



received: 11 November 2021
accepted: 8 March 2022

pages: 113-124

© 2022 N. Afzal & A. Hanif

This work is published under the Creative Commons BY-NC-ND 4.0 License.

FACTORS AFFECTING PROJECT PERFORMANCE IN EMERGING CONSTRUCTION FIRMS: A MODERATED MEDIATION MODEL

NIMRA AFZAL AAMER HANIF

ABSTRACT

This research study explores the relationship between customer focus and the performance of construction projects undertaken by small companies. Additionally, process management in these companies has been studied as a mediator in explaining the relationship between customer focus and project performance. A moderated mediation model has been proposed to investigate the role of strategic planning and its effects on project outcomes. Data was gathered from 326 staff members working at different levels of management in some of Pakistan's emerging construction companies owned by young entrepreneurs. The study's findings revealed a positive relationship between customer focus and project performance mediated by process management. Moderation analysis indicates a significant relationship between process management and project performance when moderated by strategic planning. Constraints to the study have been identified, and suggestions for future research have been offered.

KEY WORDS

emerging construction firms, customer focus, process management, strategic planning, project performance

10.2478/emj-2022-0010

Nimra Afzal

Air University, Pakistan
ORCID 0000-0002-8892-291X

Corresponding author:
e-mail: nimraafzal235@gmail.com

Aamer Hanif

Air University, Pakistan
ORCID 0000-0003-2301-8986

INTRODUCTION

The need for innovation and continuous improvement has increased global competition between companies. Continuous improvement has become a challenge, conforming to exceptional qual-

ity standards and exceeding the needs and expectations of internal and external customers, specifically in developed countries (Yazdani et al., 2016). Many proposed initiatives encourage businesses and guide them in improving and enhancing their competitive-

Afzal, N., & Hanif, A. (2022). Factors affecting project performance in emerging construction firms: a moderated mediation model. *Engineering Management in Production and Services*, 14(1), 113-124. doi: 10.2478/emj-2022-0010

ness, process improvement, quality productions and services, cost reductions, and customer retention (Dreyfus et al., 2004; Imran et al., 2018).

Initially, quality initiatives were extensively used in the manufacturing industry and then in the services sector, but they are comparatively new in the construction industry. These have shown a significant influence on company performance in the past (Heravi & Faeghi, 2014). In the construction industry, different projects are undertaken with different professional teams fulfilling requirements and managing complexity and uncertainties daily. Quality management initiatives allow the construction sector to deal with these challenges by employing strategies that help them manage all of the interrelated components, methods, personnel, and tasks. It is essential in the construction industry in both emerging and developed companies to assure project completion on time, within authorised budgets, by increasing productivity and effectiveness to avoid and reduce losses. Research studies have been conducted to demonstrate the importance of quality management initiatives for small and medium-sized businesses (SMEs), which are considered the backbone of the economy (Mamman et al., 2019). Some other examples are TQM implementation in SMEs in Iran (Mehrabion Mohammadi et al., 2021), India (Toke & Kalpande, 2021), Oman (Karyamsetty, 2021), and Kuwait (Sawaeen & Ali, 2020). These studies have confirmed the importance of total quality management elements in enhancing the performance of any SMEs.

Recently, Pakistan has been observing a trend among young people to initiate and run their businesses, such as small construction companies having less than 20 employees. These small organisations are primarily characterised as project-based organisations. Many research studies primarily focus on manufacturing SMEs, and there is a lack of research on emerging and small project-based organisations in Pakistan. Some recent local cases explored different dimensions of total quality management, including hospital performance (Maqbool, 2019), export performance (Imran et al., 2018), financial and non-financial performance (Shafqat et al., 2021). However, studies that focus on organisational processes, customers and project performance in emerging small construction companies are still deficient, which is identified as a research gap likely to be filled by this research.

This study aims to explore the impact of process management and customer focus initiatives and their impact on project performance in emerging and

small construction companies in Pakistan. The key objective is to investigate the research idea as a moderated mediation model where the mediating role of process management and the moderating role of strategic planning is studied to understand their impact on project performance. The research outcome is likely to bring a better understanding of process management and customer focus initiatives in small companies in terms of construction project performance. Management of small construction companies will be able to tailor processes when engaging in management activities for improving project performance within construction firms.

The paper is structured as follows. The literature review of the study is covered in the first section. The research methodology is covered in the second section, after which the analysis and results are presented in the third part. The discussion on findings is presented in the fourth section, after which the paper is concluded with directions for future research.

1. LITERATURE REVIEW

1.1. CUSTOMER FOCUS AND PROJECT PERFORMANCE

Customer focus must be a part of a quality programme's overall implementation and scheduling (Mar Fuentes-Fuentes et al., 2004; Ooi et al., 2012). Maintaining a close and strong connection with customers is one aspect of customer focus (Flynn et al., 1994). To identify customer expectations, a company must produce goods and services that meet or surpass their needs (Sadikoglu & Olcay, 2014; Westphal et al., 1997). In previous literature, customer focus has been discussed extensively as a motivator for innovation (Abrunhosa & Moura E Sá, 2008). It motivates companies to be creative and meet customer expectations by introducing new products or services. More specifically, from a business perspective, innovation offers an opportunity to strengthen ties with customers by helping to meet their current needs before they order new products (Mehra & Ranganathan, 2008; Williams & Naumann, 2011; Littunen, 2021; Andrijauskiene & Dumciuviene, 2018; Kocmanová, 2012). In becoming innovative, a company supports its ability to create and maintain an edge over its competitors by adding value to its customers.

The term "project performance" is referred to as "project success". It measures project success or performance to determine how well the project accom-

plished its goals (Zaman et al., 2019). Early research evaluated project performance using such criteria as efficiency, influence on the team, influence on customers, and business success (Chang et al., 2013). Based on these criteria, several indicators were adopted, including meeting schedules, costs, quality necessities, team satisfaction, and market share (Al-Subaie et al., 2021; Arditi et al., 1997; Liu & Yetton, 2007; Mane & Patil, 2015; Pachura & Hairul, 2018). Time, cost and quality are the most important performance measurement indicators.

Quality management companies are devoted to providing excellent service to the company's external clients. They must first understand the expectations and needs of their customers before providing the products or services that will meet those needs. Supported successful customer-focused activities allow customising production to match customer requirements, expectations, and complaints. As a result, firms are more likely to deliver high-quality, reliable products and services on schedule while also improving efficiency and productivity. Satisfied customers buy more from a company boosting sales, expanding its market share and improving the overall performance. Small businesses must have a policy of addressing client needs through customer-focused activities. It is envisaged that QM policy and practice will aid this endeavour (Al-Gasawneh et al., 2021; Toke & Kalpande, 2021). According to previous research, prioritising the needs of the customer has a positive impact on operational performance (Ahire et al., 1996; Tari & Claver, 2008), innovation performance (Kim et al., 2012), inventory management performance (Phan et al., 2011), customer satisfaction (Forza & Filippini, 1998; Phan et al., 2011; Tari & Claver, 2008) and the overall firm's performance (Joiner, 2007). Therefore, the following hypothesis was formulated:

Hypothesis 1: Customer focus will have a significant and positive effect on project performance.

1.2. MEDIATING ROLE OF PROCESS MANAGEMENT BETWEEN CUSTOMER FOCUS AND PROJECT PERFORMANCE

Process management is an approach of interconnected processes that focuses on three elements: "(1) mapping processes, (2) process enhancement, and (3) adhering to documented organisational processes" (Ahire & Dreyfus, 2000; Benner, 2001). For example, to minimise technical failures, excellent process management necessitates appropriately describing

and documenting operational procedures, as well as explicit guidance for machine operation and setup implanted at all workstations (Flynn et al., 1994). Firms that attain higher degrees of process management emphasise the measures targeting efficacy, quickness, and expenses, as well as waste reduction, which includes process management encompassing project development (Adler et al., 1995; Czajkowska & Kadłubek, 2015; Edelenbos & Teisman, 2008; Nobelius & Trygg, 2002). These factors might significantly influence project performance, particularly in the construction business and especially in emerging and small construction firms. Process management is also linked to service delivery (Prajogo & Sohal, 2006). It is the decisive factor in how customers perceive the product's quality and, as a result, what degree of delight and satisfaction they experience and what feedback they give. Perception is evaluated based on concrete factors, such as trustworthiness, security, empathy, and responsiveness (Parasuraman et al., 1985; Suárez et al., 2014). Therefore, the following hypothesis was formulated:

Hypothesis 2: Process management will mediate the link between customer focus and project performance.

1.3. MODERATING ROLE OF STRATEGIC PLANNING BETWEEN PROCESS MANAGEMENT AND PROJECT PERFORMANCE

"Strategic planning is based on the process of decision making, and it determines the direction of the organisation and its future outlook, as well as the way to achieving that future" (Oschman, 2017). For total quality management to function successfully, higher leadership must acknowledge strategic planning as a fundamental part of the firm to encourage their workforce to strive for perfection in what they do to achieve long-term excellence, which is critical for lucrative business growth in the long term (Movahedi & Koupaei, 2011; Suárez et al., 2014). Firms achieve a competitive edge if they can produce an effective planning process, which enables visibility and organisational interaction, stimulating dedication, teamwork, and collaborative innovation (Hoang et al., 2010; McLean et al., 2017). Some elements play a significant role in motivating the planning process aimed at creating concrete goals and devoting resources to the critical items, planning processes of departments and process or operation management strategy (Gates, 2010). Strategic planning plays a vital role in process management to accomplish desired

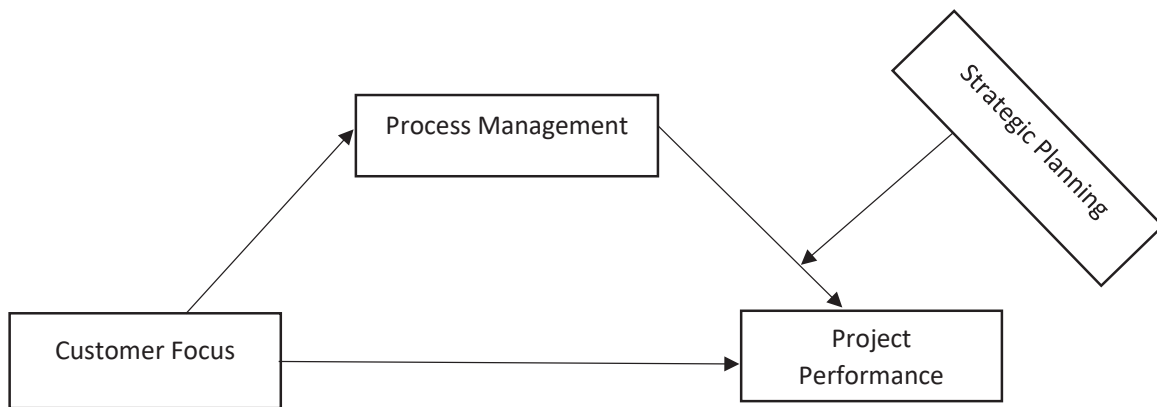


Fig. 1. Proposed research model

organisational performance. It is required for emerging construction firms to achieve a dynamic fit with climatic factors and unpredictability by working actively with resource allocation to mitigate risks and moving senior management's emphasis to uncertainty. So, an initiative would positively influence process management and corporate performance, resulting in indirect gains in the long and medium run. Therefore, the following hypothesis was formulated:

Hypothesis 3: Strategic planning will moderate the link between process management and project performance.

The model (Fig. 1) is developed based on the literature review and subsequent development of the research hypotheses; the customer focus will have a significant and positive effect on project performance; process management will mediate the link between the customer focus and project performance; and strategic planning will moderate the link between process management and project performance.

2. RESEARCH METHODS

2.1. RESEARCH FOCUS: EMERGING CONSTRUCTION ORGANISATIONS IN PAKISTAN

This research focused on management employees of emerging construction firms. This target group was chosen for the following reasons: first, these firms are project-intensive, and second, the construction project's success is the responsibility of the management staff. They are in charge of all aspects of the project, including planning, execution, monitoring, control,

and closure. Management staff ensure that deadlines, financial plans and quality standards are met.

2.2. SAMPLE AND PROCEDURE

The study's target group was management staff running emerging construction firms across major cities of Pakistan. A convenience sampling technique was used. Seven hundred questionnaires were distributed, and 360 were returned. However, only 326 filled out questionnaires could be used and comprised the final sample size.

Consequently, the response rate was 51 %. Respondents were asked to indicate their job title, demographics (gender, age, work experience, position, and the total number of employees in their organisation) and share opinions on customer focus, strategic planning, process management, and project performance. Each survey was accompanied by a cover letter that explained the purpose of the study. All participants gave their informed consent.

The participation was entirely voluntary, and confidentiality and anonymity were guaranteed. Regarding the size of studied organisations, about 70 % of the respondents indicated working in an organisation with up to 20 employees, i.e., small enterprises. Table 1 presents information about the respondents.

2.3. MEASURES

All variables were measured using a 5-point Likert scale ("1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree"). Customer focus was measured using a 7-item scale (Jong et al., 2019). One sample item of

Tab. 1. Demographic information

| | PARTICIPANTS (N =326) | PERCENTAGE |
|----------------------|-----------------------|------------|
| 1. Gender | | |
| Male | 300 | 92 % |
| Female | 26 | 8 % |
| 2. Age | | |
| 25–35 years | 261 | 80 % |
| 36–45 years | 39 | 12 % |
| 45 & above | 26 | 8 % |
| 3. Position | | |
| Lower level | 104 | 32 % |
| Middle level | 140 | 43 % |
| Top level | 82 | 25 % |
| 4. Experience | | |
| 0–5 years | 267 | 82 % |
| 6 & above | 59 | 18 % |

this scale is “The organisation frequently is in close contact with its customers”. The Cronbach’s alpha reliability of this scale was 0.75. Strategic planning was measured using a 5-item scale (Lau et al., 2004).

One sample item of this scale is “Our organisation has a comprehensive structured planning process which regularly sets and reviews short and long-term goals”. The Cronbach’s alpha reliability of this scale was 0.70. Process management was measured using a 7-item scale (Flynn et al., 1994; Lau et al., 2004).

One sample item of this scale is “Our organisation practices daily operation work processes report system”. The Cronbach’s alpha reliability of this scale was 0.71. Project performance was measured using a 4-item scale (Stankovic et al., 2013). One sample item of this scale is “The project was successful in terms of timeliness of project completion”. The Cronbach’s alpha reliability of this scale was 0.85.

3. RESEARCH RESULTS

The analysis was done with SPSS software, and hypotheses testing was done using Model 14 (relevant to our research model) as implemented in the “PROCESS macro” provided by Andrew F. Hayes (Hayes, 2018).

3.1. HYPOTHESES TESTS

The values of mean, standard deviation and correlation are presented in Table 2.

In statistics, both moderation and mediation can occur in the same model. Moderated mediation is also called conditional indirect effects. The moderated mediation analysis was performed using PROCESS model 14 (Tables 3, 4, 5 & Fig. 2) to investigate the link between customer focus, process manage-

Tab. 2. Descriptive statistics and correlations

| CONSTRUCTS | MEAN | SD | 1 | 2 | 3 | 4 |
|---------------------|-------|-------|---------|---------|---------|---|
| Customer focus | 3.397 | 0.522 | 1 | | | |
| Process management | 3.456 | 0.448 | 0.744** | 1 | | |
| Strategic planning | 3.478 | 0.454 | 0.791** | 0.569** | 1 | |
| Project performance | 3.428 | 0.699 | 0.472** | 0.492** | 0.373** | 1 |

Note N=326, $p < 0.05^*$, $< 0.01^{**}$

Tab. 3. Moderated mediation (model 14-results part a)

| | OUTCOME (PROJECT PERFORMANCE) | | | | | |
|---------------------------------|-------------------------------|-------|--------|-------|--------|-------|
| | COEFFICIENT | SE | T | P | LLCI | ULCI |
| Customer_Focus | 0.290 | 0.130 | 2.09 | 0.037 | 0.017 | 0.563 |
| Process_Mgt | 0.466 | 0.099 | 4.730 | 0.000 | 0.272 | 0.660 |
| Strategic_Plan | -0.051 | 0.106 | -0.475 | 0.635 | -0.260 | 0.159 |
| Interaction (Process*Strategic) | 0.262 | 0.090 | 2.909 | 0.004 | 0.085 | 0.439 |

Tab. 4. Moderated mediation (model 14-results part b)

| | TEST(S) OF HIGHEST ORDER UNCONDITIONAL INTERACTION(S) | | | | |
|---------------------------------|---|-------|-------|---------|-------|
| | R2-CHNG | F | DF1 | DF2 | P |
| Interaction (Process*Strategic) | 0.019 | 8.463 | 1.000 | 321.000 | 0.004 |

ment, strategic planning and project performance. The link between customer focus and project performance was statistically significant and positive [Coefficient = 0.290, $p < 0.05$], H1 was supported.

The interaction of process management and strategic planning on project performance was found to be statistically significant and positive (Coefficient = 0.262, LLCI & ULCI $\neq 0$, $p < 0.05$), see Table 3. Table 4 shows the test of highest order unconditional interactions. The R2 change term specifies whether or not a moderating effect exists. Because we have an R2 change value of (0.019), which is more than zero; so, in this case moderating effect exists. These results identify strategic planning as a positive moderator of the link between process management and project performance, H3 was supported.

The moderated mediation effect is depicted in Fig. 2 and Table 5. This graph shows process management on the X-axis and the mean values of project performance on the Y-axis. It shows three different levels of the moderator (strategic planning). Based on the graph, strategic planning tends to strengthen the link between process management and project performance. The mediating effect of process management on project performance is maximised when using strategic planning as a moderator. The slope where the level of strategic planning is high (+1SD) = 0.522), the mediating effect (Effect=0.468) of process management on project performance becomes very high and significant. This means strategic planning moderates the link between process management and project performance so that this link becomes

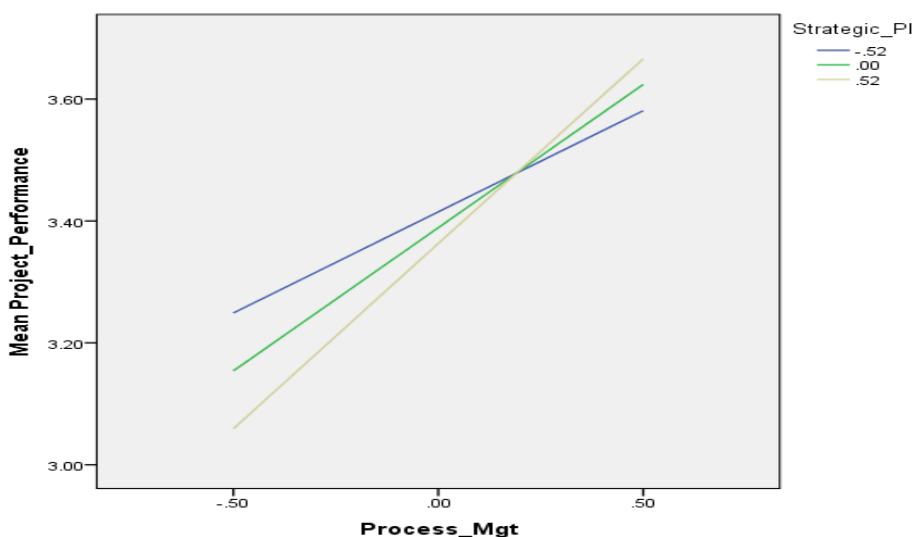


Fig. 2. Moderation effect at different levels

Tab. 5. Moderated mediation (model 14-results part c)

| DIRECT EFFECT OF CUSTOMER FOCUS ON PROJECT PERFORMANCE | | | | | |
|--|--------|---------|-----------|-----------|-------|
| EFFECT | SE | T | P | LLCI | ULCI |
| 2.90 | 0.139 | 2.093 | 0.037 | 0.017 | 0.563 |
| CONDITIONAL INDIRECT EFFECTS OF CUSTOMER FOCUS ON PROJECT PERFORMANCE | | | | | |
| INDIRECT EFFECT: Customer_Focus -> Process_Mgt -> Project performance | | | | | |
| LEVELS (STRATEGIC_PLAN) | EFFECT | BOOT_SE | BOOT_LLCI | BOOT_ULCI | |
| -0.522 | 0.256 | 0.088 | 0.054 | 0.403 | |
| 0.000 | 0.362 | 0.081 | 0.188 | 0.504 | |
| 0.522 | 0.468 | 0.086 | 0.294 | 0.629 | |
| INDEX OF MODERATED MEDIATION | | | | | |
| | INDEX | BOOT_SE | BOOT_LLCI | BOOT_ULCI | |
| Strategic_Plan | 0.203 | 0.060 | 0.095 | 0.333 | |

The result of index of moderated mediation showed statistical significance of moderated mediation (index =0.203, bootLLCI = 0.095 & bootULCI = 0.333). Thus, hypotheses 1, 2, & 3 were supported.

stronger when strategic planning is high. Two further slopes at different levels of strategic planning are also depicted in the graph. The slope at the mean level of strategic planning shows a significant mediation effect (Effect=0.362) of process management on project performance. Similarly, the slope of strategic planning (low (-1SD) = -0.522) below the mean (Effect= 0.256) also demonstrates a significant mediation effect of process management on project performance.

Thus, the link between customer focus and project performance through process management was statistically significant and positive (Table 5 and Fig. 2). The direct effect of customer focus on project performance: effect = 2.90, $p < 0.05$. The indirect effects at different levels showed corresponding results. At low level, indirect effect =0.256, $p < 0.05$. At middle level, indirect effect =0.362, $p < 0.05$. At high level, indirect effect = 0.468, $p < 0.05$, so H2 was supported.

The result of index of moderated mediation showed statistical significance of moderated mediation (index =0.203, bootLLCI = 0.095 & bootULCI = 0.333). Thus, hypotheses 1, 2, & 3 were supported.

4. DISCUSSION

This section presents the discussion on research findings on the tested hypotheses. The first key finding shows that customer focus has a significant and

positive impact on project performance in the context of emerging construction firms (H1). This result suggests that customer satisfaction, external communication and information management are significant ingredients of customer focus. This finding is consistent with previous studies, where communication with customers, data management and customer satisfaction were essential principle indicators of project performance in emerging construction firms as all these principles are important parts of the engine driving the project's ability to deliver superior consumer values and superior business performance (Hassan & Waiganjo, 2016; Mehra & Ranganathan, 2008; Muiruri et al., 2021; Pambreni et al., 2019; Williams & Naumann, 2011).

Clients are essential assets for any business, and efforts to understand the complexities that affect their behaviour and positive responses would benefit both customers and performance (Al-Gasawneh et al., 2021). The study revealed that quality management initiatives are used in emerging and small construction companies in Pakistan, particularly focusing on customers; the major advantage of QM to businesses is "increased customer satisfaction". Customer focus activities improve the satisfaction of customers. Furthermore, satisfied clients are often loyal over time, resulting in increased sales and the improved financial, non-financial and entire performance of an organisation (Ahmad et al., 2019; Albuhihi & Abdallah, 2018). The finding also explains that the customer-related activities implemented in emerging

construction firms enhance the provided services and obtain customer satisfaction. Customer focus refers to an organisation's commitment to meeting customer expectations, as a result, improved overall organisational performance (Aburayya et al., 2020; Ali, 2017). The importance of customer focus is seen as critical to the company's long-term performance and growth (Baidoun et al., 2018).

This study also indicates the link mediated by process management between customer focus and project performance in the context of emerging construction firms (H2). This outcome is consistent with earlier studies, where stable production, reduced process variation, and efficiently working distribution were indicated as technical aspects of process management for better business performance (Psomas & Jaca, 2016; Zhang et al., 2020). Consequently, these technical aspects matter greatly when trying to enhance the performance of any business. This study found that to obtain an enhancement in the end product, technical aspects should be considered in the emerging and small construction firms. Few studies examine the mediating effect of process management on the link between customer-oriented activities and performance.

The technical aspects reflect how organisations plan their management of internal resources and external parties to support effective and efficient process operations (Calvo-Mora et al., 2015; Gadenne & Sharma, 2009; Oakland, 2011; Vanichchinchai & Igel, 2011). The aim of the production function is the accomplishment of optimum operational efficacy. Efficacy is generally assessed through performance & productivity. Practically, this purpose is supplemented with additional objectives and more particular performance measurements which explain the difficulties of the firm's processes and/or operations.

These measures include customer satisfaction, reduction of defects and expenses, and, most importantly, flexibility in operations-related activities (Feng et al., 2008; Ferdinandus, 2020; Fotopoulos & Psomas, 2010). In simple words, customer-focused activities are designed to enhance the end products with customer satisfaction. The results of "customer-related activities will then be shifted to technical aspects of process management to be implemented and reflected in the entire performance of the project".

Another important finding of this study shows that strategic planning significantly moderates the link between process management and project performance in the context of emerging construction

companies of Pakistan, and the moderated mediation index was also statistically significant (H3).

Thus, this finding proved that strategic planning was the way for creating a path for emerging and small business functions by assessing the current and future goals. It is the mechanism by which a business analyses its mission, makes decisions and strategies about allocating internal resources, establishing business models, and processes for better overall performance (AlQershi, 2021). Strategic planning is frequently used for the improvement of organisational performance.

Strategic planning provides hope of uniting the organisation around a clearly defined set of missions and goals (Bryson et al., 2018; Stoeglehner et al., 2011). Strategic planning plays a vital role in process management for achieving the desired performance, specifically in project-based organisations.

Planning improves manager awareness of strengths, weaknesses, threats, opportunities, enhances the understanding of processes, managing of internal resources, materials, increases productivity, enhances profitability, and strengthens the company's position in the market. Most importantly, organisational performance improves when strategic plans are implemented successfully (Aldehayyat & Al Khattab, 2012; Mustafee et al., 2013).

Setting process and operation objectives, devising and executing plans, monitoring performance, or controlling the plan's progress are all aspects of strategic planning that are important for the overall performance (Aquilani et al., 2017; Özgüner, 2015). In simple words, planning is necessary for effective and efficient use of resources during the execution phase for achieving desired project performance in emerging construction firms.

This study supported all research hypotheses. Customer focus, process management and strategic planning were considered essential quality initiatives in emerging construction firms for better project performance.

CONCLUSIONS

The role of quality management in construction projects has evolved into means of gaining a competitive edge worldwide. The construction sector is viewed as having a significant impact on economic growth and poverty reduction. Popular quality initiatives in emerging construction firms focus on customers, process management and strategic planning.

These three elements are interlinked. The processes depend on customer feedback. Their execution requires strategic planning for better project performance. This study supported all hypotheses. Customer focus has a significant effect on project performance. Process management significantly mediates the relationship between customer focus and project performance. Strategic planning significantly moderates the relationship between process management and project performance in the context of Pakistan's emerging firms run by young people.

This research contributes to the literature on quality aspects and construction project performance differently. First, it contributes to theory by examining the hypothesised link between researched variables, suggesting that prioritised customer needs significantly impact the success of building projects. Second, process management incorporated as a potential mediator in this paper extended the previous study of customer focus and project performance. Third, the strategic planning operationalised in this research to affect the interaction between process management and the project through a moderated mediation technique adds to the scarce literature and enriches the understanding. The research found that strategic planning serves as a driver for individuals and firms, resulting in process management, which leads to success. As a result, the greater the planning, the better the process management. Lastly, the contribution to the literature is made by quantitatively assessing the links between customer focus, process management, strategic planning, and project performance, given the Pakistani environment of this study.

This study demonstrated the effect of "quality initiatives" on project performance. The outcomes revealed that only three total quality management elements significantly correlated with performance in construction projects. Therefore, it is understandable for owners, managers and supervisors that the implementation of quality initiatives (customer focus, process management, and strategic planning) enhanced project performance. The implication is that emerging construction firms should focus on those quality practices, including customer focus, process management, and strategic planning for improvement in the performance of construction projects. The research has valuable practical implications for Pakistan's government that should encourage emerging construction firms to seek a quality system and enhance their project performance, improving Pakistan's economy.

The research has certain limitations. First, emerging construction enterprises were selected for the

investigation. This research could be repeated in other industries in the future. Second, the study was limited to Pakistani construction firms only. It is suggested to extend the research to different areas. Other relevant moderated mediation mechanisms could be at work to describe the link between the customer focus and project performance. Future research may look into the mediating role of communication and the moderating influence of enterprise size and employee experience to better understand the link.

ACKNOWLEDGEMENTS

The publication of the article for 11th International Conference on Engineering, Project, and Production Management - EPPM2021 was financed in the framework of the contract no. DNK/SN/465770/2020 by the Ministry of Science and Higher Education within the "Excellent Science" programme.



LITERATURE

- Abrunhosa, A., & Moura E Sá, P. (2008). Are TQM principles supporting innovation in the Portuguese footwear industry? *Technovation*, 28(4), 208-221. doi: 10.1016/j.technovation.2007.08.001
- Aburayya, A., Alshurideh, M., Al Marzouqi, A., Al Diabat, O., Alfarsi, A., Suson, R., Bash, M., & Salloum, S. A. (2020). An empirical examination of the effect of TQM practices on hospital service quality: An assessment study in uae hospitals. *Systematic Reviews in Pharmacy*, 11(9), 347-362. doi: 10.31838/srp.2020.9.51
- Adler, P. S., Mandelbaum, A., Nguyen, V., & Schwerer, E. (1995). From Project to Process Management: An Empirically-Based Framework for Analyzing Product Development Time. *Management Science*, 41(3), 458-484. doi: 10.1287/mnsc.41.3.458
- Ahire, S. L., & Dreyfus, P. (2000). Impact of design management and process management on quality: An empirical investigation. *Journal of Operations Management*, 18(5), 549-575. doi: 10.1016/S0272-6963(00)00029-2
- Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. *Decision Sciences*, 27(1), 23-56. doi: 10.1111/j.1540-5915.1996.tb00842.x
- Ahmad, A., Khaled, A., Mohammad, A.-L., Ahmad Jais, A. A., & Ibrahim, R. (2019). Budget Hotels' Online Guest Reviews Regarding Customer Satisfaction. *The Journal of Social Sciences Research*, 5(52), 522-534. doi: 10.32861/jssr.52.522.534

- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. *Polish Journal of Management Studies*, 23(2), 24-41. doi: 10.17512/pjms.2021.23.2.02
- Al-Subaie, A. A., Faisal, M. N., Aouni, B., & Jabeen, F. (2021). Investigating the role of leadership styles and governance on project performance in megaprojects. *Polish Journal of Management Studies*, 23(1), 45-58. doi: 10.17512/pjms.2021.23.1.03
- Albuhisi, A. M., & Abdallah, A. B. (2018). The impact of soft TQM on financial performance. *International Journal of Quality & Reliability Management*, 35(7), 1360-1379. doi: 10.1108/ijqrm-03-2017-0036
- Aldehayyat, J., & Al Khattab, A. (2012). Strategic Planning and Organisational Effectiveness in Jordanian Hotels. *International Journal of Business and Management*, 8(1), 10-25. doi: 10.5539/ijbm.v8n1p11
- Ali, A.-D. R. (2017). The impact of Total Quality Management on organizational performance Case of Jordan Oil Petroleum Company. *International Journal of Business and Social Science*, 8(1), 192-202. www.ijbssnet.com
- AlQersh, N. (2021). Strategic thinking, strategic planning, strategic innovation and the performance of SMEs: The mediating role of human capital. *Management Science Letters*, 11, 1003-1012. doi: 10.5267/j.msl.2020.9.042
- Andrijauskiene, M., & Dumciuvienė, D. (2018). National culture as a determinant of firms' innovative performance. *Forum Scientiae Oeconomia*, 6(1), 48-67. doi: 10.23762/FSO_VOL6NO1_18_1
- Aquilani, B., Silvestri, C., Ruggieri, A., & Gatti, C. (2017). A systematic literature review on total quality management critical success factors and the identification of new avenues of research. *TQM Journal*, 29(1), 184-213. doi: 10.1108/TQM-01-2016-0003
- Arditi, D., Arditi, D., & Gunaydin, H. M. (1997). Total quality management in the construction process Total quality management in the construction process. *International Journal of Project Management*, 15(4), 235-243.
- Baidoun, S. D., Salem, M. Z., & Omran, O. A. (2018). Assessment of TQM implementation level in Palestinian healthcare organizations: The case of Gaza Strip hospitals. *TQM Journal*, 30(2), 98-115. doi: 10.1108/TQM-03-2017-0034
- Benner, M. J. (2001). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, 28(2), 238-256.
- Bryson, J. M., Edwards, L. H., & Van Slyke, D. M. (2018). Getting strategic about strategic planning research. *Public Management Review*, 20(3), 317-339. doi: 10.1080/14719037.2017.1285111
- Calvo-Mora, A., Picón-Berjoyo, A., Ruiz-Moreno, C., & Cauzo-Bottala, L. (2015). Contextual and mediation analysis between TQM critical factors and organisational results in the EFQM Excellence Model framework. *International Journal of Production Research*, 53(7), 2186-2201. doi: 10.1080/00207543.2014.975859
- Chang, A., Chih, Y. Y., Chew, E., & Pisarski, A. (2013). Reconceptualising mega project success in Australian Defence: Recognising the importance of value co-creation. *International Journal of Project Management*, 31(8), 1139-1153. doi: 10.1016/j.ijproman.2012.12.005
- Czajkowska, A., & Kadłubek, M. (2015). Management of factors affecting quality of processes in construction enterprises. *Polish Journal of Management Studies*, 11(1), 28-38.
- Dreyfus, L. P., Ahire, S. L., & Ebrahimpour, M. (2004). The impact of just-in-time implementation and ISO 9000 certification on total quality management. *IEEE Transactions on Engineering Management*, 51(2), 125-141. doi: 10.1109/TEM.2004.826024
- Edelenbos, J., & Teisman, G. R. (2008). Public-private partnership: On the edge of project and process management. Insights from Dutch practice: The Sijtwende spatial development project. *Environment and Planning C: Government and Policy*, 26(3), 614-626. doi: 10.1068/c66m
- Feng, M., Terziovski, M., & Samson, D. (2008). Relationship of ISO 9001:2000 quality system certification with operational and business performance: A survey in Australia and New Zealand-based manufacturing and service companies. *Journal of Manufacturing Technology Management*, 19(1), 22-37. doi: 10.1108/17410380810843435
- Ferdinandus, S. (2020). Effect of discipline on employee performance through total quality management as mediation variables. *Management Science Letters*, 10(12), 2905-2912. doi: 10.5267/j.msl.2020.4.016
- Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations Management*, 11(4), 339-366. doi: 10.1016/S0272-6963(97)90004-8
- Forza, C., & Filippini, R. (1998). TQM impact on quality conformance and customer satisfaction: A causal model. *International Journal of Production Economics*, 55(1), 1-20. doi: 10.1016/S0925-5273(98)00007-3
- Fotopoulos, C. V., & Psomas, E. L. (2010). The structural relationships between TQM factors and organizational performance. *TQM Journal*, 22(5), 539-552. doi: 10.1108/17542731011072874
- Gadenne, D., & Sharma, B. (2009). An investigation of the hard and soft quality management factors of Australian SMEs and their association with firm performance. *International Journal of Quality and Reliability Management*, 26(9), 865-880. doi: 10.1108/02656710910995064
- Gates, L. P. (2010). *Strategic Planning with Critical Success Factors and Future Scenarios: An Integrated Strategic Planning Framework*. (CMU/SEI-2010-TR-037). Retrieved from <http://resources.sei.cmu.edu/library/asset-view.cfm?AssetID=9673>
- Hassan, I. B. D. F. M., & Waiganjo, D. E. (2016). *Effect of Customer Focus on the Performance of the Hotel Industry in Kenya*. 239-244. doi: 10.21276/sb
- Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and

- interpretation. *Communication Monographs*, 85(1), 4-40. doi: 10.1080/03637751.2017.1352100
- Heravi, G., & Faeghi, S. (2014). Group Decision Making for Stochastic Optimization of Time, Cost, and Quality in Construction Projects. *Journal of Computing in Civil Engineering*, 28(2), 275-283. doi: 10.1061/(asce)cp.1943-5487.0000264
- Hoang, D. T., Igel, B., & Laosirihongthong, T. (2010). Total quality management (TQM) strategy and organisational characteristics: Evidence from a recent WTO member. *Total Quality Management and Business Excellence*, 21(9), 931-951. doi: 10.1080/14783363.2010.487680
- Imran, M., Abdul Hamid, S. N. B., & Aziz, A. B. (2018). The influence of TQM on export performance of SMEs: Empirical evidence from manufacturing sector in Pakistan using PLS-SEM. *Management Science Letters*, 8(5), 483-496. doi: 10.5267/j.msl.2018.3.003
- Joiner, T. A. (2007). Total quality management and performance: The role of organization support and co-worker support. *International Journal of Quality and Reliability Management*, 24(6), 617-627. doi: 10.1108/02656710710757808
- Jong, C. Y., Sim, A. K. S., & Lew, T. Y. (2019). The relationship between TQM and project performance: Empirical evidence from Malaysian construction industry. *Cogent Business and Management*, 6(1), 1-31. doi: 10.1080/23311975.2019.1568655
- Karyamsetty, H. J. (2021). Organizational Sustainability and TQM in SMEs: A Proposed Model. *European Journal of Business and Management*, 13(4), 88-97. doi: 10.7176/EJBM/13-4-09
- Kocmanová, A., Karpíšek, Z., & Klímková, M. (2012). The construction of environmental indicators for determination of performance of ESG indicators to support decision-making of investors. *Business: Theory and Practice*, 13(4), 333-342. doi: 10.3846/btp.2012.35
- Kim, D. Y., Kumar, V., & Kumar, U. (2012). Relationship between quality management practices and innovation. *Journal of Operations Management*, 30(4), 295-315. doi: 10.1016/j.jom.2012.02.003
- Lau, R. S. M., Zhao, X., & Xiao, M. (2004). Assessing quality management in China with MBNQA criteria. *International Journal of Quality & Reliability Management*, 21(7), 699-713. doi: 10.1108/02656710410549064
- Littunen, H., Tohmo, T., & Storhammar, E. (2021). Innovation among SMEs in Finland: The impact of stakeholder engagement and firm-level characteristics. *Journal of Entrepreneurship, Management, and Innovation*, 17(4), 157-196. doi: 10.7341/20211746
- Liu, L., & Yetton, P. (2007). The contingent effects on project performance of conducting project reviews and deploying project management offices. *IEEE Transactions on Engineering Management*, 54(4), 789-799. doi: 10.1109/TEM.2007.906852
- Mamman, A., Bawole, J., Agbebi, M., & Alhassan, A. R. (2019). SME policy formulation and implementation in Africa: Unpacking assumptions as opportunity for research direction. *Journal of Business Research*, 97(January), 304-315. doi: 10.1016/j.jbusres.2018.01.044
- Mane, P. P., & Patil, J. R. (2015). Quality Management System at Construction Project: A Questionnaire Survey. *Journal of Engineering Research and Applications Www.Ijera.Com*, 5(October), 126-130.
- Maqbool, M. Q. (2019). The Mediating Role of Total Quality Management between Human Resource Practices, Information Technology Infrastructure and Performance of Pakistan Public Hospitals. *The Journal of Social Sciences Research*, 5(51), 67-77. doi: 10.32861/jssr.51.67.77
- Mar Fuentes-Fuentes, M., Albacete-Sáez, C. A., & Lloréns-Montes, F. J. (2004). The impact of environmental characteristics on TQM principles and organizational performance. *Omega*, 32(6), 425-442. doi: 10.1016/j.omega.2004.02.005
- McLean, R. S., Antony, J., & Dahlgaard, J. J. (2017). Failure of Continuous Improvement initiatives in manufacturing environments: a systematic review of the evidence. *Total Quality Management and Business Excellence*, 28(3-4), 219-237. doi: 10.1080/14783363.2015.1063414
- Mehra, S., & Ranganathan, S. (2008). Implementing total quality management with a focus on enhancing customer satisfaction. *International Journal of Quality and Reliability Management*, 25(9), 913-927. doi: 10.1108/02656710810908070
- Mehrabioun Mohammadi, M., Jalali, A., & Hasani, A. (2021). Success and failure factors in implementing quality management systems in small- and medium-sized enterprises: a mixed-method study. *International Journal of Quality and Reliability Management*. doi: 10.1108/IJQRM-06-2020-0210
- Movahedi, M., & Koupaei, M. (2011). A Framework for Applying ERP in Effective Implementation of TQM. *Middle-East Journal of Scientific Research*, 10(4), 489-495.
- Muiruri, E. M., Ngugi, D. P. K., & Kihara, D. A. (2021). Influence of Customer Focus on Competitiveness of Food and Beverage Manufacturing Firms in Kenya. *European Journal of Business and Strategic Management*, 6(1), 56-72. doi: 10.47604/ejbsm.1340
- Mustafee, N., Katsaliaki, K., Gunasekaran, A., Williams, M. D., Virtue, A., Chausalet, T., & Kelly, J. (2013). Healthcare planning and its potential role increasing operational efficiency in the health sector: A viewpoint. *Journal of Enterprise Information Management*, 26(1-2), 8-20. doi: 10.1108/17410391311289523
- Nobelius, D., & Trygg, L. (2002). Stop chasing the front end process - Management of the early phases in product development projects. *International Journal of Project Management*, 20(5), 331-340. doi: 10.1016/S0263-7863(01)00030-8
- Oakland, J. (2011). Leadership and policy deployment: The backbone of TQM. *Total Quality Management and Business Excellence*, 22(5), 517-534. doi: 10.1080/14783363.2011.579407
- Ooi, K. B., Lin, B., Teh, P. L., & Chong, A. Y. L. (2012). Does TQM support innovation performance in Ma-

- laysia's manufacturing industry? *Journal of Business Economics and Management*, 13(2), 366-393. doi: 10.3846/16111699.2011.620155
- Oschman, J. J. (2017). The role of strategic planning in implementing a total quality management framework: An empirical view. *Quality Management Journal*, 24(2), 41-53. doi: 10.1080/10686967.2017.11918508
- Özgüner, M. (2015). Stratejik yönetim, stratejik planlama ve toplam kalite yönetimi ilişkisi, stratejik toplam kalite yönetimi. *The Journal of Academic Social Sciences*, 21(21), 437-437. doi: 10.16992/asos.968
- Pachura, A., & Hairul, H. (2018). What matters in project team management? *Polish Journal of Management Studies*, 17(2), 211-221. doi: 10.17512/pjms.2018.17.2.18
- Pambreni, Y., Khatibi, A., Ferdous Azam, S. M., & Tham, J. (2019). The influence of total quality management toward organization performance. *Management Science Letters*, 9(9), 1397-1406. doi: 10.5267/j.msl.2019.5.011
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49(4), 41. doi: 10.2307/1251430
- Phan, A. C., Abdallah, A. B., & Matsui, Y. (2011). Quality management practices and competitive performance: Empirical evidence from Japanese manufacturing companies. *International Journal of Production Economics*, 133(2), 518-529. doi: 10.1016/j.ijpe.2011.01.024
- Prajogo, D. I., & Sohal, A. S. (2006). The relationship between organization strategy, total quality management (TQM), and organization performance - The mediating role of TQM. *European Journal of Operational Research*, 168(1), 35-50. doi: 10.1016/j.ejor.2004.03.033
- Psomas, E. L., & Jaca, C. (2016). The impact of total quality management on service company performance: evidence from Spain. *International Journal of Quality and Reliability Management*, 33(3), 380-398. doi: 10.1108/IJQRM-07-2014-0090
- Sadikoglu, E., & Olcay, H. (2014). The Effects of Total Quality Management Practices on Performance. *Laboratory Management Information Systems: Current Requirements and Future Perspectives*, 2014(5), 996-1027.
- Sawaeen, F. A. A., & Ali, K. A. M. (2020). The mediation effect of TQM practices on the relationship between entrepreneurial leadership and organizational performance of SMEs in Kuwait. *Management Science Letters*, 10(4), 789-800. doi: 10.5267/j.msl.2019.10.018
- Shafqat, T., Mushtaq, R., Tahir, Z., & Shaheen, W. A. (2021). Effects of Total Quality Management (Tqm) on Financial and Non-Financial Performance: Evidence From Higher Educational Sector of Pakistan. *Humanities & Social Sciences Reviews*, 9(3), 1027-1037. doi: 10.18510/hssr.2021.93101
- Stankovic, D., Nikolic, V., Djordjevic, M., & Cao, D. B. (2013). A survey study of critical success factors in agile software projects in former Yugoslavia IT companies. *Journal of Systems and Software*, 86(6), 1663-1678. doi: 10.1016/j.jss.2013.02.027
- Stoeglehner, G., Edwards, P., Daniels, P., & Narodoslowsky, M. (2011). The water supply footprint (WSF): A strategic planning tool for sustainable regional and local water supplies. *Journal of Cleaner Production*, 19(15), 1677-1686. doi: 10.1016/j.jclepro.2011.05.020
- Suárez, E., Roldán, J. L., & Calvo-Mora, A. (2014). A structural analysis of the EFQM model: an assessment of the mediating role of process management. *Journal of Business Economics and Management*, 15(5), 862-885. doi: 10.3846/16111699.2013.776627
- Tari, J. J., & Claver, E. (2008). The individual effects of total quality management on customers, people and society results and quality performance in SMEs. *Quality and Reliability Engineering International*, 24(2), 199-211. doi: 10.1002/qre.885
- Toke, L. K., & Kalpande, S. D. (2021). Strategic planning to investigate the decision index of organization for effective total quality management implementation - in context of Indian small and medium enterprises. *Journal of Engineering, Design and Technology*, in print. doi: 10.1108/JEDT-11-2020-0447
- Vanichchinchai, A., & Igel, B. (2011). The impact of total quality management on supply chain management and firm's supply performance. *International Journal of Production Research*, 49(11), 3405-3424. doi: 10.1080/00207543.2010.492805
- Westphal, J. D., Gulati, R., & Shortell, S. M. (1997). Customization or conformity? An institutional and network perspective on the content and consequences of TQM adoption. *Administrative Science Quarterly*, 42(2), 366-394. doi: 10.2307/2393924
- Williams, P., & Naumann, E. (2011). Customer satisfaction and business performance: A firm-level analysis. In *Journal of Services Marketing*, 25(1), 20-32. doi: 10.1108/08876041111107032
- Yazdani, B., Attafar, A., Shahin, A., & Kheradmandnia, M. (2016). The impact of TQM practices on organizational learning case study: Automobile part manufacturing and suppliers of Iran. *International Journal of Quality and Reliability Management*, 33(5), 574-596. doi: 10.1108/IJQRM-05-2014-0061
- Zaman, U., Jabbar, Z., Nawaz, S., & Abbas, M. (2019). Understanding the soft side of software projects: An empirical study on the interactive effects of social skills and political skills on complexity - performance relationship. *International Journal of Project Management*, 37(3), 444-460. doi: 10.1016/j.ijproman.2019.01.015
- Zhang, H., Kang, F., & Hu, S. quan. (2020). Senior leadership, customer orientation, and service firm performance: the mediator role of process management. *Total Quality Management and Business Excellence*, 31(13-14), 1605-1620. doi: 10.1080/14783363.2018.1492873
- Zu, X., Fredendall, L. D., & Douglas, T. J. (2008). The evolving theory of quality management: The role of Six Sigma. *Journal of Operations Management*, 26(5), 630-650. doi: 10.1016/j.jom.2008.02.001