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Performance Evaluation of Digital Transformation for Textile and Garment Enterprises

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Abstract

Based on the balanced scorecard, starting from the IT strategic goal of digital transformation, this paper deconstructs the strategic goal into four dimensions: "finance", "customer", "internal process", and "learning and growth". According to the characteristics of textile and garment enterprises, this paper puts forward the performance evaluation index system for the digital transformation of textile and garment enterprises. Using this evaluation index system, we collected data from 201 textile and garment enterprises by questionnaire and evaluated their digital transformation performance. The results show that all effective sample enterprises have performed well on the first-level performance indicators of digital transformation. However, variance analysis shows a significant difference after grouping the samples by size. Large enterprises are relatively best, followed by medium-sized enterprises, and small enterprises rank third. Because the small enterprises have relatively weak performance in terms of "internal processes", "learning, and growth" dimensions. In addition, the analysis of variance also found that the more developed the economy in the region where the enterprise is located, the better its performance in the "customer" dimension. In terms of evaluating the second-level performance indicators for all effective sample enterprises, the performance of the "internal process", "customer", and "learning and growth" dimensions is good. However, the performance of the "financial" dimension is poor, with the highest performance weight. Textile and garment enterprises should fully play the role of digital transformation in the "financial" dimension. From the evaluation results of the third-level performance indicators for all effective sample enterprises, "expansion of products or services", "reduced number of customer complaints", and "the frequency of enterprise business and violation risk is reduced" have higher weights. Still, the ranking of performance evaluation values is lower. These third-level performance indicators are specific indicators that textile and garment enterprises should focus on and actively improve in digital transformation.

Keywords: Digital Transformation; Performance Evaluation; Balanced Score Card; Textile and Garment Enterprises

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1 Introduction

The textile and garment industry's business process and production mode have undergone tremendous changes in the rapid development of the digital science and technology revolution. The industry has gradually entered a new era of digital economy. Nevertheless, one of the problems enterprises face through implementing the digital transformation strategy is how to create a feasible and operable performance evaluation index system. Digital transformation is a continuous development process, and its performance cannot be measured simply by the two logical values of failure or success. Therefore, if performance evaluation indicators are selected only from the financial perspective, the performance of digital transformation cannot be comprehensively and accurately measured. The effect of digital transformation is not directly reflected in financial performance but is more reflected in non-financial performance indicators. How to measure its non-financial performance has become a challenge. The performance measurement of digital transformation is a complex and difficult problem. Therefore, research on this issue has practical significance and application value. This paper attempts to take textile and garment enterprises as an example to discuss how to build a comprehensive and systematic performance evaluation index system for digital transformation based on the balanced scorecard. We used this indicator system to evaluate the performance of textile and garment enterprises in digital transformation, with discussions on enterprise performance characteristics, and areas for future development.Scholars generally believe that the performance of digital transformation is not directly reflected in conventional financial performance indicators but involves the impact of internal and external aspects of the enterprise. Based on the research status of scholars, it can roughly be divided into four aspects: finance, customers, internal processes, and employee learning and growth, which are summarized as follows:

Firstly, on the impact on finance, Eller R et al. (2019) considered from the financial point of view that digital transformation makes internal and external financial information more complete and reliable [1]. Teece DJ (2018) and Li F (2018) mentioned in their papers that digital transformation accelerates product and service innovation, increases the market share of enterprises, and reduces the occurrence of violations [2-3]. Tian Y (2018), Song B (2015), Fu H et al. (2014) believe that digital transformation has changed the financial accounting function, improved the timeliness and accuracy of information transmission, and helped enterprises avoid various risk problems [4-6].

Secondly, regarding the impact on customers, Minami A-L (2021) and Matarazzom M (2021) believe that digital transformation is conducive to customers' participation in the sharing economy and cooperative consumption, improving customer satisfaction and reducing the number of customer complaints [7-8]. Xiao JH (2015) and Feng HT (2021) believe that digital transformation can perceive the flexible production process of enterprises in real time, make a reasonable evaluation of production plans under different circumstances, and help enterprises make intelligent decisions, to meet the personalised needs of customers and reduce the occurrence of complaints against customers [9-10].

Thirdly, considering the impact on internal processes, G ö lzer P (2017), Vial G (2019) and others believe that digital transformation can improve production efficiency and rapid response capability [11-12]. The research of Westerman G (2014) shows that digital transformation is conducive to improving the transmission and communication speed of production information and realizing internal information sharing [13]. Wang C (2020) and Qi YD (2020) believe that digital transformation can help enterprises quickly and effectively use production data to optimize production processes and promote production and manufacturing to be more automated and