

Title: Blockchain Integration: Collaborative Approaches and Challenges

Abstract, Objectives, and Motivation

This tutorial tackles the complexities and challenges organisations face in adopting and assimilating blockchain technology, with a unique emphasis on the intricate roles played by adoptees and vendors. The assimilation of blockchain technology, while offering transformative potential, is fraught with significant hurdles that require strategic navigation. This session seeks to illuminate these challenges, focusing on fostering effective collaborations between technology providers and organisational users to mitigate barriers. An innovative feature of this tutorial will be a live Delphi study conducted with participants, aimed at consolidating expert consensus on best practices, challenges, and strategies for blockchain adoption. This interactive component underscores the tutorial's objective to offer a deep-dive exploration into the multifaceted process of blockchain integration, emphasising stakeholder engagement as a critical success factor.

Background

Blockchain and distributed ledger technologies (DLT) are anticipated to transform organisational structures and cross-organisational transactions. Instead of centralising data in a conventional ledger, these technologies utilise independent computers, known as "nodes", to document, synchronise, and distribute individual transactions across their digital ledgers (Clohessy et al., 2020). Blockchain has emerged as a pivotal technology to enhance market competitiveness for businesses. However, the substantial investment required for its integration has been a barrier for many, in particular, supply chain stakeholders (Liu et. al., 2023; Kaur et. al., 2022; Moretto and Macchion, 2022). Currently, there is limited up to date research on the role of IT vendors in technology adoption within the field of information systems (Mola et al., 2022). The prevailing theory, Rogers' diffusion of innovations (2010), primarily examines the customer's perspective in IT adoption, often sidelining technology vendors as mysterious or peripheral figures in the adoption process. However, recent investigations, including those by Mola et al. (2022) focusing on the vendor's perspective in the diffusion process, S. H. Salih et al. (2022) emphasising the impact of ongoing vendor support on system integration, and Bezboruah et al. (2018) analysing IT vendors' involvement in health IT adoption, have started to address this oversight. In the realm of IT, professionals frequently engage in a conventional software purchasing routine, paying for licenses without critically assessing the software's quality and seeking experts for all potential applications, as noted by Marsen et al. (2012). The absence of established standards in emerging technologies like blockchain is causing apprehension among potential adopters, deterring organisational adoption (Malik et al., 2021). The role of vendors is pivotal, offering essential support, updates, and training. Neglecting their expertise can result in suboptimal technological decisions, increased costs, and missed opportunities for innovation (Bayramova et al., 2021).

Timeline and Intended Audience

Duration: 2 hours

Intended Audience: This tutorial is intended for IT leaders, blockchain project managers, technology vendors, and researchers focused on the diffusion of innovations, technology management, and organisational change.

Technical Issues Addressed

The tutorial will focus on the dynamics of blockchain adoption, assimilation and integration highlighting the facilitators and barriers from the perspectives of both adoptees and vendors. Key areas of discussion will include:

Strategies for overcoming common and unique barriers to blockchain adoption.

The role of facilitators in smoothing the path to successful adoption.

Insights into effective collaboration between adoptees and vendors to address challenges.

Industry use cases and academic research.

A live Delphi study to explore and consolidate expert opinions on best practices for blockchain integration.

This approach is particularly relevant given the current pace of blockchain innovation and the critical need for organisations to understand and leverage this technology effectively.

Tutorial Content Outline

1. Introduction to Blockchain Adoption Challenges (30 minutes)

Overview of blockchain technology and its potential impact.

Discussion on the primary challenges faced by organisations in adopting blockchain.

2. Conducting a Live Delphi Study (1 hour)

Briefing on the Delphi method and its relevance to technology adoption research.

Participants are divided into expert panels to discuss predefined questions on blockchain adoption challenges, facilitators, and the roles of adoptees and vendors.

Compilation of panel insights to derive consensus on effective strategies for overcoming adoption barriers.

3. Delphi Study Debrief and Key Takeaways (30 minutes)

Presentation of the Delphi study findings.

Interactive discussion on the implications of these findings for organisations aiming to adopt blockchain.

Summary of actionable strategies and best practices derived from the study.

A description of any previous tutorial experience of the speaker(s), and past versions of the tutorial

I have not delivered a tutorial of this type before. However, I have extensive experience of presenting to small and large audiences on the topic of this tutorial and related topics. This tutorial has not been delivered before.

State if a similar tutorial has been offered in other conferences (last two years) and how your tutorial differs

To the best of my knowledge, no similar tutorial has been offered in other conferences. From reviewing the previous 5 years of IEEE ICBC conferences, this tutorial is quite different to the topics that have been delivered previously.

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