Chapter 10
The Role of Business Intelligence in Digital Transformation and Competitive Advantage

Khalil Omar
https://orcid.org/0000-0002-5328-5762
University of Petra, Jordan

Jamal Zraqou
https://orcid.org/0000-0001-9060-7188
University of Petra, Jordan

Wesam Alkhadour
https://orcid.org/0009-0004-1937-0308
University of Petra, Jordan

Jorge Marx Gómez
University of Oldenburg, Germany

ABSTRACT

Business Intelligence (BI) has been acknowledged as a major driver in the paradigm of digital transformation, which is befallen by multitudes of complexities. Though the potential value that Business Intelligence can add to an organization is well acknowledged and respected, properly implemented and effectively utilized systems fail to exist within organizations for them to leverage such qualities into a sustainable competitive advantage. This chapter, therefore, takes a shot at this challenge by proposing an integrated framework for aligning BI capabilities with initiatives and strategic objectives of digital transformation. The technological, organizational,

DOI: 10.4018/979-8-3373-6801-6.ch010

and strategic aspects of BI implementation will reveal those critical success factors that foster competitive advantage within environments undergoing digital transformation. Results show that firms getting an edge through BI show strong alignment between BI skills and digital change plans, putting in place better data rules, and building thinking cultures around analysis.

INTRODUCTION

Technological evolution, alongside changing consumer expectations and global competition, has fast-tracked the digital transformation imperative in all industries (Abu-AlSondos et al., 2024). Digital transformation is an essential reimagining of the use of digital technologies by organizations to create new business models, improve operational efficiencies, and deliver better customer experiences, not just reworking old ways but fundamentally setting in and adapting for new heights (Alloghani et al., 2022). As organizations embark on such transformational journeys, Business Intelligence (BI) has surfaced as one key capability required to support data-driven decision-making and the generation of strategic insight.

Business Intelligence includes the technologies, applications, practices, and processes that gather, combine, study, and show business information to help make better choices. It has moved from simple reporting tools to advanced analytics platforms, which can really change how well an organization performs and its competitiveness (Jiménez-Partearroyo & Medina-López, 2024; Solanki, 2023). Today's BI systems combine organized and disorganized data from many places, use smart analysis methods, and give useful ideas through easy-to-use picture screens.

Today's business environment is hypercompetitive, and the ability to use data as a leverage tool for strategy has moved from being a potential differentiator to becoming an essential element required fundamentally for survival (Rusu et al., 2022). Organizations in all sectors are making significant investments in BI capabilities as part of the process of traversing through complexity toward emerging opportunities and market shifts in the allocation of resources.

Despite substantial investments in BI technologies and growing awareness of its strategic importance, organizations continue to encounter significant challenges in translating BI capabilities into sustainable competitive advantage (Zanke & Sontakke, 2024). Research indicates that between 70% and 80% of BI implementations fail to deliver their expected benefits (Villamarín & Diaz Pinzon, 2017). This concerning statistic highlights the complexity involved in successfully deploying and leveraging BI systems within the context of broader digital transformation initiatives.

Several critical challenges contribute to this implementation gap: