V. Aligning Business Solutions and Business Requirements for Digital Transformation – Case Research

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This study explores how Business and IT Alignment (BITA) influences business performance (PERFO) and corporate sustainability (SPACS) using a mixed-methods case study of an international manufacturing enterprise. The quantitative analysis (PLS-SEM) indicated BITA affects PERFO indirectly through IT service quality (ITSQ), while remote work (EWORK), despite its relation to BITA, showed no significant impact. BITA strongly predicted SPACS by enhancing employees' sustainability knowledge, confidence, and willingness to act. Qualitative findings from semi-structured interviews revealed a BITA maturity of 3.3 (on a 5-point scale), highlighting its role in sustainability via better decision-making, process optimization, and IT-enabled transparency. Notable discrepancies between managerial and employee perceptions of BITA maturity were identified. Results suggest successful BITA fosters sustainability-oriented behaviour and IT-driven performance improvements, though continuous reinforcement within organizations is required. The study emphasizes the value of integrating qualitative and quantitative methods for comprehensive insights into BITA's impact.

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1 Introduction

The concept of Business-IT Alignment (BITA) was first mentioned in the late 1970s (Mclean & Soden, 1976; IBM, 1981). Various definitions of BITA exist, but they can be generally grouped into two conceptual approaches (Chan & Reich, 2007b): the first considers alignment as a final state, focusing on the outcomes of alignment; the second regards alignment as a continuous process involving specific behaviours, responses, and identifiable patterns.

Alsolamy et al. (2014) describe business and IT strategy as a detailed plan to align IT with business goals. As suggested by Benbya and McKelvey (2006), alignment is a continuous process of dynamic adaptation. Luftman (2000) defines it as the appropriate and timely application of IT to meet business strategy requirements, emphasising the relationship between business strategy and IT. Pereira and Sousa (2005) define BITA as the extent to which IT plans are supported by business strategy. BITA concerns the mutual alignment and integration of IT and business within an organisation to achieve organisational goals better (Zhang et al., 2010).

Thus, aligning business and IT is a process that ensures that an organisation's technological resources, capabilities, and investments are aligned with its business strategies, objectives, and needs (Chan & Reich, 2007a). Luftman and Brier (1999) emphasised that BITA refers to coordinated managerial efforts to ensure that IT goals are aligned with the functional objectives of various departments, such as marketing, finance, and production. BITA aims to align IT with overall business objectives and vice versa.

Numerous studies have shown that organisations aligning in these domains are more successful than those not (Chan & Huff, 1997; Irani, 2002; Kearns & Lederer, 2000). Therefore, aligning IT strategy with business strategy has become one of the most critical challenges for IT professionals and business executives (Luftman, 2005). The concept of BITA is associated with several synonymous terms such as "integration" (Broadbent et al., 1999), "congruence" (Venkatraman et al., 1993), "harmony" (Luftman & Brier, 1999), "fusion" (Smaczny, 2001), and "linkage" (Henderson & Venkatraman, 1993). Regardless of the terminology used, the literature emphasises the significance of BITA for developing core organisational competencies (Sledgianowski et al., 2008; Versendaal, 2013).

Authors such as Chan and Reich (2007), Aversano et al. (2012), Silvius et al. (2009), Luftman et al. (2017), and Yang (2020) have highlighted BITA as one of the key success factors in strategic business operations and competitive advantage. Jonathan et al. (2021) further noted that effective alignment between business and IT enhances the value derived from digital transformation projects and supports organisations in achieving long-term sustainability. Ben-Zvi and Luftman (2022) argue that mature alignment is essential if businesses want IT to transform operations. Mature alignment is associated with organisational success and is a crucial goal for modern organisations (Panda, 2022).

The growing importance of IT in business can be attributed to several factors that have transformed how companies operate and compete in today's business environment. These include digital transformation, data analytics, improved operational efficiency, e-business, enhanced customer experience, technological innovation, remote work, and flexibility. Feroz et al. (2021) emphasised that technologies such as artificial intelligence (AI), big data, the Internet of Things (IoT), cloud computing, and mobile technologies enable organisations to reshape sustainability domains by monitoring pollution impacts, managing waste and promoting sustainable production.

However, achieving effective BITA is far from simple, as many organisations face numerous challenges and complex issues. BITA requires a holistic, advanced, and adaptive approach due to rapidly evolving technological and market demands, as well as ongoing communication gaps between IT stakeholders and other organisational actors.

Chan and Reich (2007) and Aversano et al. (2012) pointed out that even well-designed strategies can fail due to poor communication, lack of alignment (e.g., when business and IT strategies diverge), and insufficient support across organisational levels. Furthermore, organisations' information systems (IS) are often not aligned with business objectives. Kyriazoglou (2012a, 2012b) noted that such issues prompt organisational leadership to implement more comprehensive and effective business controls across governance, risk management, enterprise architecture, strategy, finance, IT, sales, and other areas. Luftman et al. (2017) highlighted several persistent issues in BITA research. Firstly, many alignment models portray alignment as static, failing to examine the scope and evolution of measures necessary to achieve

alignment. Secondly, these models often lack solid theoretical foundations. Lastly, due to their static perspective, such models provide limited guidance on how organisations can improve their alignment.

Chan and Reich (2007) emphasised that, despite extensive research, challenges remain in two key areas of BITA. The first concerns the continuous alignment of IT and business strategies, requiring IT governance capabilities and involving specific measures and responses that display patterns over time. The second focuses on alignment as an outcome, emphasising past actions and BITA results. For organisations, today's BITA domain is shaped by breakthrough technologies linked to digital transformation and global influences such as sustainability and environmental concerns.

More than thirty years of research into IT and business strategies emphasise the practical value of aligning them, as alignment directly influences organisational performance. Initial studies focused on comparing business and IT plans. Subsequent research shifted toward examining the relationship between business and IT strategy and the alignment between business needs and IT priorities (Chan & Reich, 2007). Some scholars argue that alignment is not always desirable. They present several arguments, including the mechanistic nature of research that may not reflect the real world (Ciborra, 1997), the impossibility of alignment when the business strategy is undefined or in development (Vitale, 1986), the lack of alignment as a preferable outcome due to the need for constant business adaptation, and the view that IT should drive business transformation rather than merely implement it (Chan & Huff, 1993). Furthermore, some organisations may struggle to adapt to new environments if alignment is too rigid and the business context changes abruptly (Ciborra, 1997). Additional arguments in the literature assert that IT should challenge business operations rather than merely support them. Aligning IT plans with business plans may create a competitive advantage but may also result in losses (Chan & Huff, 1993; Kearns & Lederer, 2000). Sauer and Burn (1997) warn that alignment can lead to problematic situations requiring careful management to avoid unnecessary IT and business costs. They identify three types of undesired outcomes from strategic alignment:

- misalignment, when the organisation aligns IT with internally inconsistent business strategies.

- IT stagnation, which occurs as part of the natural, virtually unavoidable innovation cycle in IT.
- globalization presents a unique challenge in terms of cultural and scope compatibility for alignment.

2 Factors influencing alignment of business solutions and business requirements

Luftman et al. (1999) conducted a study involving more than 500 companies to investigate the factors that promote and inhibit business-IT alignment (BITA). The results indicate that the same themes appeared on both sides—enablers and inhibitors—namely, top management support, IT department's understanding of business, the relationship between business and IT, and IT leadership, all of which are critical to successful BITA (see Table 1).

Table 1: BITA Enablers and Inhibitors

Enablers	Inhibitors
Senior executive support for IT	Lack of close IT/business relationships
IT involvement in strategy development	IT does not prioritise effectively.
IT understands the business.	IT fails to deliver commitments.
Partnership between business and IT	IT does not understand business.
Well-structured IT projects	Business executives do not support IT
IT shows leadership	IT leadership lacks managerial skills.

Source: Adapted from Luftman et al. (1999)

Successful BITA implementation depends on several critical factors:

- strong top management support.
- effective prioritisation.
- fostering positive working relationships.
- building trust among stakeholders.
- encouraging effective communication.
- developing a comprehensive understanding of the business environment.

These enablers and inhibitors can be categorised into two groups based on the locus of responsibility or influence. The organisation's leadership controls factors such as strategic involvement of IT and top management support, while IT departments are

responsible for prioritisation, business understanding, and IT governance. This classification emphasises the need for shared responsibility between business and IT units, ensuring alignment is driven both top-down and bottom-up.

The study builds upon the work of Henderson and Venkatraman (1990), structuring the alignment model into four categories comprising twelve factors, described below.

1. Business Strategy

- Business scope: Includes markets, products, services, customer groups, locations, competitors, suppliers, and potential entrants that shape the competitive business environment.
- Distinctive competencies: Critical success factors and core capabilities that potentially offer a competitive advantage, such as branding, R&D, product development, cost structure, pricing, sales, and distribution channels.
- Business governance: How organisations determine the balance among governance, shareholders, and boards of directors, including government regulations and partnerships with strategic allies.

2. Organizational Infrastructure and Processes

- Administrative structure: The organisational structure of business operations (e.g., centralised, decentralised, matrix, horizontal, vertical, geographic, federal, or functional models).
- Processes: Executing business activities (employee work routines), focusing on value-adding activities and process improvements.
- Skills: Human resources, including hiring, firing, motivation, training, education, and corporate culture.

3. IT Strategy

- Technology scope: Critical information applications and technologies.
- Systemic competencies: Capabilities that distinguish IT services, such as access to information relevant to strategy formulation and execution.

- IT governance: Distribution of authority among business partners, IT leadership, and service providers over resources, risks, and IT responsibilities, including project selection and prioritisation.

4. IT Infrastructure and Processes

- Architecture: Technological priorities, policies, and choices that integrate applications, software, networks, hardware, and data management into a cohesive platform.
- Processes: Practices and activities related to developing and maintaining applications and IT infrastructure.
- Skills: IT human resources, recruitment, termination, motivation, training, education, and IT culture.

The findings suggest that specific actions foster alignment while others clearly obstruct it. Achieving alignment is both evolutionary and dynamic. It requires strong executive support, healthy working relationships, strong leadership, proper prioritisation, trust, effective communication, and a deep understanding of the business context. Success depends on maximising enablers and minimising the number and influence of inhibiting factors. Evidence shows that these factors remain consistent over time and are nearly identical for business and IT leaders (Luftman et al., 1999).

Many studies and analyses have previously focused on the interplay between business and IT (Chan & Huff, 1993; Luftman, 1996; Earl, 1993; Henderson et al., 1992), the role of partnerships between IT and business management (Keen, 1996; Ives et al., 1993), and the need to understand the transformation of business strategies due to the competitive application of IT (Boynton et al., 1996). IT innovations have prompted changes in business scope and organisational infrastructure (Keen, 1996). The breadth of topics covered in prior literature underscores the complexity and multi-dimensionality of BITA as a research domain.

However, much of this research has been conceptual. Empirical BITA studies (e.g., Henderson & Thomas, 1992; Broadbent & Weill, 1993; Chan & Huff, 1993; Baets, 1996) often focused on a single industry or organisation. Consequently, the findings

may be biased and not generalisable across sectors. The lack of consistent findings across industries, functional roles, and time periods has motivated the present study.

Many researchers highlight communication as a crucial precondition for alignment, often linked with mutual understanding. Effective communication plays a key role in achieving alignment between business and IT. It is essential for fostering shared learning, collaboration, and common goals. Organisations should prioritize regular and inclusive communication using a variety of coordination channels and methods (Reich & Benbasat, 2000; Campbell, 2005; Sledgianowski & Luftman, 2005). Given the socio-technical nature of alignment, communication should be seen as both a process and a capability that must be continuously developed.

Key research studies, their authors, objectives, and factors influencing BITA are summarised in Table 2.

Table 2: Key Research Contributions in the BITA Domain

Authors	Main Objective	BITA Factors
Feeny et al. (1992)	CEO/CIO relationship	Communication between business and IT executives
Henderson in Venkatraman (1993)	Achieving alignment	Business and IT strategy; IT infrastructure and processes
Sabherwal in Kirs (1994)	IT performance factors	Environmental uncertainty, organisational integration, IT governance maturity
Luftman, (1996)	Exploring twelve BITA factors	Factors described above
Teo in Ang (1999)	IS planning alignment success	Strategic IT use, business understanding, trust in IT, service quality, frequent communication
Luftman in Brier (1999)	IT and business planning alignment	Relationship quality, IT understanding, support, leadership
Luftman (2000)	BITA enablers/inhibitors	Six enablers and inhibitors (e.g., CEO support, prioritisation, leadership)
Maes et al (2000)	General BITA framework.	Management capacity, ICT systems, infrastructure
Reich in Benbasat (2000)	Social factors in alignment	Shared knowledge, IT history, communication links
Hussin et al (2002)	Measuring BITA	Executive commitment, IT maturity, external expertise
Bergeron et al (2001)	IT strategy-environment alignment	Mediation, fit
Broadbent in Kitzis (2005)	Success factors for IT-based business projects	CIO, executive team, governance clarity

Authors	Main Objective	BITA Factors
Chan et al. (2006)	Business strategy supported by IS strategy	Shared knowledge, planning sophistication, IS success, firm size, uncertainty.
Kim in Park (2007)	Impact of BITA on business performance	Knowledge exchange, IT belief retention
Kashanchi in Toland (2008)	Social dimension of alignment	Misaligned strategies, long-term relationships, communication
Preston in Karahanna (2009)	Business-IT alignment	Shared understanding
Silvius et al. (2009)	BITA as a strategic success factor	Strategic governance, sustainability, IT contribution
Johnson in Lederer (2010)	IS contribution to organisations	IT-business governance relationship, BITA direction
Strong in Volkoff (2010)	Causes of misalignment	Data, roles, availability, control, culture
Alaceva in Rusu (2015)	Social barriers to alignment	Misunderstanding, poor communication, vague specifications, limited collaboration
Yang (2020)	BITA as a competitive advantage	Alignment and digital transformation
Jonathan et al. (2021)	BITA and digital transformation value	Transformation value, long-term sustainability
Feroz et al. (2021)	Role of technologies in sustainability	AI, big data, IoT, cloud computing, sustainable innovation
Ben-Zvi & Luftman (2022)	Maturity of BITA for transformation	Alignment maturity, organisational performance
Panda (2022)	BITA maturity as an organisational goal	BITA maturity, modern organisational goal

Source: Adapted from Luftman et al., 2017; Alaceva & Rusu, 2015 and additional recent studies

2.1 The impact of BITA on organisational performance

Over the past thirty years, researchers have extensively examined business-IT alignment (BITA) (Coltman et al., 2015; Gerow et al., 2015). More specifically, studies have explored how aligning IT-related processes creates business value for the organisation (Celuch et al., 2007; Kim et al., 2011). Generally, BITA emerges as a continuously adaptive and synergistic relationship that integrates business strategy and IT resources (Chan & Reich, 2007). From the foundational studies by Henderson and Venkatraman (1999) to more recent contributions (Gerow et al., 2015; Coltman et al., 2015), scholars have emphasised that organisations must align their IT resources and capabilities with their strategies and associated business processes. BITA refers to high-level strategic alignment and addresses how

organisational strategies support—and are supported by—IT resources (Gerow et al., 2015).

Melville et al. (2004) argue that a diverse portfolio of information assets can generate various potential benefits. Realising these benefits largely depends on whether the organisation can achieve its long- and short-term goals through balanced IT strategy alignment (Ross et al., 1996).

Business processes enable organisations to accomplish critical objectives (Kaplan & Norton, 1996; Porter, 2002). The fulfilment of these organisational objectives is generally described as business performance (Melville et al., 2004; Tallon, 2008; Tallon & Pinsonneault, 2011). Process-level performance refers to measures related to enhancing the operational effectiveness of business processes. Such metrics include customer acquisition and retention, product innovation, and the delivery of products or services to customers (Kaplan, 2010).

Business process performance is reflected in activities that convert inputs into outputs (Melville et al., 2004; Raschke, 2010). These activities include innovation, operations, and after-sales support (Kaplan & Norton, 2001). Moreover, analytical activities that support organisational decision-making (Davenport et al., 2010) are also part of business processes and thus impact firm performance (Daft et al., 2021; Grant, 2010; Kaplan, 2010). Given their importance, the quality of business processes is a key indicator of a company's ability to deliver products and services efficiently (Tarhan et al., 2015).

Performance measurement models use various financial and non-financial metrics to evaluate outcomes related to an organisation's ability to achieve its objectives (Ouakouak & Ouedraogo, 2013; Kaplan, 2010). Financial performance typically reflects the long-term value of a firm (Baum & Wally, 2003), which is generally the result of how effectively the firm produces and markets its goods and executes its strategies (Ouakouak & Ouedraogo, 2013; Kaplan & Norton, 1996). Financial productivity metrics relate to the effective management of expenditures (costs, spending, and investments), while growth metrics focus on revenue generation (Kaplan, 2010; Kaplan & Norton, 2001, 2008). According to Kaplan and Norton (1996), achieving long-term shareholder value requires understanding the conditions and needs that create customer value.

These non-financial performance indicators (Ong & Teh, 2009) refer to the characteristics of the goods and services provided, the relationships an organisation cultivates with its customers, and its brand image (Kaplan et al., 2010; Sila & Ebrahimpour, 2005; Tracey et al., 1999). Delivering product attributes that meet customer expectations enhances product value and increases customer satisfaction (Tracey et al., 1999), fostering customer retention (Sila, 2007; Sila & Ebrahimpour, 2005).

In contrast to earlier studies that examine BITA as a whole, some researchers have focused on more detailed relationships between business strategy, IT governance structure, the IT department, and organisational performance (Tiwana & Konsynski, 2010; Banker et al., 2011; Bharadwaj et al., 2013). For example, Bharadwaj et al. (2013) explored the impact of collaboration between IT and manufacturing based on data from 169 U.S. firms and found positive correlations with organisational performance. This offers novel insights into BITA from the perspective of cross-functional and inter-organizational alignment.

3 Research model

3.1 Research approach

This study adopts a mixed methods research (MMR) approach to investigate two distinct perspectives: the organisational perspective and the employee perspective. MMR combines a single study's quantitative and qualitative research methods (Venkatesh et al., 2013). Integrating quantitative and qualitative data can significantly enhance the value of MMR (Bryman, 2006; Fetters et al., 2013). It enables researchers to obtain a more comprehensive and in-depth understanding of the research topic or phenomenon. By combining both approaches, researchers can access a broader range of data, viewpoints, and insights, leading to a more holistic comprehension of complex research questions. MMR is particularly suitable for addressing research gaps that cannot be adequately explored through a single methodological lens. In this study, we followed the guidelines for conducting MMR in the field of IS/IT as proposed by Venkatesh et al. (2013, 2016).

The first focus of our research concerns employees and was addressed through a quantitative analysis of the research model using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. The second perspective focuses on the organisation and examines how BITA-enabled activities and strategies influence business performance and corporate sustainability.

3.2 Conceptual framework and hypotheses development

The core research thesis states:

"*The level of BITA, directly and indirectly, influences organisational performance through IT service quality and remote work factors. Furthermore, there are differences in the maturity levels and strength of individual BITA factors across various industries, which collectively impact corporate sustainability.*"

This thesis and the corresponding hypotheses were tested using the research model presented in Figure 1.

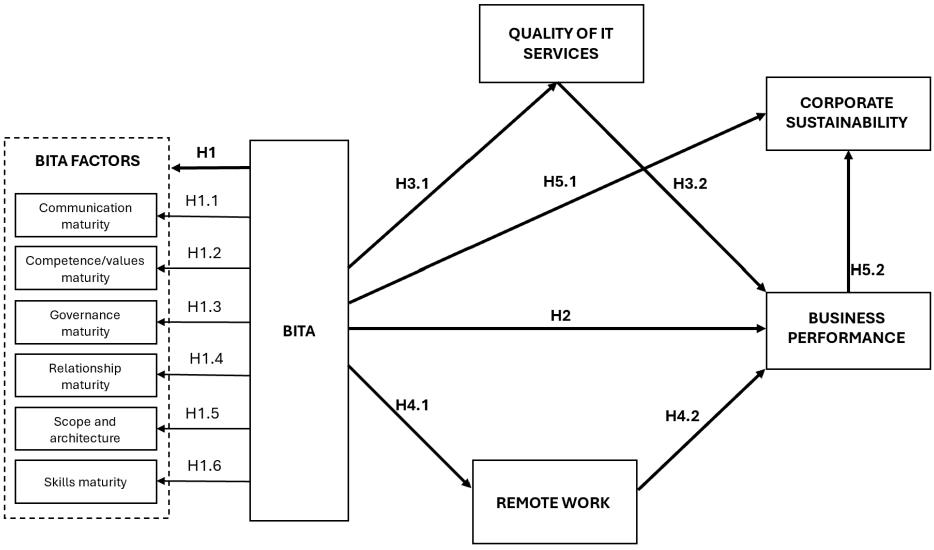

Figure 1: Research model

Hypotheses:

- H1: First-order BITA factors have a statistically significant impact on the second-order BITA factor.
- H2: BITA has a statistically significant impact on business performance.
- H3: BITA statistically significantly impacts business performance through IT service quality.
- H4: BITA statistically significantly impacts business performance through remote work.
- H5: BITA has a statistically significant impact on corporate sustainability directly and indirectly through business performance.

In the remainder of this chapter, a more detailed explanation of the connection in the research model.

3.3 First-order and second-order BITA factors (H1)

BITA is conceptualised as a second-order construct composed of multiple first-order maturity factors:

- Communication maturity (H1.1) – How IT and business communicate effectively.
- Competence/values maturity (H1.2) – Aligning IT skills and business needs.
- Governance maturity (H1.3) – The presence of IT governance structures that align with business strategy.
- Relationship maturity (H1.4) – The strength of partnerships between IT and business units.
- Scope and architecture maturity (H1.5) – The extent to which IT architecture supports business agility.
- Skills maturity (H1.6) – The degree to which IT personnel possess the required skills for digital transformation.

These first-order constructs contribute to the overall BITA construct, suggesting that higher maturity levels in these areas lead to stronger overall BITA.

The Impact of BITA on business performance (H2)

A well-aligned IT and business strategy enhances business performance by improving operational efficiency, resource utilisation, and decision-making processes. Organisations with higher BITA maturity can better leverage IT resources to achieve their strategic goals, resulting in improved financial and non-financial performance metrics.

The mediating role of IT service quality in business performance (H3)

BITA influences IT service quality, affecting business performance (H3.1, H5.1). High-quality IT services ensure that business processes run smoothly, enhance user satisfaction, and contribute to improved innovation capacity. If IT service quality is suboptimal, it can act as a bottleneck, limiting the potential benefits of IT-business alignment.

Mediating role of remote work in business performance (H4)

BITA is also crucial in facilitating remote work (H4.1, H4.2). Organisations with higher BITA maturity are more likely to have IT infrastructures that support remote work efficiently. This includes secure access to data, cloud-based collaboration tools, and digital workflows, all of which contribute to increased flexibility, employee satisfaction, and productivity.

The Impact of BITA on corporate sustainability (H5)

BITA influences corporate sustainability in two ways:

1. Directly (H5.1) – Organizations with strong IT-business alignment implement sustainability-driven IT initiatives, such as green IT practices and energy-efficient systems.
2. Indirectly through business performance (H5.2) – Strong business performance supports long-term sustainability by ensuring financial stability, regulatory compliance, and corporate social responsibility (CSR) initiatives.

3.4 Research context and data collection

The research was conducted in a manufacturing company with production facilities in Slovenia and Europe. The company has an impressive history of over seventy years and manages globally recognised brands, delivering cutting-edge and innovative products worldwide. The company implements various IT practices and technologies, enabling us to examine diverse BITA factors. It employs advanced enterprise-level technological solutions that are generally inaccessible to smaller firms. In addition, the organisation is characterised by a well-established corporate culture and formalised processes.

The case company is a large multinational enterprise operating in the home appliance manufacturing sector, specifically within the broader manufacturing industry. It is part of a foreign-owned corporate group, with its headquarters based outside of the country in which the case company operates. The company develops, produces, and distributes various household appliances, such as refrigerators, ovens, and dishwashers. Its products are in more than 60 markets worldwide, and its production facilities span multiple European countries. This organisational profile positions the company as a key player in the European white goods market, strongly emphasising innovation, international competitiveness, and operational scale.

Following initial outreach via email and phone, the company designated a contact person responsible for the research process. A web-based version of the quantitative questionnaire was created using LimeSurvey (LimeSurvey, 2023) and sent to the company. The organisation distributed the questionnaire to selected participants. After receiving 20 responses, the company sent a reminder and extended the deadline by one week.

An interview with company management was arranged for the qualitative part of the study. This was followed by data familiarisation and manual coding. The analysis employed both inductive reasoning (data-driven) and deductive reasoning (based on existing theory and company documentation). The interpretation of the obtained results followed this.

To understand our research question comprehensively, we first conducted a quantitative analysis by cleaning the data and performing descriptive statistics, followed by data analysis in SmartPLS (Ringle et al., 2022). The qualitative data were then analysed. The final step included the interpretation of the quantitative and qualitative results and the combined findings as prescribed by the MMR methodology.

4 Quantitative analysis of the case study

4.1 Descriptive statistics of the case study

The research model includes four second-order factors: BITA, remote work (EWORK), business performance (PERFO), and corporate sustainability (SPACS). BITA consists of six first-order constructs (communication, competence/values, governance, relationship, scope/architecture, skills maturity), SPACS includes three (knowledge of action possibilities, confidence in impact, willingness to act), EWORK originally consisted of three (organisational trust, interaction, productivity), and PERFO includes two (organisational and work performance).

A web-based questionnaire distributed among 35 mid-level managers and key users yielded 26 valid responses (74.29%). Given the homogeneity of respondents (all from one company), the sample size was deemed sufficient for analysis (Hair et al., 2019).

Demographically, respondents were predominantly male (76.9%) and relatively evenly distributed across age groups (30–59 years), with a slight underrepresentation of the youngest group (20–29 years). Managers (57.7%) slightly outnumbered key users.

Indicators exhibited mean scores generally between 3 and 4, indicating moderate to positive evaluations. Most indicators showed high factor loadings (>0.7), demonstrating good construct validity. However, the indicator for organisational trust showed insufficient loading and was removed from subsequent analyses. Overall, the descriptive statistics support the validity and reliability of the measurement instrument, indicating effectively measured latent constructs.

4.2 Measurement model of the case study

To evaluate the measurement model, we applied a two-step approach as recommended by Crocetta et al. (2021), Garson (2016), and Hair et al. (2019). First, we assessed the latent variables (LVs) of first-order constructs, followed by validation at the second-order level. Reliability analysis confirmed internal consistency and indicator reliability, with almost all Cronbach's alpha and composite reliability values above the threshold of 0.70. Convergent validity was verified, as all Average Variance Extracted (AVE) values exceeded 0.50.

Discriminant validity was assessed using cross-loadings, the Fornell–Larcker criterion, and HTMT ratios. All indicator loadings were higher than their respective cross-loadings. The Fornell–Larcker criterion was fulfilled, with each construct's AVE square root exceeding bivariate correlations, and all HTMT values remained below the threshold of 0.90.

Although the SRMR value (0.121) slightly exceeded the ideal threshold (0.08), it remains acceptable for complex exploratory models. Therefore, the measurement model demonstrates sufficient reliability and validity for further structural model evaluation.

4.3 Structural model for the case study

Following Hair et al. (2019), we first examined collinearity issues using Variance Inflation Factor (VIF) values. All constructs showed VIF values below or around 3, indicating moderate collinearity, allowing further structural model assessment. The explanatory power of the structural model was evaluated using coefficients of determination (R^2), with all endogenous constructs displaying moderate explanatory power ($R^2 > 0.33$).

We used a bootstrapping procedure with 10,000 subsamples to test the significance of the hypotheses. Table 3 summarises the key results from the analysis:

Table 3: Results of the Structural Model for the Case Study

Path	β coefficient	t-value	p-value
ITSQ → PERFO	0.587	2.469	0.007*
BITA → ITSQ	0.665	5.233	0.000*
BITA → PERFO	0.168	0.477	0.317 ns
BITA → SPACS	0.554	4.269	0.000*
BITA → EWORK	0.628	6.515	0.000*
PERFO → SPACS	0.188	1.153	0.124 ns
EWORK → PERFO	-0.199	0.821	0.206 ns

Note: *p < 0.05 (significant); ns = not significant.

The analysis revealed significant relationships among the constructs. BITA had a crucial direct influence on IT service quality (ITSQ), significantly impacting business performance (PERFO), confirming an indirect effect of BITA on PERFO. However, BITA did not directly influence business performance significantly.

Moreover, BITA significantly influenced remote work (EWORK), though EWORK did not significantly affect business performance. Consequently, the indirect relationship between BITA and business performance via EWORK was not supported.

Finally, BITA significantly predicted corporate sustainability (SPACS). However, no significant relationship emerged between business performance and corporate sustainability, thus confirming that BITA directly affects sustainability independently from business performance. These findings underline the importance of BITA in enhancing IT service quality, enabling remote work environments, and directly contributing to corporate sustainability.

4.4 IPMA case research

We conducted an Importance–Performance Map Analysis (IPMA) to identify and prioritise factors influencing business performance (PERFO). Results show that IT service quality (ITSQ) is the most critical factor, exhibiting the highest importance yet the lowest performance among analysed constructs. Consequently, management should prioritise enhancing IT service quality through better infrastructure, employee training, and optimised IT processes.

Business and IT Alignment (BITA) displays moderate importance but has the highest performance, suggesting effective organisational utilisation. Management should sustain current BITA practices and continue investments in technological and informational initiatives.

Remote work (EWORK) shows negative importance, indicating no beneficial impact on business performance despite moderate performance scores. Therefore, management should reevaluate resource allocation towards remote work practices concerning direct business outcomes.
These insights guide targeted management actions, highlighting ITSQ improvement as a primary strategic focus to maximise business performance.

5 Qualitative analysis of the case study

The second perspective of this research focuses on the company and explores the influence of BITA-enabled activities and strategies on business performance. This qualitative investigation aims to gain more in-depth insights into how the maturity of BITA factors affects organisational performance. Since the assessment of BITA maturity factors is based on the questionnaire by Luftman et al. (2017) and the sustainability dimension is addressed through open-ended questions derived from theory (explained in more detail below), the method of semi-structured interviews (SSI) was used.

Semi-structured interviews are the most commonly used qualitative method in mixed methods research (McIntosh & Morse, 2015). An interview is a data collection method involving conversational communication in which the researcher (interviewer) asks questions and the interviewee (respondent) provides answers (Holstein & Gubrium, 2003). The advantage of interviews lies in their focused approach, which directly targets the case study topic while enabling the exploration of perceived causal relations and deeper insights. However, interviews also have limitations, including potential bias from poorly formulated questions, response bias, inaccuracies due to limited memory, and reflexivity, where respondents may offer answers they believe are expected (Baškarada, 2014). Interviews can range from highly structured and formalised to completely unstructured, resembling informal conversations. A structured interview is a formalised questioning method that controls questions' content, sequence, and formulation (Campion et al., 1988). It

involves using predefined, standardised questions, implementing rules for evaluating responses and incorporating follow-up questions as needed. Responses are typically recorded in real-time, followed by a summary immediately after the interview (Pettersen & Durivage, 2008). In addition, interviewers must pay attention to non-verbal communication (e.g., facial expressions, tone of voice, posture), as these cues provide valuable context to verbal responses.

Our qualitative research was conducted through the SSI method, supported by analysing publicly available information on the company's website and in its environmental reports. The interview structure was sent to the company in advance. Based on our guidance and discussion with the company's research contact, two interview participants were selected: a member of the executive board (also responsible for IT and digital transformation) and a senior IT manager (liaison between business and IT). The questionnaire was based on Luftman et al. (2017) and consisted of 39 independent statements designed to assess each of the six BITA dimensions. The managers were asked to select the response that best described their view of BITA. This part of the questionnaire was used for two purposes:

1. To assess the level of BITA maturity in the company, as perceived by the managers.
2. To collect additional explanations for each BITA dimension where necessary.

For each BITA statement, respondents could provide elaborations by answering prompts such as: "Please describe how this measure is implemented in your company/context," "How could this measure be improved to achieve better alignment?" or "Do you believe this measure contributes to the company's sustainability?"

Based on the qualitative analysis, the company's overall BITA maturity level was assessed at 3.3 on a 1-to-5 scale. At level 3, the organisation has transparent processes for aligning business and IT strategies, which are consistently followed. BITA is managed proactively, with regular communication and collaboration between business and IT leaders. In contrast, organisations at maturity level 4 have established BITA processes and continuously improve them based on defined metrics. Business and IT strategies are tightly integrated, and the organisation can

quickly adapt IT capabilities to changing business needs. The score of 3.3 aligns with maturity level 3, but a deeper analysis of the six BITA factors and leadership responses reveals that the company already implements several practices associated with level 4. This is consistent with the view of company leadership, which believes the system is well established but could still be improved.

The measured value for the communication maturity dimension was 3.8. The company demonstrates good knowledge of the IT environment and its business potential. Similarly, the IT department is well-informed about the business context. Formal knowledge transfer processes have been implemented and are mainly used in onboarding. A training budget is in place, and employees complete training required by their roles or projects. The company has introduced key users (mainly for business information systems) who are IT employees. A "train-the-trainer" model is used for knowledge transfer. A liaison function is defined between the IT and business departments, with a protocol for reporting and coordination with top management.

The measured maturity for the competence/values dimension was 3.5. The company uses standard metrics such as ROI and ABC to evaluate technical and financial project performance (IT and non-IT). A formal procedure is in place for corrective action based on outcomes. These procedures are applied to investment and development projects. According to management, the process could be improved by defining more explicit ex-ante project selection criteria. A Service Level Agreement (SLA) is defined in corporate IT policies. Benchmarking is usually conducted before launching major IT projects or in case of disruptions. The company has a process improvement department that operates at the corporate level. Management considers IT a valuable strategic partner with a measurable impact on corporate goals.

The measured maturity of the IT governance dimension was 3.2. Strategic planning is formally established at the departmental and corporate levels. IT governance is included in strategic planning regarding content, cost, and staffing. The IT department is sometimes considered a cost, investment, or profit centre. Management would classify IT as a cost centre if only one definition were allowed. IT investments are selected based on traditional financial criteria. IT projects and investments are seen as enablers of business processes. Priorities are set jointly by

IT and business functions. A formal steering committee is in place for IT initiatives and projects, meeting regularly. When asked about IT's ability to respond and adapt to changes and disruptions, leadership rated it low (2 out of 5), citing the inertia of large IT systems and limited resources as the main barriers.

The measured maturity of the partnership dimension was 3.3. IT is viewed as an enabler integrated into business processes. The relationship between business units and IT is managed but not always formalised. Trust exists and is seen as part of a long-term partnership. Risks and rewards are shared between business and IT. IT projects have business sponsors, usually from senior management.

The maturity score for the scope and architecture dimension was 3.4. It is recognised as a process enabler. The company operates an extensive IT system managed centrally at the corporate level. IT system standards are defined and implemented group-wide. Systems are integrated internally and, to some extent, with external partners. Regarding flexibility, IT systems are developed based on business needs and aligned with strategy.

The maturity of the skills dimension was rated 2.9. An innovative and entrepreneurial culture is strongly encouraged at all levels. Innovation is embedded in the company's vision and values. The company has a formal organisational change readiness program. Knowledge transfer between IT and business functions is possible and encouraged at the departmental level. Social interaction and trust between IT and business functions are established. Equal emphasis is placed on technical and business knowledge during recruitment. However, there is no formal program for attracting and retaining top talent.

The second part of the interview focused on the company's sustainability orientation. Before the interviews, we reviewed publicly available information from the company's website and environmental reports concerning its approach to ecological, social, and governance (ESG) aspects. All ESG components and their implementation were discussed in depth during the interviews. The company enforces policies and procedures related to environmental, social, and governance sustainability. It recognises the key role played by individuals and the work environment in the daily dynamics of the organisation. Promoting creativity, strengthening interpersonal relationships, and maintaining a competitive edge

through non-aggressive management techniques are central to the company's culture. The organisation focuses on education, fostering an innovation-friendly environment, and open communication with employees. In addition, employees are offered international career development opportunities.

From the perspective of customers and end users, the company emphasises safe, environmentally friendly, high-quality products supported by excellent after-sales services. The organisation's development strategy prioritises environmental preservation. The environmental protection policy covers the entire product life cycle—from design, manufacturing, and use to end-of-life disposal. By utilising advanced technologies, processes, and materials, the company continuously reduces production waste and manages the consumption of electricity, water, natural gas, and compressed air. Environmentally conscious customers have received the commitment to innovation in sustainable product development. The primary goal is to manufacture products that consume less electricity, water, and other resources.

Table 4 summarises the key findings of the qualitative analysis across all BITA maturity dimensions and ESG-related aspects assessed in the case study.

Table 4: Summary of Qualitative Findings – BITA Maturity and Sustainability

BITA Dimension / ESG Area	Maturity Score	Key Observations	Challenges / Remarks
Communication	3.8	Knowledge transfer formalised; liaison role defined; training via "train the trainer".	Strong practice; continuous reinforcement is recommended.
Competence / Values	3.5	ROI/ABC metrics applied; corrective actions in place; SLA defined	Improvement is suggested in defining ex-ante project acceptance criteria.
IT Governance	3.2	IT is included in the strategy; the steering committee is in place.	Limited agility due to legacy systems and resources.
Partnership	3.3	IT is seen as a process enabler; trust with business units exists.	The formalisation of relationships could be enhanced.
Scope and Architecture	3.4	Centralised system governance; integration with internal and external partners.	Flexibility aligned with business needs.

BITA Dimension / ESG Area	Maturity Score	Key Observations	Challenges / Remarks
Skills	2.9	An innovation culture is promoted, and a change readiness program exists.	There is no formal program for talent attraction and retention.
Corporate Sustainability (ESG)	-	Environmental focus, ESG policies, and culture are in place.	Strong strategic orientation, room for expansion in ESG metrics integration.

The summarised results of the qualitative analysis provide a foundation for further discussion and integration with the quantitative findings presented in the next chapter.

6 Discussion

This case study employed a mixed methods research (MMR) approach, which offers the opportunity to develop new theoretical insights by combining the strengths of both quantitative and qualitative methods. This integration enables a deeper and more nuanced understanding of the research phenomenon by going beyond the limitations of any single method (Venkatesh et al., 2016). MMR allows researchers to derive more robust conclusions than possible using a single methodological approach, resulting in more diverse and complementary perspectives (Venkatesh et al., 2013).

This type of research is especially relevant when the investigated research questions are associated with unpredictable or context-dependent conditions. Johnson et al. (2007) further emphasise that MMR will likely yield more substantial findings and comprehensive results.

By the fourth stage of the MMR framework, this chapter presents meta-findings of the case study. We begin with the quantitative analysis results (Section 6.1.1), followed by the qualitative analysis results (Section 6.1.2), and conclude with an integrated interpretation, i.e., the meta-inferences of the MMR study (Section 6.1.3).

6.1 Discussion of the quantitative analysis of the case study

In the quantitative part of the analysis, we examined the research model presented in Chapter 3 (Figure 1). The model is based on Type I second-order constructs (reflective-reflective) and focuses on three structural paths between BITA (Business and IT Alignment) and business performance (PERFO), as well as two structural paths toward corporate sustainability (SPACS).

To determine the minimum required sample size, we applied the 10-times rule (Hair et al., 2011, 2019a; Kock & Hadaya, 2018), which is frequently used in information systems (IS) research employing PLS-SEM. According to this rule, the sample size should be at least ten times the number of the maximum-paths pointing at any construct in the structural model. Based on this guideline, the minimum sample size required for this study was 30.

Another rule, the inverse square root rule (Kock & Hadaya, 2018), recommends that the sample size be equal to or greater than the square of the number of structural paths. Given that our model includes seven paths, the recommended sample size would be 49. Our sample comprised 26 cases, which does not meet this stricter threshold. However, since all data were collected within a single company among middle managers and key users—representing a homogeneous population—using a smaller sample is acceptable, according to Hair et al. (2011). Furthermore, the complementary qualitative component in our mixed methods design supports and reinforces the findings. Based on this rationale, the sample is considered sufficient for quantitative analysis.

The second-order construct BITA comprises six reflective first-order constructs, as Chen (2010) and Yang (2020) defined. The mean values of BITA maturity dimensions indicate that communication maturity (COMM) is rated at 3.625, suggesting a maturity level between 3 and 4 on a five-point scale. Competence/values maturity (COMP) is rated at 4.058, corresponding to level 4 maturity. IT governance maturity (GOVE) is rated at 3.904, approaching level 4. Partnership maturity (PART) has a mean value of 4.039, and scope and architecture maturity (SCOP) is rated at 3.442. Finally, skills maturity (SKIL) is rated at 3.808, indicating a maturity level close to level 4.

From these self-assessments, it can be concluded that there is still room for improvement across all BITA dimensions—most notably in scope and architecture, followed by communication, skills, governance, partnership, and competence.

Table 5: Average Maturity Scores by BITA Dimension

BITA Dimension	Employees (Survey)	Organisation (Interview)
Communication	3.625	3.833
Competence / Values	4.058	3.500
Governance	3.904	3.286
Partnership	4.039	3.333
Scope & Architecture	3.442	3.400
Skills	3.808	2.857
Average	3.813	3.368

Each first-order construct contributes uniquely to the second-order BITA construct, with the strength of their contributions represented by β coefficients. As previously discussed, β values indicate the strength of the relationship between predictor (independent) and outcome (dependent) variables. All six first-order constructs have statistically significant effects on the BITA second-order construct.

Among them, partnership maturity (PART) is the most influential ($\beta = 0.872$; $t = 20.631$; $p < 0.001$), followed by governance maturity (GOVE) ($\beta = 0.844$; $t = 10.901$; $p < 0.001$), and skills maturity (SKIL) ($\beta = 0.806$; $t = 8.267$; $p < 0.001$). The remaining dimensions also demonstrate strong significance: communication (COMM) with $\beta = 0.762$ ($t = 9.153$; $p < 0.001$), scope and architecture (SCOP) with $\beta = 0.736$ ($t = 6.334$; $p < 0.001$), and competence (COMP) with $\beta = 0.695$ ($t = 5.471$; $p < 0.001$). Based on these results, all six factors significantly contribute to BITA, thus confirming hypothesis H1 and all six associated sub-hypotheses.

The second-order construct of business performance (PERFO) consists of two first-order constructs. Work performance (WorkPer) was defined by Yang (2020), while organisational performance (OrgPer) was based on the work of Yoshikuni and Albertin (2020). In our study, both constructs demonstrated a strong influence on PERFO. WorkPer had a β value of 0.909 ($t = 3.355$; $p < 0.001$), while OrgPer had a slightly lower but still substantial value of 0.800 ($t = 4.648$; $p < 0.001$). Both are essential and valid components of business performance.

However, the direct path between BITA and PERFO is not statistically significant ($\beta = 0.168$; $t = 0.477$; $p > 0.05$), suggesting that BITA does not exert a direct observable effect on business performance. Thus, hypothesis H2 is rejected. BITA likely influences performance indirectly through mediating constructs.

According to researchers such as Henderson et al. (1993), Luftman et al. (1999), and Reich et al. (2000), BITA is directly linked to IT service quality (ITSQ). Organisations that invest in aligning IT with business processes tend to have higher-quality IT services, contributing to better business outcomes. In our case study, BITA has a strong and statistically significant influence on ITSQ ($\beta = 0.665$; $t = 5.233$; $p < 0.001$), explaining 44.2% of the variance in ITSQ, reflecting a moderate explanatory power level.

Furthermore, ITSQ exerts a moderate and statistically significant influence on business performance ($\beta = 0.587$; $t = 2.469$; $p < 0.01$), confirming its mediating role. These findings support hypothesis H3, stating that BITA influences business performance via IT service quality.

We hypothesised that IT solutions would better align with employee needs for remote work in organisations with higher BITA maturity and that BITA would improve business performance through this alignment. The second-order construct remote work (EWORK) was designed to include organisational trust (ORTR), interaction (INTER), and productivity (Prod). However, ORTR was removed from the model during the measurement phase. Productivity shows a powerful effect on EWORK ($\beta = 0.913$; $t = 17.935$; $p < 0.001$), while interaction also indicates a strong impact ($\beta = 0.782$; $t = 5.747$; $p < 0.001$).

BITA has a strong and significant influence on EWORK ($\beta = 0.628$; $t = 6.515$; $p < 0.001$), but EWORK has a negative and non-significant effect on business performance ($\beta = -0.199$; $t = 0.821$; $p > 0.05$). Therefore, hypothesis H4, stating that BITA affects business performance indirectly through EWORK, is rejected. These results align with the findings of Yao et al. (2019), who observed a decline in employee productivity and business performance associated with remote work. Although the company studied is a manufacturing firm, remote work is enabled for administrative staff. Managers and key users perceive BITA maturity as necessary

for enabling remote work, but they also believe that remote work hurts business performance.

Together, BITA, ITSQ, and EWORK account for 42.9% of the variance in business performance (PERFO), which means they have a significant but not exclusive influence.

We also examined the second-order construct SPACS (Sustainable Performance Awareness Capability of Staff), as perceived by employees. SPACS, developed by Olsson et al. (2020), is an aggregate reflective-reflective construct composed of three first-order dimensions: knowledge of action possibilities (KAP), confidence in one's influence (COI), and willingness to act (WA). Their average scores were 4.077, 4.019, and 4.163, respectively.

All three factors significantly contribute to SPACS. COI is the strongest predictor ($\beta = 0.944$; $t = 49.671$; $p < 0.001$), followed by WA ($\beta = 0.909$; $t = 21.998$; $p < 0.001$) and KAP ($\beta = 0.811$; $t = 8.974$; $p < 0.001$). This confirms that COI, WA, and KAP are essential components shaping employees' sustainability awareness and capability.

BITA has a moderate and statistically significant effect on SPACS ($\beta = 0.554$; $t = 4.269$; $p < 0.001$), confirming hypothesis H5.1. All first-order BITA constructs indirectly affect SPACS through the second-order BITA construct, suggesting a comprehensive BITA maturity contributes to employee readiness for sustainable action.

We tested the indirect path from BITA to SPACS through business performance, but both paths (BITA→PERFO and PERFO→SPACS) were statistically insignificant. Therefore, hypothesis H5.2 is not supported, and hypothesis H5 is rejected.

The R^2 value for SPACS is 0.433, indicating that the model explains 43.3% of the variance, representing a moderate level of predictive power. The BITA→SPACS path has a substantial effect size ($f^2 = 0.440$), while the PERFO→SPACS path has only a tiny effect ($f^2 = 0.051$). This highlights the role of BITA as a significant

contributor to sustainability awareness, while the influence of business performance is limited.

These findings suggest that achieving sustainability goals depends more on integrating IT and business processes effectively than on current performance metrics. Other factors, such as organisational culture, market dynamics, leadership practices, and external environmental conditions, may also play a role and should be investigated in future research. A holistic approach is necessary to understand the drivers of sustainability in organisations fully.

In conclusion, BITA significantly affects employees' sustainability orientation, mainly through COI, WA, and KAP. COI is the most influential dimension. Digital tools and systems that provide feedback, support collaboration, and encourage visibility of individual contributions can enhance employee confidence and willingness to act. Platforms for sharing success stories and recognising efforts can foster a sense of community and commitment. Even gamified strategies may increase engagement. While slightly less influential, KAP remains critical for ensuring employees are well-informed about sustainability initiatives and opportunities for action.

6.2 Discussion of the qualitative analysis of the case study

In the qualitative part of the research, the organisation's level of BITA maturity was assessed using the Luftman instrument (Luftman et al., 2017). The maturity level was estimated at 3.3 on a scale from 1 to 5, where the scale is defined as follows (Table 6):

- Level 1 – Ad hoc process
- Level 2 – Committed process
- Level 3 – Established, focused process
- Level 4 – Improved/managed process
- Level 5 – Optimized process

Maturity levels are defined for all six domains of the Luftman model. A maturity level of 3.3 is consistent with the management's view that the company has a well-established system that allows room for improvement. According to Luftman and

Kempaiah (2008), achieving mature alignment requires a balanced development across all six model dimensions. Each component is critical and should not be overlooked or neglected. Their findings also indicated that during their study, most companies globally were situated around level 3 of BITA maturity.

Table 6: BITA Maturity Levels

Maturity Level	Communi-cation	Competence / Values	Governance	Partnership	Scope & Architecture	Skills
1 – Ad hoc	Lack of understanding between business and IT.	Few technical metrics	No formal process; cost centre; reactive priorities	Conflict: IT is seen as a cost	Traditional tools (e.g., accounting, email)	IT assumes risk, low reward, and technical training only.
2 – Committed	Limited understanding of business/IT	Functional cost efficiency.	Tactical at the functional level; occasionally responsive	IT is becoming a process enabler	Transactional support (e.g., ESS, DSS)	Varies across departments
3 – Established	Good understanding; emerging rapport	Some cost efficiency; dashboards established	Most major processes are managed	IT is seen as an enabler, process driver	Integrated into the organisation.	IT is becoming a valued service provider.
4 – Managed	Unified, connected communicatio n	Efficiency; some partner value; dashboard-driven	Managed across the organisation	IT enables and is part of the strategy.	Systems integrated with partners.	Shared risk and rewards
5 – Optimized	Informal at all levels	Extended to external partners	Fully integrated internally and externally	Complete alignment between IT and business	Systems evolve with partners	Unified training and rewards throughout the organisation

Source: adapted from Luftman (2000)

As a multinational corporation with established corporate rules and processes and a complex IT system deployed at all organisational levels (strategic, tactical, and operational), the company under study has strong potential to leverage BITA to enhance corporate sustainability.

Based on the interviews and discussions with top management, several key areas were identified where BITA could contribute to organisational sustainability:

1. Efficiency enhancement: BITA can help organisations increase efficiency through the automation of routine processes, optimisation of activities, more effective resource utilisation, waste reduction, and enabling business growth without a proportional increase in resource consumption—thus supporting sustainability.
2. Improved decision-making: BITA enhances advanced data analytics capabilities. By leveraging these capabilities, companies can obtain insights that guide their decision-making processes, including those related to sustainability. For example, analytics can identify the most carbon-intensive segments of a supply chain, allowing companies to implement targeted actions to reduce emissions.
3. Facilitating sustainability reporting: IT can assist in collecting, analysing, and reporting sustainability-related data. This level of transparency is crucial for shareholders and stakeholders increasingly concerned about environmental and social impacts.
4. Fostering innovation: It is easier to introduce sustainability-oriented innovations when business and IT strategies are well aligned. The organisation can, for instance, develop new products or services that meet customer needs while minimising environmental impact.
5. Managing sustainability-related risks: IT can support identifying and managing risks related to sustainability. For example, IT systems can monitor and respond to climate-related risks in the organisation's operations or supply chains. Such risk mitigation is essential for long-term sustainability.
6. Supporting remote work: BITA facilitates remote work, which reduces CO_2 emissions by limiting employee commuting and decreasing office space requirements. This aligns with the goals of environmental sustainability.
7. Improving energy efficiency: IT can monitor and manage energy consumption across the organisation, ensuring operations are as energy-efficient as possible.

These insights underline the strategic value of BITA in contributing to sustainability efforts. Through IT-business alignment, organisations can create the foundations for sustainable innovation, responsible operations, and transparent performance management, which are critical in today's dynamic and environmentally conscious business environment.

6.3 Discussion of the MMR findings of the case study

The analysis in this section is based on meta-inference within the Mixed Methods Research (MMR) framework. Based on the MMR results, several key conclusions can be drawn.

First, the BITA factors have a strong influence on all three dimensions of the SPACS construct—knowledge of action possibilities (KAP), confidence in one's influence (COI), and willingness to act (WA). All BITA dimensions significantly impacted these SPACS components, suggesting that each BITA dimension deserves equal attention. As a result, employees are likely to be more willing to support corporate sustainability initiatives when BITA maturity is well developed.

These findings are further supported by the overview of qualitative insights in Table 6, which summarises key BITA maturity scores and ESG-related observations obtained through interviews. The table highlights consistent strengths and areas for improvement, aligning with the SPACS constructs of knowledge, confidence, and willingness to act (Zabukovsek, 2024).

Second, there is a noticeable difference between how top management and employees perceive BITA maturity levels. According to management, communication is the most mature dimension, followed by competence and partnership. In contrast, employees perceive partnership as the most mature, followed by competence and governance. These differences may stem from varying perspectives on the same issues or from the fact that employees may experience BITA differently than top executives, who have a more comprehensive view of the organisation.
Although different instruments assessed BITA maturity for employees and the organisation, both results can be meaningfully interpreted on a comparable scale. Perceptions were gathered from employees (survey) and top management (interviews). As shown in Figure 2, both groups rate BITA maturity levels between 3 and 4 for all dimensions, with one notable exception: skills maturity, which the organisation rated at 2.86, while employees rated it much higher at 3.81—a difference of 0.95, the most significant gap observed.

The following most significant differences were found in:

- Partnership maturity: employees rated it at 4.04, compared to 3.33 by management (Δ = 0.71),
- Governance maturity: 3.90 vs. 3.29 (Δ = 0.62),
- Competence maturity: 4.06 vs. 3.50 (Δ = 0.56),
- Communication maturity: management rated it slightly higher than employees (3.83 vs 3.65; Δ = -0.18),
- Scope and architecture: both groups rated this dimension equally at 3.4.

Figure 2 and Table 5 also show that employees rated overall BITA maturity higher, with an average of 3.81, compared to 3.37 reported by the organisation. These findings suggest that there may be discrepancies in how BITA maturity is perceived across organisational levels. Such differences could be attributed to distinct experiences, roles, or interpretations of what each BITA dimension entails.

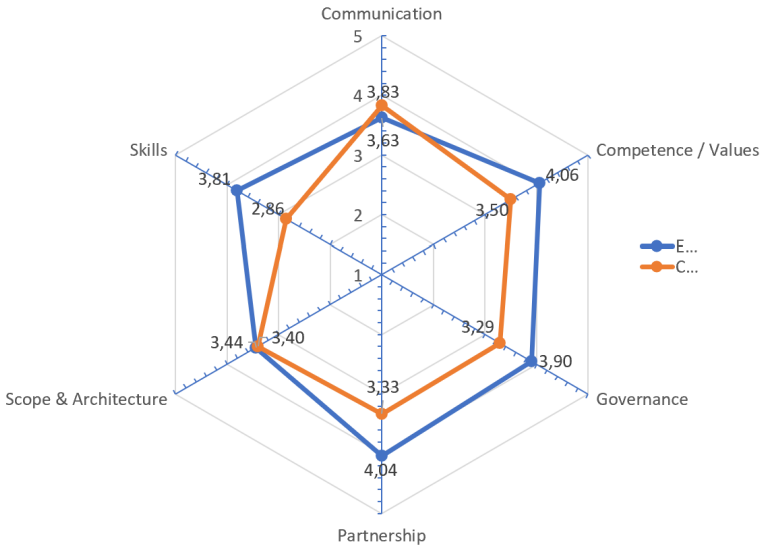

Figure 2: Comparative radar chart of BITA dimensions – employees vs. organization

For the organisation, exploring and reconciling these perception gaps may be valuable, especially in areas such as skills, which were rated significantly lower by management. Furthermore, it would be beneficial to understand why employees

rated specific dimensions—such as partnership and competence—more positively than the organisation itself. Continuous dialogue and establishing formal feedback mechanisms could help bridge these differences and ultimately improve overall BITA maturity.

7 Conclusion

This case study adopted a mixed methods research (MMR) approach to examine the relationship between Business and IT Alignment (BITA), business performance (PERFO), IT service quality (ITSQ), remote work (EWORK), and corporate sustainability (SPACS). The quantitative findings revealed that while BITA does not exert a statistically significant direct effect on business performance, it has a strong indirect influence through IT service quality. ITSQ was confirmed as the most critical mediator in the model, demonstrating both strong explanatory power and a significant direct effect on PERFO (Zabukovsek, 2024).

In contrast, remote work, although enabled by BITA, does not contribute significantly to business performance in this context, and the hypothesised indirect effect of BITA via EWORK was rejected. BITA's most substantial and consistent influence was observed in its relationship with SPACS, confirming that mature IT-business alignment significantly enhances employees' awareness, confidence, and willingness to engage in sustainable practices.

The qualitative results support these conclusions and provide additional depth. Management rated BITA maturity at 3.3, indicating an established process with room for improvement. Interviews confirmed BITA's strategic role in enabling sustainability through better decision-making, energy efficiency, remote work support, and risk management. However, differences in BITA maturity perception between employees and management were identified—particularly in skills, partnership, and governance—suggesting the need for improved alignment of perspectives within the organisation.

Overall, this study confirms the centrality of BITA in driving sustainability awareness and the performance potential of IT when adequately aligned with organisational strategy. It also highlights the value of MMR in producing

complementary and actionable insights that would remain hidden in single-method studies.

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