DEVELOPMENT OF EFFECTIVE OPERATIONS STRATEGIES FOR ORGANIZATIONAL EXCELLENCE PERFORMANCE: A STUDY OF TEXTILE AND CLOTHING SECTORS IN PAKISTAN

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ASIA e UNIVERSITY 2022

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## ADNAN FARZAND ALI

A Thesis Submitted to Asia e University in Fulfilment of the Requirements for the Doctor of Business Administration

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#### ABSTRACT

In highly competitive and focused global environment, the textile manufacturing organizations need to improve, redesign and streamline the operations functions areas to improve the organizational performance. However, this study constructed a conceptual model to synchronize the organizational functional areas and developed the effective operations strategies of Pakistan Textile and Clothing Sectors. This conceptual model divided into four components wherein first two components focus on strategic management how to drive strategic planning and second two components deal with operations management how to manage operations functions effectively. As well, this conceptual model recommended three outcomes (benefits) such as; (i) effective process design for continuous improvement, (ii) efficient product design for customer satisfaction and fulfill demands, (iii) managing operations for operations excellence performance. This study designed a quantitative researcher design methodology following Lewis Saunders and Thornhill Research Framework, called "Onion Research" (Saunders et al., 2016). For this purpose, the researcher first conducted semi-structures interviews from 50 textile managers and applied grounded theory directed at themes (factors) identification and arranged using NVivo Pro 12 (data management). This study also developed closed-ended questionnaires and distributed to textile managers in calculated require sample size 274 in targeted population ( $\approx 700$ ) to collect numerical (quantitative) data using survey approach. Besides, factor analysis (FA) is used to reduce the large number of variables to a small number of factors applied exploratory factor analysis (EFA). In addition, confirmatory factor analysis (CFA) is used to measure and analyze the casual relationships between observed and latent variables to interpret the structural models to be a good fit with model fit indices.

#### APPROVAL

I certify that I have supervised / read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, as a thesis for the fulfillment of the requirements for the degree of Doctor of Philosophy.

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#### DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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# LIST OF ABBREVIATION

BRC	Business Research Company
WTO	World Trade Organization
PBIT	Punjab Board of Investment and Trade
PBS	Pakistan Bureau of Statistics
PTIA	Pakistan Textile Industry Associations
MTIGP	Ministry of Textile Industry Government of Pakistan
PTEA	Pakistan Textile Exporters Association
PSMA	Pakistan Spinning Mill Association
PWMA	Pakistan Weaving Mills Associations
PKMA	Pakistan Knitting Mills Associations
PGMA	Pakistan Garments Mills Associations
PRGTTI	Pakistan Readymade Garments Technical Training Institute
PRGMEA	Pakistan Readymade Garments Manufacturers & Exporters Association
TMAP	Towel Manufacturers Association of Pakistan
PDMEA	Pakistan Denim Manufacturers and Export Association
PTMA	Pakistan Textile Mills Association
PTPMA	Pakistan Textile Processing Mills Association
PBSHA	Pakistan Bed Sheets and Hosiery Association
PCEA	Pakistan Clothe Exporters Association
PHMA	Pakistan Hosiery Mills Association
PHMEA	Pakistan Hosiery Manufacturers & Exporters Association
PPLA	All Pakistan Power Looms Association
EPZ	Export Processing Zone
PSIC	Pakistan Standard Industrial Classification
NVTTC	National Vocational & Technical Training Commission
BPM	Business Process Management
PDM	Product Development Management
МО	Managing Operations
EPD	Effective Process Design
EPDA	Efficient Product Design and Assembly
EOP	Excellence Operational Performance

#### CHAPTER 1

#### **INTRODUCTION**

#### 1.1 Global Textile and Clothing (T&C) Industry Overview

The world market of textile and clothing manufacturing is valued at around \$872 billion and growth has raised due to consumption of ready-made clothing in 2017 (Sheng, 2018). This trend is mostly true in developing countries, for example, China, India, Mexico and Bangladesh, etc. In support, Ha-Brookshire (2017) stated that Asia Pacific is the largest region to produce the quality of textile and clothing products accounted for 68% of the market share, with China contributing 38% of the largest market in 2017. In support, Business Research Company (2018) specified that textile industries are made up of flexible materials, including weaving, knitting, crocheting natural, synthetic fibres or felting (manmade fibres). These flexible materials transform in different types of high quality-level of finished goods such as; bedding, bedcovers, kitchens, bags, protectors, construction, safety, medical, transportation, fashion, tents, and other accessories. Furthermore, the textile industries provide the fibers, strands, needles, carpets, rugs, linen and other textile products. In addition, the textile industries consist of companies engaged in processing fiber, yarn and fabrics to produce finished products. In support, Ha-Brookshire (2017) also stated that textile manufactures market is divided into production of fabric products, wool, fibers, yarns, home textiles and floor coverings. Moreover, cloth manufactures are composed of all companies engaged in supplying fabrics, especially through techniques such as weaving, knitting, interlacing and linking. Threads, fibers and yarn production are related to spinning wool, sewing, knitting, embroidery, and other applications (Agrawal et al., 2019). In addition, home textile production and floor covering includes glass and pottery, curtains and hanging, linen and towels, antiques, lamps, and carpets.

#### **1.1.1 World Textile and Clothing (T/C) Industry**

#### Export and Import 2017-2018

The value of world textile and clothing products has increased since 2017-2018, for example, the growth of Chinese textiles reaches new records and Vietnam has continued to grow as a major exporter (Sheng, 2018). However, the textile business has transformed closely related to changing trends in global garment manufacturing. The World Trade Organization (2021) indicated that current dollar value has recorded for world textile exports (SITC 65) that is increased 256 billion dollars to 272 billion dollars in 2017-2018. Similarly, the current dollar value has recorded for world clothing exports (SITC84) that is increased 399 billion dollars to 421 billion dollars in 2017-2018. The World Trade Organization and World Trade Statistics (2018) also indicated that current dollar value has recorded for world textile imports (SITC 65) that is increased 170 billion dollars to 183 billion dollars in 2017-2018. Correspondingly, the current dollar value has recorded for world clothing imports (SITC84) increased 351 billion dollars to 378 billion dollars in 2017-2018. This is the first time since 2015-2018 that the global export value of textiles and clothing is growing. The current value of the dollar has increased due to demand of imports raised world-wide and produce world best quality of goods to satisfy the customer and fulfill demands exported by 4.7% to 5.1% in 2017-2018.

#### **Top Textile and Clothing Exporters 2017-2018**

The world three textile exporters are China, European Union (EU28) and India in 2018 (Sheng, 2018). However, these major exporters accounted for 66.9% (Year 2018) compared to 66.3% (Year 2017) of the world's textile exports (The World Trade Organization, 2018). The World Trade Organization (2021) indicated that the top three countries have the export growth above the average and annual percentage change, for example, China accounted for 8%, EU (28) 7% and India 4% in 2018. In addition, United State accounted for 4.4% of market shares but fell down slightly from last year as 4.8% and, therefore, it stood the fourth position of world's largest textile exporter in 2018. Furthermore, it is noted that, for the second consecutive year, Vietnam was ranked 10th to ranked 8th in the list of world textile exporters, reaching 8 billion dollars with export growth 2.6% with annual percentage change from 21% to 13% more than last two years. If the controls to maintain their growth, Vietnam took over **Pakistan** and Hong Kong and ended up being the eighth largest textile exporter on earth in 2019 as shown in Table 1.1.1 (a) (Appendix A). In addition, China, European Union (EU28), Bangladesh and Vietnam, let to be clear, the four most effective the world largest clothing exporter in 2018. Also, The World Trade Organization (2018) described that the top four large countries are accounted for 72.3% of all world's textile exporter revealed in 2018, compared to 75.9% in 2017. Exports of EU clothing industries increased specifically last year, with 130 billion dollars to 143 billion dollars in 2017-2018 respectively. In support, Sheng (2018) also stated that China clothing exports shares are continuing with the emerging trends in the new decades, fell down its peak from 36.8% in 2010 to 31.3% in 2018. In addition, China textile statistics shows 37.6% of the world's textile exports and is an important supplier to

be considered in region of Asia Pacific since 2017-2018. Rated by value, Bangladesh's textile imports accounted for 47.7% come from China in 2017, up from 39.8% in 2005. It has been noted the similar developments in the Cambodia (e.g., up 30.7% to the 65.8%), Vietnam (up 23.4% to the 50.7%), **Pakistan (up 32.5% to the 71.8%)**, Malaysia (up 25.9% to the 54.3%), Indonesia (up 28.4% to the 46.7%), Philippines (up 19.3% to the 41.8%) and Sri Lanka (up 15.2% to the 39.5%) during the same period.

#### **Top Textile and Clothing Importers 2017-2018**

The World Trade Organization (2021) indicated that European Union (EU28), America and China are three largest textile importers accounting for 37.5% of total world's import as shown in Table 1.1.1 (b) (Appendix A). In addition, European Union (EU28), America and Japan are three largest clothing importers accounting for 61.5% of total world's import. Although the market share of the top three countries accounted for 37.5% of textile imports and 61.5% of clothing imports in 2018. Nevertheless, the textile and clothing imports remained lower showed 52.4% to 37.5% (textile import) and 83.9% to 61.5% (clothing imports) in the 2000s. Meanwhile, many developing regions rely heavily on imported textile inputs due to insufficient manufacturing capacity. European Union, America and China remain the three most effective textile importers since 2010 - 2018 with importing 46.1% of world's largest textile imports. Other side, European Union, United of America and Japan remain the three most effective clothing importers since 2010 - 2018 with together importing 76.1% of world's largest clothing imports (The World Trade Organization. 2019). This study also demonstrated the import percentage of textile and clothing growing countries from 2010-2018 shown in Table 1.1.1 (Appendix A). For example, China (6.6% in 2010 to 18% in 2018), Viet Nam (2.6% in 2010 to 18% in 2018), Bangladesh (1.7% in 2010 to 11% in 2018), Japan (2.7% in 2010 to 9% in 2018), Indonesia (1.6% in 2010 to 7% in 2018), Mexico (1.9% in 2010 to 7% in 2018), and Turkey (2.4% in 2010 to 6% in 2018). The clothing import percentage of growing countries from 2010-2018 such as Canada (2.2% in 2010 to 11% in 2018), China (0.7% in 2010 to 8% in 2018), Russian Federation (2.0% in 2010 to 8% in 2018), Switzerland (1.4% in 2010 to 8% in 2018), and Australia (1.3% in 2010 to 7% in 2018).

#### 1.1.2 Current Scenario | Pakistan Textile and Export Performance

Textile and Clothing (T&C) industries play an imperative role as the largest manufacturing industries in Pakistan (Alvi and Shahid, 2016). In general, it is the only industry to create job opportunities for skilled and unskilled labor. Pakistan is considered the eighth largest textile exporters in the region of Asia Pacific (Pakistan Economic Survey, 2020). This industry plays an important role in the economy accounted 60% of total exports. It comprises 46% of the entire manufacturing industry employment up to 40% of the workforce. It contributes around 8.00% of the country's main domestic product. Pakistan also has the position of fourth largest "cotton" producer by having third largest spinning capacity in region of Asia Pacific, after China and India, and contributes who have 5% spinning capacity in the world (Ali, A. et al., 2020).

Furthermore, there are currently available resources and capacities that are effective in expanding exports, such as 442 spinning (units), 1,221 ginning (units) (cottonseed gin,

also called gin-cotton), 124 spinning (units), of course, 425 small textiles (units), that produce textile products for local and international export (Iqbal, H. et al., 2018). The All Pakistan Textile Mills Association (2021) revealed that textile sectors have an operational capacity to compete with international competitors on nearly 61,608 rotors, 9,661,366 shafts, 1897 standard looms (conventional looms) and 10,452 jet air looms.

#### **Pakistan Textile Sectors Performance and Contribution**

The textile industry has the significant value in producing goods (productive) using the value-adding chain processes with an inherent potential to complement the fibres in each processing period such as; cotton to the ginning, rotation, materials, dyeing, and finishing, ready-made, and garments (Pakistan Economic Survey, 2020). This report categorized and revealed the export percentage of various sub-sectors pf Pakistan Textile and Clothing Industry as shown in Table 1.1.2 (a) (Appendix A). For example, cotton spinning, cotton yarn, cotton fabric, cloth, processing fabrics, socks and knitwear, home textiles, towels, and garments. This industry adds value in the manufacturing market such as threads, needles, rugs, mats, carpets, runners, floorings, linen, synthetic fibres and other textile products etc. (Ali, A. et al., 2020). According to Textile Industry Division Government of Pakistan (2021), the textile manufacturers have 7.2% of total exports, and other categories have the export percentage in national contribution as shown in Table 1.1.2 (b) (Appendix A), such as; cotton yarn 1.9% of total exports, cotton cloth 0.04% of total exports, knitwear 13.3% of total exports, bed wear 4.5% of total exports, towel -0.3% of total exports, readymade garments 13.1% of total exports, made-up articles 7.3% of total exports, and other textile manufactures 3.2% of total exports.

#### **1.1.3** Challenges Faced by Pakistan Textile and Clothing (T&C) Industry

Nevertheless, textile manufacturing companies are currently facing excessive challenges externally (nationally) and internally (organizational problems) for declining the various sectors of Pakistan Textile and Clothing (T&C). This information is revealed in the textile manages interviews with the support of Pakistan Textile Industry Associations (2021) and therefore, there are number of internal organizational issues have been addressed. For example, there is a need to improve the performance of operations function areas and also develop the systematic conceptual as well as practical framework with dynamic operations strategies. This can help how to improve organizational process management in the perspective of competing internationally textile process management standards such as; poor product quality, process variations, poor product design, product and service development, poor workforce quality, poor management quality, improve continuous improvement, operational performance issues, improve processes performance, applied advanced technology, research and development. However, The All Pakistan Textile Mills Association (2021) APTMA) indicated that there are some different **external aspects** such as high attractiveness costs (interest rates) and input costs, non-conducive government policies or strategies, and insufficient energy supplies that are not guaranteed to hinder their competitiveness. Therefore, some critics also opposed that the indolent attitude of industrialists in the 1990s has brought as much crisis today. If textile industrialists have forced the government to implement the standard guidelines and procedures to organize the textile business structure, then it can be possible that textile business could have exploded, improved and provided number of employment opportunities in Pakistan. In support, some authors stated that textile industries are facing external challenges (Hussain

et al., 2012; Walayat et al., 2012), for example, extreme technological peculiarities, inadequate government policies and procedures, interest rates, tax and duties, inefficient electricity, inefficient gas and water supply, which are the major impact to organizational performance of Pakistan Textile and Clothing Sectors.

#### **1.2** Study Rational and Significance

The change cannot be avoided by any organization that intends to grow and survive (Clegg and De Matos, 2017). However, it is difficult to manage organizational functional processes in developing the operation strategies after measuring and evaluating the operations performance (Slack and Brandon-Jones, 2018). To support, some scholars stated that strategic management is a dynamic framework to control adequate change involving goals setting, strategic planning, formulating, implementing, measuring and evaluating which ensure that managers implement operational strategies across the organization (Cokins, 2017; Madsen, 2016). Moreover, many organizations fail to satisfy customers by measuring and evaluating the operations performance using feedback from customers after delivering the products (Hill, N., Brierley, J., and MacDougall, 2017). In support, some authors stated that operations management helps to improve organizational performance focusing on high quality products, reduce product costs, speed, availability, flexibility, provide excellent service, shortening delivery and response time in a competitive market (Pal, arper, and Vellesalu, 2018). According to several studies, many organizations implement change initiatives do not achieve the desired outcomes (Berenguer et al., 2020). In support, Gunasekaran et al. (2019) stated that ability of any organization to manage the business transformation change is crucial. It aims to overcome

increasing complexity, globalization and uncertainty measures in continuous process change management in the perspective of operational performance improvement. However, operational control and managing change means that how individuals or group of people lead to change effort and expect to implement the new strategies, procedures and improvement methods within the organization (Sveningsson, S., and Sörgärde, 2019). It is systematic approach to implement the international standards, procedures, tools and techniques to achieve the outstanding organizational excellence operations performance consistently over competitors in profitability, revenue growth, and long-term customer satisfaction (Ubaid, A. M., Dweiri, F. T., and Ojiako, 2020).

#### **Research Aim**

This study is mainly focused on problems connected with the synchronization of operations function areas and develop the effective operations strategies in the perspective of organizational excellence performance of Pakistan Textile and Clothing Sectors. However, this study developed the conceptual model which highlighted first to synchronize the function areas of operations in the perspective of organizational structure levels such as; strategic level system, management level system and operational level system. Secondly, how the textile organizations can develop the effective operations strategies after measuring and evaluating the operations performance after deliver the quality of products to customers. This understanding begins by describing how operational performance can influence on functional areas to be streamline the overall strategic and manufacturing processes in the various sectors of Pakistan Textile Industry.

The aim of this research is to develop the conceptual model how to synchronize the organizational functional areas to identify the **operational components (activities)** in the perspective of applying the concepts, procedures, guidelines of strategic operations management. Secondly, how to identify the **successful factors in** developing the effective operations strategies to measure and evaluate the customer's feedback. This conceptual model also described three major outcomes (benefits) for organizational excellence performance such as; (i) effective process design linked with continuous improvement, (ii) efficient product design linked with customer satisfaction and fulfill demand, (iii) managing operations linked with excellence operations performance.

#### **Research Significance**

This study would be a significant endeavor in improving knowledge and further practical application gained from this study will be valuable to any businesses with a similar setting as well the top management. This study would be a significant endeavor in improving efficiency in the researcher workplace and employees motivation. This study is beneficial for production planning when it employs an effective improvement with a different method that related to lean and performance. To understand the manufacturing needs, this research also provides the following recommendation of 3E model (Effectiveness Process, Efficient Product design, & Excellence Performance).

a) The textile organizations would be have an effective process design by implementing lean improvement methodology (Lean Six Sigma DMAIC) for operations excellence in collaborating factors such as; technology integration, agility, productivity, compliance and transparency, efficiency and reduce risks, employee satisfaction, customer focus, sustainability, consistency, repeatability and transferability.

- b) The textile organizations can have an efficient product design to run smooth assembly by implementing the lean improvement methodology (Lean Six Sigma IDDOV) for operations excellence in collaborating the factors such as product conformance, reliability, maintainability, usability and aesthetic.
- c) The textile organizations can consider significantly some of the significant factors of managing operations to improve the organizational performance such as; operations cost, speed, sustainability, flexibility, dependability, lean productivity, openness and action orientation, long-term orientation, work force quality, and management quality, hence, processes do work effectively with respect to desired outcomes.

#### **1.3 Research Problem**

The research problem is defined as the area of concern, a gap in existing knowledge, or irregularities in standards that indicate the need for understanding and investigation (Basias and Pollalis, 2018; Easterday et al., 2018). To identifying the research problem, this study conducted interviews from textile managers with the support of Pakistan Textile Industry Associations (PTIA) as detailed discussed in literature review. The study gap is identified using initial concept of "brainstorming method" and analyzed it using ground theory and coding procedure as discussed in the literature review. The identified research problem is how to synchronize the functional areas and develop the effective operations strategies for organizational excellence performance of Pakistan Textile and Clothing Sectors.

#### What Are The Specific Reasons To Create Study Gap?

Initially, the researcher identified the major core three reasons to create study gap after summarizing the sub-problems using brainstorming technique while discussing with textile managers interviews. For example, (i) First, the textile management does not have a route map of strategic direction for successful operations management in the perspective of determining the mission, vision, goals and objectives to satisfy the customers and fulfill demands. Therefore, the textile organizations don't develop long-term relationships with stakeholders because they are not using operational excellence practices, tools and techniques in meeting the world-class textile standards to compete local as well as international competitors. (ii) Second, the textile organizations do not have an effective process design to reduce the variations (process). (iii) Third, the textile organizations do not have an efficient product design for assembly to produce quality products in meeting customer needs, specifications and fulfil the demands to build long-term relationship.

However, this study also highlighted the sub-problems which are the practical issues in matters of internal organizational problems in the various sectors of Pakistan Textile and Clothing Industry as shown in Table 1.3 (a) (b) (Appendix A). For this purpose of sub-problems identification, the researcher conducted semi-structure interviews from the textile managers with the support of Pakistan Textile and Industry Associations (PTIA). These textile industrial associations are a group of business development in the perspective of supporting, funding, improvement and growth of corporate communities and industrialists. However, it is identified that why textile organizations don't have abilities and capabilities to synchronize the functional areas and align the strategic direction of