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Towards a Comprehensive Framework for the Multidisciplinary Evaluation of Organizational Maturity on Business Continuity Program Management: A Systematic Literature Review

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ABSTRACT

Organizational dependency on Information and Communication Technology (ICT) drives the preparedness challenge to cope with business process disruptions. Business Continuity Management (BCM) encompasses effective planning to enable business functions to resume to an acceptable state of operation within a defined timeframe. This paper presents a systematic literature review that communicates the strategic guidelines to streamline the organizational processes in the BCM program, culminating in the Business Continuity Plan design, according to the organization's maturity. The systematic literature review methodology follows the Evidence-Based Software Engineering protocol assisted by the Parsifal tool, using the EbscoHost, ScienceDirect, and Scopus databases, ranging from 2000 to February 2021. International Standards and Frameworks guide the BCM program implementation, however, there is a gap in communicating metrics and what needs to be measured in the BCM program. The major paper result is the confirmation of the identified gap, through the analysis of the studies that, according to the BCM components, report strategic guidelines to streamline the BCM program. The analysis quantifies and discusses the contribution of the studies on each BCM component to design a framework supported by metrics, that allows assessing the organization's preparedness in each BCM component, focusing on Information Systems and ICT strategies.

KEYWORDS

Business continuity plan; information and communication technology; information systems; measurement; organizational maturity

1. Introduction

Information and Communication Technologies (ICT) are nowadays strategical in every organization and, although, on different levels of dependence, the need for information flow is essential. Not protecting information, or worse, losing it, can be critical to an organization's survival. In this context, organizations must prepare for the eventuality of interruptions in their business processes, especially those supported by ICT services.

Industry 4.0, is empowered by the seamless collaboration of communication technology (CT), information technology (IT), and operation technology (OT), i.e., CIOT collaboration. The OT domain encompasses all the industrial elements. The CT domain is represented by various wired/wireless and long-/short-distance communication standards and technologies. The IT domain is the platform that realizes the unified collection,

storage, and analysis of the data collected by workers or sensor networks from the OT domain. It is empowered, for example, by advanced cloud computing, digital twin, and Artificial Intelligence (Wan et al., 2022).

In the context of ICT, the challenging uncertainties in the global economy, or the new hazards and threats emerging from climate change, military conflicts, or pandemic and post-pandemic affects the BCM and BCP and require strategies that urge implementation in practice.

However, processes related to risk management are relegated to the background. The absence of a consistent approach to risk management can lead to many undesirable outcomes and, ultimately, to a decrease in operational efficiency and effectiveness (Varajão & Amaral, 2021). Preparation and planning are the key and project management is the door to allow the organization to step into the world of