (low costs)	–	–	–	–
11. Growth (increase in total assets, sales)	–	–	–	–
12. Shareholder wealth (dividend plus stock price)	–	–0.402	–	–0.160
13. Market leadership (market share)	–	–	–	–
14. Technological leadership (innovation)	–	–	–	–0.496
15. Survival (avoiding bankruptcy)	–0.329	–	0.188	–
Firm's performance (Non-financial)				
16. Consistency with corporate Strategy	0.242	–	0.312	–
17. Improved company image	0.400	0.286	–	–
18. Improved product quality	–0.223	–0.238	–	–
19. Improved competitive position	–0.386	–	–	–0.263
20. Economic value added	–	–	–0.201	0.452
21. Greater manufacturing flexibility	0.160	–	–	0.402
22. Easier production scheduling	–0.210	–	–	–0.442
23. Increased market share	–	–	–0.262	–
24. Reduced scrap/rework cost	0.104	–	–0.150	–
25. Reduced manufacturing lead time	0.266	–	–	–
26. Increase delivery speed to customer	–	–	–0.184	–
27. Reduced costs in product design	0.177	–	–	–
28. Reduced after-sales costs such as warranties	0.121	–	–	–
29. Reduced inventory levels	–0.249	–	–	0.308
30. Savings from less frequent set-ups	0.305	–	–	–
31. Quality and reliability of outputs	0.270	0.449	0.447	–
32. Reduced lead-times	0.291	–	–	0.573
Firm's performance (Financial techniques)				
33. Net present value	0.190	0.473	–0.191	–
34. Payback period	–	0.225	–	–
35. Average accounting rate of return	–	–0.164	–	–
Demographics of respondents				
36. Specialist background	–	–	–	–
37. Gender	–	–	–	–
Summary of best regression model				
R	0.928	0.816	0.837	0.821
R ²	0.862	0.665	0.701	0.675
Adjusted R ²	0.840	0.642	0.669	0.646
F Change	5.11	5.877	4.450	5.553
Sig. F change	0.026	0.017	0.037	0.020

Table 4
Summary of hypothesis testing.

Hypothesis acceptance/rejection summary	Result	Reason for acceptance/rejection
H ₁ : Size of the company has an impact on SIDM	Rejected	Company size has no significant coefficients in Table 3
H ₂ : Local area context has an impact on SIDM practices or SIDM style	Accepted	Significant coefficients in Table 3 e.g. for political environment, legislation and shortfall of gas.
H ₃ : High perceived firm performance is linked with SIDM style.	Accepted	Economic value added has a coefficient of 0.452 with strategy based SIDM. High profitability is positively linked only to the financial analysis based SIDM style in Table 3 , however.

more complex than the standard literature suggests. At least in the Pakistani context, we found different SIDM styles: managerial based investing, financial analysis investing, top management based investing and strategy based investing. The research presented in this paper is, however, a step towards understanding the variables and issues in SIDM in a developing country context. The results suggest that the executives of Pakistani companies exercise high managerial power, when making strategic plans for the organization. However, this is not necessarily the best way to make SIDs increase profitability, since high profitability was mostly associated with the financial analysis based investment style, and not on top management based investing style.

Based on the responses of the 128 decision-makers or managers involved in decision-making practices, we found that multiple contextual elements shape the SIDM styles in Pakistan. We found also that understanding the political environment seems to be highly important issue in the top management based investing style. The research results contribute to the suggestions of Verbeeten (2006) and Alkaraan and Northcott (2013) that contextual factors shape the SIDM practices in the Pakistani context. Further, refining the works by Emmanuel et al. (2010), Carr et al. (2010) and Boedeker et al. (2011), we show how strategic objectives and the firm's performance relate to SIDM practices (see Tables 3 and 4).

There are possible limitations in our data. Many companies considered that SIDs relate only to new product lines. Further, the demography of the decision-makers seemed not to be a significant influence on SIDs but it is to be noted that there were only very few female respondents in the sample. Also the organizational culture and environmental attributes may affect organizational practices (e.g. Hartmann & Vachon, 2018) but the focus of this research was not on cultural or environmental issues in Pakistan, where it seems that strategic decision-making is typically a top-down exercise and that companies are conservative. Further, even if the regression models had high explanatory power, it must be noted that a part of the variance in results always remains unexplained and that results may not be generalizable over time.

6. Conclusions and implications of the research

The study analyzed the responses of decision-makers from manufacturing companies in Pakistan. In the research design, we followed Alkaraan and Northcott (2006; 2013) but focused especially on the effects of contextual variables on strategic investment decision-making (SIDM) as well as on SIDM styles. We address some possible gaps in SIDM literature, especially regarding the links between SIDM styles, context and company performance in developing countries and in local context.

Based on our data and explorative factor analysis, we found four different styles of SIDM: *managerial power-based investing*, *financial analysis-based investing*, *top management-based investing* and *strategy-based investing*. Further, by utilizing multivariate analysis, the linkages of these styles of SIDM and various contextual factors were analyzed. The contextual variables included country-, local/region-, organizational-, managerial- and decision-making-specific features. The earlier SIDM literature has often focused on a few contextual factors and has reported mixed results (see Alkaraan & Northcott, 2013). In this study with a wide conceptual view, it was found that, from the contextual and control variables selected, the size of the company had no impact on SIDM and thus, study hypothesis 1 was rejected.

The contextual variables, such as legislation or electricity shortfall, showed a significant link to SIDM styles in Table 3. This corroborates hypothesis 2 that the local or regional area context features have an impact on SIDM practices, and suggest that

political and legislation issues are most important to companies with top management based investing style.

Further, strategic/company issues and the firm's performance were found to be associated with SIDM: profitability with the financial analysis based SIDM style and economic value added with the strategy based investing style. These findings corroborate hypothesis 3. Our results contribute to Alkaraan and Northcott (2013) by refining the ways in which the contextual variables have an impact on strategic investment process. In particular, this study reported that the unstable political environment and infrastructural situations in Pakistan have an impact on SIDM, for example by highlighting top management discretion. This adds to previous literature (e.g. Ahmadi et al., 2020; Alkaraan & Northcott, 2013) in developing country-context by highlighting the impact of an unstable area or local politics and infrastructure on SIDM.

This study is based on data from 2018 and it continues the work of earlier literature both in both the developing country and Islamic/Asian country contexts (e.g. Ahmadi et al., 2020). We expect our results to be fairly generalizable in Islamic developing countries. Further, with its focus on local context this study also provides information for future research to compare future results and findings in other countries. Moreover, some traits of the SIDM styles found may be applicable also generally and help to analyze the processes by which organizations align their strategies, SIDM and other objectives.

As a practical implication of the study, the various stakeholders could identify which style of decision-making they are practicing in their organization, and aim to affect the key contextual issues and managerial practices. Further, realizing that one SIDM style is not the only way in which managers can operate may be helpful so that a different style of investing may suit different situations. Even if the findings of the study suggest that managerial power and financial analysis based investing are the most prominent SIDM styles in Pakistan, top management insights and strategy issues can also carry weight in SIDM. Moreover, a company may improve the SIDM process by understanding the requirements of the local context.

We also found some indications of top and lower level management differences, which warrant further study, for example together with management style (see Yu et al., 2016). Future studies might also pay more attention to cultural, environmental and political issues of SIDM. Further, the current Covid-19 situation may have changed expectations of future growth thereby putting pressure on the management of large investment projects – a potentially productive topic for future study as well. Lastly, the long-term success factors of SIDs and the risk analyses in SIDM as well as the related accounting education needs in the developing countries could be further analyzed.

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Appendix 1

Correlations among the various variables of SIDM styles

		Var1	Var2	Var3	Var4	Var5	Var6	Var7	Var8	Var9	Var10	Var11	Var12	Var13	Var14
Var1	I	1													
	II														
Var2	I	.494**	1												
	II	.000													
Var3	I	.481**	.457**	1											
	II	.000	.000												
Var4	I	.449**	.072	.150	1										
	II	.000	.419	.090											
Var5	I	.280**	-.035	.401**	.009	1									
	II	.001	.697	.000	.917										
Var6	I	.251**	-.030	.353**	.062	.388**	1								
	II	.004	.738	.000	.490	.000									
Var7	I	.287**	.333**	.529**	-.065	.356**	.523**	1							
	II	.001	.000	.000	.465	.000	.000								
Var8	I	.339**	.346**	.371**	.421**	-.163	.147	.126	1						
	II	.000	.000	.000	.066	.097	.156								
Var9	I	-.010	.084	.011	-.039	.238**	.110	.085	-.014	1					
	II	.909	.345	.898	.661	.007	.218	.341	.877						
Var10	I	.271**	-.080	.009	.536**	-.116	.179*	-.003	.160	.119	1				
	II	.002	.367	.924	.000	.191	.043	.975	.072	.181					
Var11	I	.295**	.158	.194*	.238**	-.110	-.171	.043	.340**	-.087	.247**	1			
	II	.001	.075	.028	.007	.214	.054	.632	.000	.331	.005				
Var12	I	.203*	.091	.260**	.121	.287**	.254**	.193*	.197*	-.169	.066	.113	1		
	II	.021	.305	.003	.175	.001	.004	.029	.026	.056	.458	.205			
Var13	I	.084	-.094	.091	-.078	.372**	.527**	.333**	.018	.294**	.250**	-.140	.338**	1	
	II	.346	.292	.309	.382	.000	.000	.845	.001	.004	.114	.000			
Var14	I	-.151	-.055	.214*	-.162	.186*	.303**	.256**	-.128	.142	-.008	-.349**	-.262**	.252**	1
	II	.089	.541	.015	.067	.035	.001	.004	.150	.111	.931	.000	.003	.004	

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).
Notes: I – Pearson Correlation coefficient; II – Significance (two-tailed).

Appendix 2

Correlation Matrix of Factors

		Managerial power-based investing	Financial analysis based investing	Top management based investing	Strategy based investing
Managerial power-based investing	I	1			
	II				
Financial analysis based investing	I	.398**	1		
	II	.000			
Top management based investing	I	.120	.303**	1	
	II	.184	.001		
Strategy based investing	I	.370**	.121	-.319**	1
	II	.000	.180	.000	

Notes: I – Pearson Correlation coefficient; II – Significance (two-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

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