



DOI 10.2478/sbe-2020-0006

SBE no. 15(1) 2020

OPERATIONAL PERSPECTIVE OF SMES PERFORMANCE AND COMPETITIVE PRIORITIES PRACTICES: PATH ANALYTIC APPROACH

HALEEM FAZAL

Abdul Wali Khan University Mardan, Pakistan

JEHANGIR MUHAMMAD

Abdul Wali Khan University Mardan, Pakistan

UL HAQ ZAHOOR

Abdul Wali Khan University Mardan, Pakistan

Abstract:

Literature review suggests a close link between operations strategies and organizational performance. Nevertheless, there is dearth of research investigating the association between operations strategies and SMEs performance in a developing country, Pakistan, context. Thus, the paper attempts to fill this gap by finding out the influence of operations strategy on firms' financial and non-financial performance. In addition, it digs out what predicts the financial and non-financial performance of the firms. Sample data is drawn from 244 manufacturing SMEs and is analyzed by Path Analytical Model of Structural Equation Modeling (SEM). The results reveal an overall positive and significant influence of competitive priorities on firm performance. However, there is no direct effect of Delivery priority on Financial, and Cost and Flexibility priority on Non-Financial Performance of the firms respectively. Moreover, the financial performance is predicted by focus on Cost, Flexibility, and Quality priorities respectively. By the same token, the predictors of Non-Financial performance are Delivery and Quality strategies in order of importance. The paper is not without limitations and acknowledges the constraints of access to data, time, finance, non-inclusion of important mediating/moderating variables. Practically, it offers implications to managers and policy makers to employ a set of competitive priorities that drives enhanced firm performance in this business setting, and to devise policies in accordance with market demands that lead to improved overall productivity respectively. Theoretically, the paper contributes to a richer and finer understanding on the connection between operations strategy and SMEs performance in a developing country context.

Key words: *Operations Strategies, Competitive Priorities, SMEs, Firm Performance*

1. Introduction

Operations Strategy plays a pivotal role in making business strategy work by developing and leveraging capabilities in the domain of customers, new markets and products (Skinner, 1969; Skinner, 1974; Swamidass & Newell, 1987). Operations strategy decides the adoption of production strategy focusing on cost reduction (cost) or differentiation strategies such as quality, delivery, and flexibility (Boyer & Lewis, 2002). In the context of operations, quality, delivery, flexibility, and cost strategies are referred to competitive priorities and are considered as critical part of operations decision making that help in developing certain manufacturing capabilities (Ho, Ahmad, & Ramayah, 2016). This enhances a firm's position in the market (Boyer & Lewis, 2002), facilitate the implementation of business strategies by transforming strategic plans into functional domains (Gaskill, Van Auken, & Kim, 2015; Vickery, Droge, & Markland, 1993), and enables a firm to develop superior resources and desired outcomes (Day & Wensley, 1988). In other words, it is an ability of a firm to carry out activities better than competitors (Hayes & Pisano, 1996) and to create and secure an invulnerable position against competitors (Porter, 1980).

Different aspects of competitive priorities have been studied by different researchers. For instance, it has been studied as a source of competitive advantage (e.g. Lucia Avella, Vazquez-Bustelo, & Fernandez, 2011; P. T. Ward, McCreery, Ritzman, & Sharma, 1998), and its relationship with firm performance (e.g. Lucía Avella & Vázquez-Bustelo, 2010; Chi, Kilduff, & Gargeya, 2009; Ferdows & De Meyer, 1990; Nancy Bouranta, Evangelos Psomas, 2017; Noble, 1995; Skinner, 1969; Terjesen, Patel, & Covin, 2011; Vivares-Vergara, Sarache-Castro, & Naranjo-Valencia, 2016; Ward, Leong, & Boyer, 1994) and its association with business environmental factors (e.g. Badri, Davis, & Davis, 2000; Boon-itt, 2009; Swamidass & Newell, 1987). Similarly, researchers (e.g. Sum, Shih-Ju Kow, & Chen, 2004; Swamidass & Newell, 1987; Wood, Gilbreath, & Rutherford, 2014) studied taxonomies of competitive priorities.

From Pakistani perspective, SMEs comprise of almost 90% of all the businesses and serves as the backbone of the economy (Khan & Khalique, 2014). SMEs contribute 8.80% to total GDP of Pakistan with growth rate of 8.18% per year (Economic Survey, 2016-17). Not to mention, SMEs account for more than 85% of all manufacturing companies (Khalique, Hasan, Md, Jamal, & Sharri, 2011).

There are couples of reasons that make it important to carry out the research. First, following the recommendation of (Sum et al., 2004) future research should, taking into account the dynamic nature of competitive priorities, find out new taxonomies with the passage of time in a different country with its typical business challenges and barriers. Second, the research explores the link between firm performance, both financial and non-financial, and competitive priorities in the context of Pakistan where very few empirical studies have been conducted in the domain. Again, as noted by (Ho et al., 2016) that non-financial performance has not been adequately addressed in the competitive priorities domain. Third, there is paucity of research in the domain of competitive priorities in the developing country context (Jayaram & Xu, 2016; Zeng, Xie, Tam, & Wan, 2008). Fourth, the findings make the rank order of competitive priorities clear and contribute to the richer

and finer understanding of firm performance and its association with competitive priorities that offers implications for managers and policy makers.

2. Literature Review

Operations strategy theory has been mainly developed from the pioneer work of Skinner (1969) and Swamidass & Newell (1987). According to the 'Content Model of Manufacturing Strategy' developed by Ward, Bickford, & Leong (1996, P.601), operations strategy is comprised of competitive priorities and investment made in strategic manufacturing decisions area. The manufacturing capability part of the firm is referred to competitive priorities (Bouranta & Psomas, 2017; Drohomeretski, Gouvea da Costa, Pinheiro de Lima, & Garbuio, 2014). From the perspective of Slack, Chambers, & Johnston (2010), competitive priorities (CPs) are concerned with making strategic choices about undertakings of operations. Thus CP paves the way for developing distinctive capabilities in operations management (Choudhari, Adil, & Ananthakumar, 2010).

Competitive Priorities Dimensions

The Competitive priorities concept has been operationalized differently by different researchers (White, 1996). However, the commonly agreed upon dimensions of operations strategies are quality, flexibility, cost and delivery (Beckman & Rosenfield, 2008; Boyer & Lewis, 2002; Stonebraker & Leong, 1994; Ward et al., 1998; Vickery et al. (1997); Ward, Bickford, & Leong, 1996; Wheelwright, 1984). By the same token, Beckman & Rosenfield (2008), Slack (1994) and Bouranta & Psomas (2017) advocate innovativeness and service, time and technological edge, and innovation and customer focus respectively. Some of the competitive priorities used by researchers as tabled in.

Competitive Strategies (CPs) and Firm Performance (FP)

There has not been a great deal of empirical researches on competitive priorities although it has been under theoretical discussion to a greater extent (Anand & Ward, 2004; Ward & Duray, 2000) especially in the context of developing countries (Ho, Ahmad & Ramayah, 2016). However, operations strategy researchers have widely investigated the competitive operations priority in terms of identifying, developing and implementing competitive strategies (Avella et al., 2011; Ward et al., 1998), and investigating the link between these competitive strategies with firm performance (e.g. Bouranta & Psomas, 2017; Ho et al., 2016; Vivares-Vergara et al., 2016; Wood et al., 2014; Terjesen et al., 2011; Lucía Avella & Vázquez-Bustelo, 2010; Kroes & Ghosh, 2010; Chi et al., 2009; Beckman & Rosenfield, 2008; Prajogo & McDermott, 2008; Sum et al., 2004; Swamidass & Newell, 1987; Ferdows & De Meyer, 1990; Noble, 1995; Skinner, 1969; Ward et al., 1994).

Bouranta & Psomas (2017) comparatively investigated the link between firm performance and competitive priorities between manufacturing and service sectors. Firm performance was gauged in terms of financial and customer-focused performance whereas competitive priorities were operationalized in terms cost, quality, delivery, innovation and customers-focus. They found that competitive priorities positively and significantly influenced the firm performance. Moreover, they reported the use of same set

of competitive priorities both in manufacturing and service sector. Similarly, Vivares-Vergara et al., (2016) noted positive relationship between individual employee factors, non-financial performance, and CPs performance. Moreover, they noted quality, cost, delivery, flexibility, service and environmental protection priorities in a hierarchical order. More to the point, Ho et al., (2016) showed that delivery and quality priorities significant influence non-financial performance of SMEs. However they found no significant impact of manufacturing capabilities on financial performance of SMEs.

Terjesen et al., (2011) noted that low cost and product quality significantly impacted the firms' financial performance. By the same token, the research of Lucía Avella & Vázquez-Bustelo (2010) established the positive and significant association between production competence (operationalized as cost, quality, delivery, flexibility, and environmental protection competence) and business performance (measured in terms of sales turnover, sales turnover growth, ROA, ROA growth). Nevertheless, Wood et al., (2014) noted tradeoff among CPs, therefore, suggested that firms can further increase their performance by giving enough coverage to all priorities along with special focus on a single priority. Moreover, they found that cost, quality and individual priority were significantly positively related with FP. However, relationship building and delivery witnessed significant but negative association with FP.

Lucía Avella & Vázquez-Bustelo (2010) noted the significance of considering competitive priorities and its congruence with business strategy in determining business performance. Likewise, Kroes & Ghosh (2010) tested the alignment among competitive priorities and outsourcing drivers, and its, alignment, influence on supply chain and business performance. They found that the influence of alignment on supply chain performance as positive and significant. Moreover, they witnessed a positive and significant association between supply chain performance and business performance. Earlier, Chi et al. (2009) established a conceptual model and then empirically tested the strategic fit between firm performance and competitive priorities, supply chain structure, and environmental characteristics. They found that high performers firm exhibited strong alignment among competitive priorities, environmental characteristics, supply chain, and business performance.

Firm Performance

Organizational performance has been the center of attention of most of the empirical research (Dess & Robinson, 1984; Simpson, Padmore, & Newman, 2012; Ho et al., 2016; Bouranta & Psomas 2017). Firm performance is perceived as a multidimensional concept by researchers (e.g. Lumpkin & Dess, 1996; Morgan & Strong, 2003; Simpson et al., 2012) and is perceived as the level of success a firm achieves or what the firm aims to accomplish (Chathoth, 2002) or it is ability to responding and adapting to the environmental dynamism (Emeka, 2015). Moreover, Ahmad, Wilson, & Kummerow (2011) note that some researchers deem the financial aspect of firm performance as essential and others consider the non-financial aspect as important.

The above discussion led us to develop the following framework and conjectures.

H1a: Cost competitive priority has positive and significant influence on firms' financial performance.

H2a: Quality competitive priority has positive and significant influence on firms' financial performance.

H3a: Delivery competitive priority has positive and significant influence on firms' financial performance.

H4a: Flexibility competitive priority has positive and significant influence on firms' financial performance.

H1b: Cost competitive priority has positive and significant influence on firms' non-financial performance.

H2b: Quality competitive priority has positive and significant influence on firms' non-financial performance.

H3b: Delivery competitive priority has positive and significant influence on firms' non-financial performance.

H4b: Flexibility competitive priority has positive and significant influence on firms' non-financial performance.

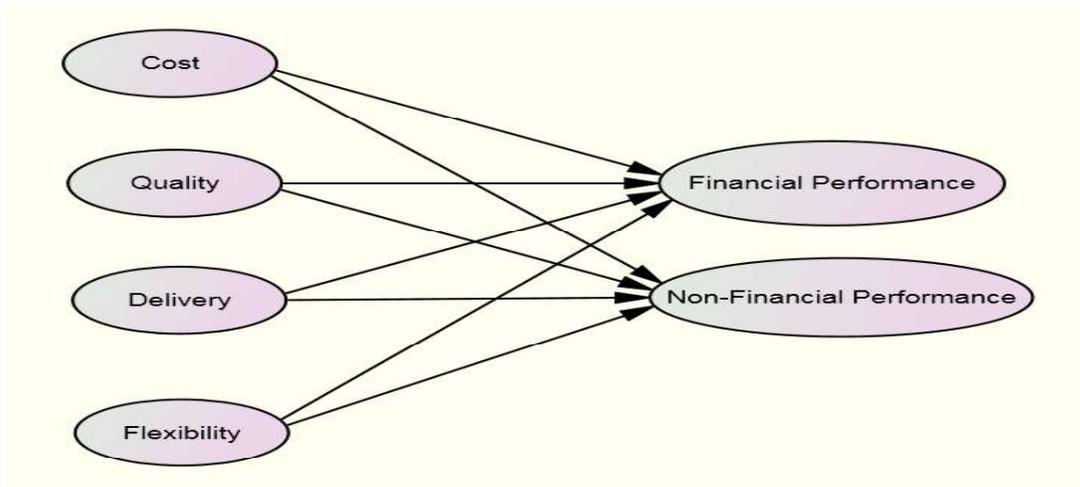


Figure 1: Conceptual Model

Source: Authors own research

3. Research Methodology

3.1 Sampling and Collection of Data

Our sampling frame consisted of all the manufacturing SMEs operating in KP, Pakistan. Initially, top 500 SMEs manufacturing were identified as sample after employing randomization technique. In line with the minimum requirements of sample size for conducting multivariate statistical analysis, such as Structural Equation Modeling (SEM),

the researcher collected useful sample size of 245 out of top 315 total gathered samples from executives and operations managers (Hair, Babin, & Krey, 2017; Saunders, Lewis, & Thornhill, 2009).

3.2 Measures

Competitive priorities

Competitive priorities are a second order factor that consists of cost, delivery, quality, and flexibility. Each item for the second order factor are selected and modified accordingly from validated measures of prior researches.

Firm Performance

It is a second order factor that comprise of financial and non-financial performance. Items for the second order factor are drawn from prior researches. Similar to competitive priorities, perceptual data on firm performance were collected from executives and operations managers through survey.

4. Analysis

Literature on the model fit does not agree on a single measure or a particular set of measures that confirms the model fit. However, it does suggest that number of different model fit indices, if collectively suggest the model fit, should be considered as a valid model (Hair et al., 2017). For reporting model fit, we followed Hair et al. (2017) and, therefore, conducted the Chi-Square, degree of freedom, p value, CFI, and RMSEA.

4.1. Structural Equation Modeling (SEM)

The management research is recently dominated by SEM analysis for its edge over other multivariate data analysis technique (Baumgartner & Homburg, 1996; Hair et al., 2017; Hair, Black, Babin, Anderson, & Tatham, 1998; Steenkamp & Van Trijp, 1991) such as its ability to graphically represent an interrelated latent constructs and to take into account the associated measurement error. In addition, it is capable of estimating complex multiple inter-relationships between dependent and independent variables simultaneously (Fornell & Larcker, 1981; Hair et al., 1998; Steenkamp & Van Trijp, 1991). Following (Ward, Duray, Leong, & Sum, 1995) and (Badri et al., 2000), we conduct path analytic framework of SEM to test hypothesis.

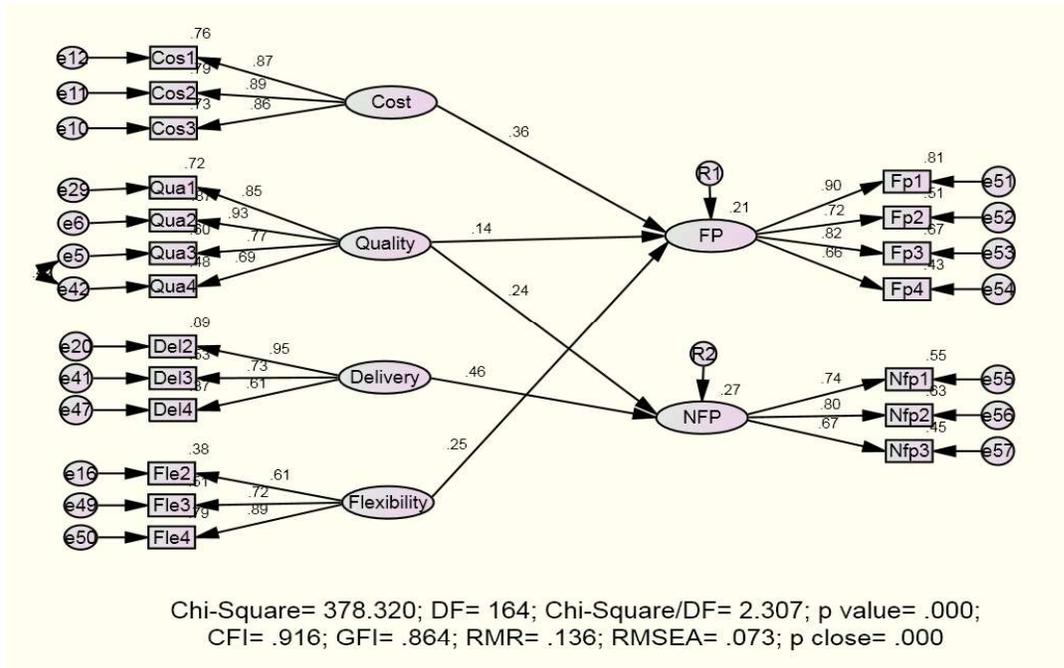


Figure 2: Path Analytic Model

Source: Authors own research

Table 3: Thresholds for Model Fit Indices

	Chi-square	df	Chi-square/df	p-value	CFI	GFI	RMSEA
CFA	378.32	164	2.307	0.00	0.92	0.86	0.07
Threshold			<3	>0.05	>0.90	>0.95	<0.05

Source: Hu and Bentler (1999)

4.2. Hypothesis Testing and Discussion

In the path analytic model, delivery priority has no significant influence on FP as evidenced by $p > 0.05$ and $CR > \pm 1.96$. This is consistent with research findings of Ho et al. (2016) who found no significant impact of delivery strategy on financial performance of firms. However, others have supported a positive and significant relationship between delivery and FP including (e.g. Lucía Avella & Vázquez-Bustelo, 2010; Bouranta & Psomas, 2017; Sum et al., 2004). Interestingly, Wood et al. (2014) noted significant but negative relationship between delivery priority and FP.

Similarly, there is no significant effect of cost and flexibility priorities on Non-Financial Performance with $p > 0.05$ and $CR > \pm 1.96$. Based on these parameters H1b, and H4b stands rejected. This finding reinforces the findings of Ho et al. (2016) who reported no significant association between cost and flexibility priorities with non-financial performance of firms. On the contrary, prior researchers including Vivares-Vergara et al. (2016) found positive and significant association between competitive priorities and firm non-financial performance.

However, the rest of the paths are significant with $p < 0.05$ and $CR > \pm 1.96$ and positive standardized loadings indicating positive and significant impact of operations strategy on firms' performance. Based on these parameters, H1a, H2a, and H4a are accepted indicating that cost, quality, and flexibility priorities have positive and significant influence on firms' financial performance. The conjecture that cost and quality priority is positively and significantly associated with financial performance is in line with the prior researches' findings (e.g. Lucía Avella & Vázquez-Bustelo, 2010; Bouranta & Psomas, 2017; Terjesen et al., 2011; Wood et al., 2014). On the other hand, Ho et al. (2016) noted that cost and quality strategies did not influence the firms' financial performance. Apart from this, Roth & Jackson (1995) reported that increased emphasis on cost priority leads to negative impact on firms' performance. The conjecture H4a that postulated that flexibility priority has positive and significant influence on firms' financial performance is in line with prior researchers (e.g. Lucía Avella & Vázquez-Bustelo, 2010; Wood et al., 2014). However, recently the study of Ho et al. (2016) reported no significant association between flexibility and firms' financial performance.

Similarly, quality and delivery priorities have positive and significant influence on firms' non-financial performance as evidenced by p values < 0.05 and $CR > 1.96$. This lends support to the acceptance of H2b, and H3b. These finding are consistent with the prior researchers including that of Bouranta & Psomas (2017), Vivares-Vergara et al. (2016), and Ho et al. (2016).

A closer look will further unveil that the predictors of Non-Financial performance are delivery and quality priorities. These results match with prior research findings (e.g. Baines & Kay, 2002; de Menezes, 2012; Halkos & Bousinakis, 2010; Sadikoglu & Zehir, 2010; Teo, Le Clerc, & Galang, 2011; Vivares-Vergara et al., 2016; Yee, Yeung, & Cheng, 2008) who found positive association between employees related factors, non-financial performance, and competitive priorities. Nevertheless, Vivares-Vergara et al. (2016) warned that managers should take into account employees related factors such as motivation, satisfaction, and values and beliefs etc. to positively influence CPs and ultimately organizational goals and objectives.

Similarly, the financial performance is predicted by cost, flexibility, and quality strategies. Thus there is major support for the hypothesis to be accepted that operations strategy has positive and significant impact of firms' financial and non-financial performance. This reinforces the findings of Bouranta & Psomas (2017), Wood et al. (2014), Terjesen et al. (2011), and Lucía Avella & Vázquez-Bustelo (2010) who found similar associations between CPs and FP.

Table 4: Summary of Hypothesis Testing

Hypot he sis	Statement of Hypothesis	Standardized Loading	Critical Ratio	p value	Result
H1a	Cost priority has direct positive influence on firm's financial performance	0.36	5.230	***	Accepted
H1b	Cost priority has direct positive influence on firm's non-financial performance	0.06	0.875	0.381	Rejected

H2a	Quality priority has direct positive influence on firm's financial performance	0.13	1.978	0.048	Accepted
H2b	Quality priority has direct positive influence on firm's non-financial performance	0.24	3.142	***	Accepted
H3a	Delivery priority has direct positive influence on firm's financial performance	0.04	0.675	0.500	Rejected
H3b	Delivery priority has direct positive influence on firm's non-financial performance	0.44	5.603	***	Accepted
H4a	Flexibility priority has direct positive influence on firm's financial performance	0.25	3.483	***	Accepted
H4b	Flexibility priority has direct positive influence on firm's non-financial performance	0.01	0.203	0.839	Rejected

Source: Authors own research

5. Conclusions

The paper draws three conclusions from the paper. First, firms should pay attention to their operations strategy as it has positive and significant influence on organizational performance. Nonetheless, not all aspects of operations strategy gives the same positive results, for instance, delivery strategy shows negative association with firms' financial performance. Similarly, cost and flexibility priorities do not have positive and significant impact on firm's non-financial performance.

Second, firms should focus on cost, quality, and flexibility strategy to enhance their firms' financial performance. For the improvement of non-financial aspect of performance, firms should lay emphasis on quality and delivery strategies. For overall improvement in performance, firms should focus on quality strategy.

Third, the most important priority that has highest influence on firms' financial performance has turned out to be cost, flexibility and quality strategies. Similarly, delivery and quality strategies showed the highest influence on firms' non-financial performance respectively.

6. References

- Ahmad, N. H., Wilson, C., & Kummerow, L. (2011). Assessing the dimensionality of business success: The perspectives of Malaysian SME owner-managers. *Journal of Asia-Pacific Business*, 12(3), 207–224. JOUR.
- Anand, G., & Ward, P. T. (2004). Fit, flexibility and performance in manufacturing: coping with dynamic environments. *Production and Operations Management*, 13(4), 369–385. JOUR. <https://doi.org/10.1111/j.1937-5956.2004.tb00224.x>
- Avella, L., & Vázquez-Bustelo, D. (2010). The multidimensional nature of production competence and additional evidence of its impact on business performance. *International Journal of Operations & Production Management*, 30(6), 548–583. JOUR.
- Avella, L., Vazquez-Bustelo, D., & Fernandez, E. (2011). Cumulative manufacturing capabilities: An extended model and new empirical evidence. *International Journal of Production Research*,

- 49(3), 707–729. JOUR. <https://doi.org/10.1080/00207540903460224>
- Badri, M. A., Davis, D., & Davis, D. (2000). Operations strategy, environmental uncertainty and performance: a path analytic model of industries in developing countries. *Omega*, 28(2), 155–173. [https://doi.org/10.1016/S0305-0483\(99\)00041-9](https://doi.org/10.1016/S0305-0483(99)00041-9)
- Baines, T. S., & Kay, J. M. (2002). Human performance modelling as an aid in the process of manufacturing system design: a pilot study. *International Journal of Production Research*, 40(10), 2321–2334. JOUR.
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2), 139–161. JOUR.
- Beckman, S. S. L., & Rosenfield, D. D. B. D. (2008). *Operations strategy: competing in the 21st century*. BOOK, McGraw-Hill/Irwin.
- Boon-itt, S. (2009). The Cumulative Model of Competitive Capabilities. *POMS 20th Annual Conference. Orlando, Florida U.S.A. May 1 to May 4, 2009*.
- Bouranta, N., & Psomas, E. (2017). A comparative analysis of competitive priorities and business performance between manufacturing and service firms. *International Journal of Productivity and Performance Management*, 66(7), 914–931. JOUR.
- Boyer, K. K., & Lewis, M. W. (2002). Competitive priorities: investigating the need for trade-offs in operations strategy. *Production and Operations Management*, 11(1), 9–20. JOUR.
- Chathoth, P. K. (2002). Co-alignment between environment risk, corporate strategy, capital structure, and firm performance: An empirical investigation of restaurant firms. DISS.
- Chi, T., Kilduff, P. P. D., & Gargeya, V. B. (2009). Alignment between business environment characteristics, competitive priorities, supply chain structures, and firm business performance. *International Journal of Productivity and Performance Management*, 58(7), 645–669. <https://doi.org/10.1108/17410400910989467>
- Choudhari, S. C., Adil, G. K., & Ananthakumar, U. (2010). Congruence of manufacturing decision areas in a production system: a research framework. *International Journal of Production Research*, 48(20), 5963–5989. JOUR.
- Day, G. S., & Wensley, R. (1988). Assessing advantage: a framework for diagnosing competitive superiority. *The Journal of Marketing*, 1–20. JOUR.
- de Menezes, L. M. (2012). Job satisfaction and quality management: an empirical analysis. *International Journal of Operations & Production Management*, 32(3), 308–328. JOUR.
- Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 265–273. JOUR.
- Drohomeretski, E., Gouvea da Costa, S. E., Pinheiro de Lima, E., & Garbuio, P. A. da R. (2014). Lean, Six Sigma and Lean Six Sigma: an analysis based on operations strategy. *International Journal of Production Research*, 52(3), 804–824. JOUR.
- Emeka, N. H. (2015). Effect of Strategic Planning on Organizational Performance: A Study of Selected Brewing Firms in Nigeria. *The International Journal of Business & Management*, 3(2), 118–162. JOUR.
- Ferdows, K., & De Meyer, A. (1990). Lasting improvements in manufacturing performance: in search of a new theory. *Journal of Operations Management*, 9(2), 168–184. JOUR. [https://doi.org/10.1016/0272-6963\(90\)90094-T](https://doi.org/10.1016/0272-6963(90)90094-T)
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 39–50. JOUR.
- Gaskill, L. R., Van Auken, H. E., & Kim, H.-S. (1994). Impact of operational planning on small business retail performance. *Journal of Small Business Strategy*, 51(1), 21–36.
- Hair, J. F., Babin, B. J., & Krey, N. (2017). Covariance-Based Structural Equation Modeling in the

- Journal of Advertising: Review and Recommendations. *Journal of Advertising*, 46(1), 163–177. <https://doi.org/10.1080/00913367.2017.1281777>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5). BOOK, Prentice hall Upper Saddle River, NJ.
- Halkos, G., & Bousinakis, D. (2010). The effect of stress and satisfaction on productivity. *International Journal of Productivity and Performance Management*, 59(5), 415–431. JOUR.
- Hayes, R. H., & Pisano, G. P. (1996). Manufacturing strategy: at the intersection of two paradigm shifts. *Production and Operations Management*, 5(1), 25–41. JOUR. <https://doi.org/10.1111/j.1937-5956.1996.tb00383.x>
- Ho, T. C. F. F., Ahmad, N. H., & Ramayah, T. (2016). Competitive capabilities and business performance among manufacturing SMEs: Evidence from an emerging economy, Malaysia. *Journal of Asia-Pacific Business*, 17(1), 37–58. JOUR. <https://doi.org/10.1080/10599231.2016.1129263>
- Jayaram, J., & Xu, K. (2016). Determinants of quality and efficiency performance in service operations. *International Journal of Operations & Production Management*, 36(3), 265–285. JOUR.
- Khalique, M., Hasan, A., Md, I., Jamal, A., & Sharri, N. (2011). Challenges for Pakistani SMEs in a Knowledge-Based Economy. *Indus Journal of Management & Social Sciences*, 5(2), 74–80. JOUR.
- Khan, M. W. J., & Khalique, M. (2014). A Holistic Review of Empirical Studies of Strategic Planning and Future Research Avenues. *International Journal of Academic Research in Economics and Management Sciences*, 3(6), 53–72. <https://doi.org/10.6007/IJAREMS/v3-i6/1291>
- Kroes, J. R., & Ghosh, S. (2010). Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance. *Journal of Operations Management*, 28(2), 124–143. JOUR.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172. JOUR.
- Morgan, R. E., & Strong, C. A. (2003). Business performance and dimensions of strategic orientation. *Journal of Business Research*, 56(3), 163–176. JOUR.
- Nancy Bouranta, Evangelos Psomas. (2017). A comparative analysis of competitive priorities and business performance between manufacturing and service firms. *International Journal of Productivity and Performance Management*, 64(4), 544–566. <https://doi.org/10.1108/IJPPM-07-2014-0100>
- Noble, M. A. (1995). Manufacturing Strategy: Testing the Cumulative Model in a Multiple Country Context. *Decision Sciences*, 26(5), 693–721. <https://doi.org/10.1111/j.1540-5915.1995.tb01446.x>
- Porter, M. (1980). Corporate strategy. *New York. New York, NY*. JOUR.
- Prajogo, D. I., & McDermott, C. M. (2008). The relationships between operations strategies and operations activities in service context. *International Journal of Service Industry Management*, 19(4), 506–520. JOUR.
- Roth, A., & Jackson, W. (1995). Strategic determinants of service quality and performance: Evidence from the banking industry. *Management Science*, 41(11), 1720–1733. JOUR.
- Sadikoglu, E., & Zehir, C. (2010). Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance: An empirical study of Turkish firms. *International Journal of Production Economics*, 127(1), 13–26. JOUR.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for Business Students* (5th ed.).
- Simpson, M., Padmore, J., & Newman, N. (2012). Towards a new model of success and performance in SMEs. *International Journal of Entrepreneurial Behavior & Research*, 18(3),

- 264–285. JOUR.
- Skinner, W. (1969). Manufacturing-missing link in corporate strategy. *Harvard Business Review*, 47(3), 136–145. [https://doi.org/10.1016/S0267-3649\(00\)88914-1](https://doi.org/10.1016/S0267-3649(00)88914-1)
- Skinner, W. (1974). The Focused Factory. *Harvard Business Review*, 52(May), 113–121. <https://doi.org/10.1225/74308>
- Slack, N. (1994). The Importance-Performance Matrix as a Determinant of Improvement Priority. *International Journal of Operations & Production Management*, 14(5), 59–75. <https://doi.org/10.1108/01443579410056803>
- Slack, N., Chambers, S., & Johnston, R. (2010). *Operations management*. BOOK, Pearson education.
- Steenkamp, J.-B. E. M., & Van Trijp, H. C. M. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing*, 8(4), 283–299. JOUR.
- Stonebraker, P. P. W., & Leong, G. K. (1994). *Operations strategy: focusing competitive excellence*. BOOK, Allyn and Bacon.
- Sum, C., Shih-Ju Kow, L., & Chen, C. (2004). A taxonomy of operations strategies of high performing small and medium enterprises in Singapore. *International Journal of Operations & Production Management*, 24(3), 321–345. JOUR. <https://doi.org/10.1108/01443570410519051>
- Swamidass, P. M., & Newell, W. T. (1987). Manufacturing Strategy, Environmental Uncertainty and Performance: A Path Analytic Model. *Management Science*, 33(4), 509–524. <https://doi.org/10.1287/mnsc.33.4.509>
- Teo, S. T. T., Le Clerc, M., & Galang, M. C. (2011). Human capital enhancing HRM systems and frontline employees in Australian manufacturing SMEs. *The International Journal of Human Resource Management*, 22(12), 2522–2538. JOUR.
- Terjesen, S., Patel, P. C., & Covin, J. G. (2011). Alliance diversity, environmental context and the value of manufacturing capabilities among new high technology ventures. *Journal of Operations Management*, 29(1–2), 105–115. <https://doi.org/10.1016/j.jom.2010.07.004>
- Vickery, S. K., Droge, C., & Markland, R. E. (1993). Production competence and business strategy: do they affect business performance? *Decision Sciences*, 24(2), 435–456. JOUR.
- Vivares-Vergara, J. A., Sarache-Castro, W. A., & Naranjo-Valencia, J. C. (2016). Impact of human resource management on performance in competitive priorities. *International Journal of Operations & Production Management*, 36(2), 114–134. JOUR.
- Ward, P., Bickford, D., & Leong, G. (1996). Configuration of Manufacturing Strategy, Business Strategy, Environment and Structure. *Journal of Management*, 22(4), 597–626. <https://doi.org/10.1177/014920639602200404>
- Ward, P., Duray, R., Keong Leong, G., & Sum, C.-C. (1995). Business environment, operations strategy, and performance: An empirical study of Singapore manufacturers. *Journal of Operations Management*, 13(2), 99–115. [https://doi.org/10.1016/0272-6963\(95\)00021-J](https://doi.org/10.1016/0272-6963(95)00021-J)
- Ward, P. T., Bickford, D., & Leong, K. (1996). Configurations of Manufacturing Strategy, Business Strategy, Environment and Structure.pdf. *Journal of Management*, 22(4), 597–626. <https://doi.org/10.1177/014920639602200404>
- Ward, P. T., & Duray, R. (2000). Manufacturing strategy in context: environment, competitive strategy and manufacturing strategy. *Journal of Operations Management*, 18, 123–38. [https://doi.org/10.1016/S0272-6963\(99\)00021-2](https://doi.org/10.1016/S0272-6963(99)00021-2)
- Ward, P. T., Leong, G. K., & Boyer, K. K. (1994). Manufacturing proactiveness and performance. *Decision Sciences*, 25(3), 337–358. JOUR. <https://doi.org/10.1111/j.1540-5915.1994.tb00808.x>
- Ward, P. T., McCreery, J. K., Ritzman, L. P., & Sharma, D. (1998). Competitive Priorities in Operations Management. *Decision Sciences*, 29(4), 1035–1046. <https://doi.org/10.1111/j.1540-5915.1998.tb00886.x>

- Wheelwright, S. C. (1984). Manufacturing strategy defining the missing link, *Strategic Management Journal*, 77–91.(Fp), Inic. <https://doi.org/0143-2095/84/010077-15>\$01.50
- White, G. P. (1996). A meta-analysis model of manufacturing capabilities. *Journal of Operations Management*, 14(4), 315–331. JOUR.
- Wood, R., Gilbreath, G., Rutherford, M., & O'Boyle, E. (2014). Competitive Operations Priorities and Firm Performance in Small Community Banks : A Test of Trade-offs. *The Journal of Applied Management and Entrepreneurship*, 19(4), 82–106.
- Wooldridge, B., & Floyd, S. W. (1990). The strategy process, middle management involvement, and organizational performance. *Strategic Management Journal*, 11(3), 231–241. JOUR.
- Yee, R. W. Y., Yeung, A. C. L., & Cheng, T. C. E. (2008). The impact of employee satisfaction on quality and profitability in high-contact service industries. *Journal of Operations Management*, 26(5), 651–668. JOUR.
- Zeng, S. X., Xie, X. M., Tam, C. M., & Wan, T. W. (2008). Competitive priorities of manufacturing firms for internationalization: an empirical research. *Measuring Business Excellence*, 12(3), 44–55. JOUR.