Chapter 7
Digital Transformation Perception Scale

Başak Gök
https://orcid.org/0000-0002-8687-5961
Gazi University, Turkey

Şeyma Davun
http://orcid.org/0009-0004-6451-450X
STM Defense Technologies, Turkey

Hadi Gökçen
http://orcid.org/0000-0002-5163-0008
Gazi University, Turkey

ABSTRACT

In this study, a measurement tool was developed to measure the digital transformation perceptions of defense industry company employees and the components that determine the digital transformation perception were investigated. The developed digital transformation (DTP) scale consists of 28 items with a five-factor structure. DPT consists of business process (BP), strategy and corporate culture (SCC), personnel knowledge and competence (PKC), motivation (M) and communication and information (CI) components. Cronbach's alpha internal consistency coefficient is 0.963 and the scale reliability is high. A significant difference was observed in the perception scores of the strategy and corporate culture (SCC) factor according to the level of education, the motivation (M) score according to gender, and the communication and information (CI) score according to the status of being a manager. No significant difference was observed between groups for the entire scale.

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INTRODUCTION

Today, it is seen that developing information technologies affects the management processes and business models of individuals, institutions, and countries. To adapt to this change, institutions are transferring their business processes to completely digital environments and creating more efficient and effective management models by developing sustainable solutions. Digital transformation is a holistic process that aims to reduce human errors and provide more effective and efficient service with simple, fast, and traceable business processes, thus increasing customer and employee satisfaction.

It is accepted that businesses adopting digital technologies can perceive and react to internal and external opportunities and threats and quickly detect and evaluate current and potential competitors in the business environment. Businesses digitalize general business processes for goals such as distributing operational business processes, executing parallel business processes with supply chain partners, and reaching new customers (Wheeler, 2002). Businesses with a high innovation rate benefit more from digital platforms for rapid solution production (Ravichandran, 2018). Digital transformation involves business processes, including business models, customer experience, operations, people, and networks. It aims to provide effective and efficient solutions to all partners by considering the system as a whole. Stakeholders are internal employees, managers, customers, and the public affected by the daily work.

The information processing capacity of businesses enables them to make effective organizational decisions (Tushman & Nadler, 1978), and thus, the performance of the business increases. High information processing capacity does not occur by chance. For high information processing capacity, businesses need to plan the processes of collecting, processing, sharing, and analyzing information well and raise the stakeholders' awareness in these processes (Dernbecher & Beck, 2017; Swanson & Ramiller, 2004). Awareness-based approaches are related to the ability of individuals and businesses to collect and analyze information and have a perspective compatible with the environment (Ndubisi. & Al-Shuridah, 2019). Corporate awareness reflects the ability of the business to understand its environment and make effective decisions for the future. In the context of digital transformation, organizational awareness represents the activities of actively exploring digital transformation opportunities, predicting and evaluating business transformation, offering alternatives for decision-making, and relying on IT experts when making decisions (Li, Wu, Ca &Wang, 2021).

People are essential in digital transformation as they are internal (employees, managers, suppliers) and external stakeholders (suppliers, customers, social environment, etc.). The perception of digital transformation practitioners affects processes such as adoption, improvement, sustainability, and production of effective and

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