Resolving system-organisational misfits: development and assessment of a misfit resolution framework for off-the-shelf ERP systems

Anna Jegorova[1]

[1] *Institute of Information Technology, Riga Technical University Zunda krastmala 6, LV-1048, Riga, Latvia*

Abstract

This paper addresses the persistent challenge of system-organisational misfits in off-the-shelf ERP implementations, where standardised system processes fail to align with diverse organisational structures, cultures, and workflows. Built on previously conducted literature review, the paper synthesises misfit typologies and identifies a gap in existing research: the lack of empirically validated, cross-contextual frameworks for resolving ERP misfits. In response, a practical, stage-based misfit resolution framework development model is proposed, integrating diagnostic classification, stakeholder engagement, and strategy selection. The proposed model incorporates critical factors such as organisational context, user perceptions, and system constraints, and is designed for adaptability across industries and ERP platforms. A preliminary set of effectiveness metrics and evaluation methods is outlined to guide future validation. The next phase of research will focus on developing the framework into an operational tool and testing it in real-world implementation settings to assess its utility, scalability, and contribution to improved ERP project outcomes.

Keywords

system-organisational misfits, misfit resolution strategy, ERP implementation gaps

1. Introduction

With continuous digitalisation growth and a widespread adoption of off-the-shelf ERP systems, reports consistently highlight high failure rates in ERP implementation projects. Although there are no precise statistics on ERP implementations success and failure rates, most scholars continuously agree on a high number of unsuccessful projects that exceed timeline, scope, or budget [1,2,3]. Based on empirical data, Budzier suggests that "only 1 in 200 digital transformations finish on time, within budget, and realise the planned benefits" [4].

To improve implementation success rates, ERP systems providers aim to standardise system processes using a "best practices" approach, claiming it significantly reduces implementation efforts and simplifies further maintenance. While ERP systems designed based on "best practices" were introduced a while ago, the approach has been criticised [5]. For example, the leading ERP system provider SAP is actively promoting its Public Cloud edition, positioning it as a ready-to-run cloud ERP that delivers the latest industry best practice business processes and continuous enhancements to help customers stay competitive and enable them to work toward their future business goals. However, SAP also claims that this approach requires organisational openness to adopt the pre-delivered business processes.

At the same time, the new organisation management philosophy builds a new paradigm based on a completely different approach. There is a major tendency to switch to self-managed organisations based on decentralised organisational processes. With different names and theories such as Management 3.0, holacracy, teal organisation or reinventing organisation, the idea is the same - a transition from a typical hierarchical management pyramid with well predefined processes to the

flat organisation of self-organised teams and no standards for processes. The belief is that engaged, self-motivated employees make better, faster decisions with given autonomy.

This causes a natural problem where predefined system processes could not be easily mapped against existing business processes in the organisation. This results in gaps between system standard functionality and organisational operational processes. Numerous studies highlight that the gap between system capabilities and organisational needs - commonly termed a system-organisational misfit - is a key factor behind project delays, budget overruns, and unmet business objectives [3,6,7,8].

Multiple studies analyse the empiric misfit resolution cases and try to propose a resolution framework [7,9,10,11]. Undertaken literature review reveals a diverse landscape of system–organisational misfits, encompassing a broad spectrum of types and associated resolution strategies. Several studies propose decision-support frameworks that map specific misfit categories to targeted interventions, often grounded in theoretical lenses such as Task-Technology Fit, affordance theory, or institutional theory [9,10,12]. Others emphasise present context-specific solutions developed through in-depth case studies [3,13,14]. More recent research shifts attention toward participatory methods, workaround practices, and culturally sensitive adaptations, reflecting an increasing recognition of the socio-technical and pluralistic nature of ERP implementation environments [15]. However, despite this conceptual richness, the body of research remains fragmented. Few studies offer empirical comparisons of resolution strategies across settings, and many focus narrowly on individual industries, specific geographical regions, or phases of the implementation lifecycle. As a result, there is limited guidance on the generalisability or practical effectiveness of proposed approaches. This fragmentation highlights a gap and an opportunity for future research to integrate theoretical perspectives with empirically grounded, cross-contextual models for resolving ERP misfits in a more holistic and actionable manner.

While this paper does not present a full empirical case study, it is grounded in practical ERP implementation experience and literature synthesis. The primary goal is to design a theoretically robust and practically applicable misfit resolution framework. As a next step, the framework is planned to be tested in a real-world SAP Public Cloud implementation project to enable empirical validation and iterative refinement.

Summarising, the main research question is the following: how can system-organisational misfits in off-the-shelf ERP implementations be systematically diagnosed, prioritised, and resolved through a framework that is adaptable across industries and stages of the ERP lifecycle? The goal of the research is "to develop and evaluate a practical, empirically grounded framework that supports the systematic identification, classification, and resolution of system - organisational misfits in off-the-shelf ERP implementations across diverse organisational contexts and lifecycle phases".

The remainder of this paper is structured as follows: Section 2 defines and classifies system–organisational misfits based on existing literature. Section 3 outlines the development of the proposed resolution framework, including classification and process flow models. Section 4 presents key contextual factors influencing misfit resolution. Section 5 discusses the framework's evaluation criteria, followed by limitations in Section 6 and conclusions in Section 7.
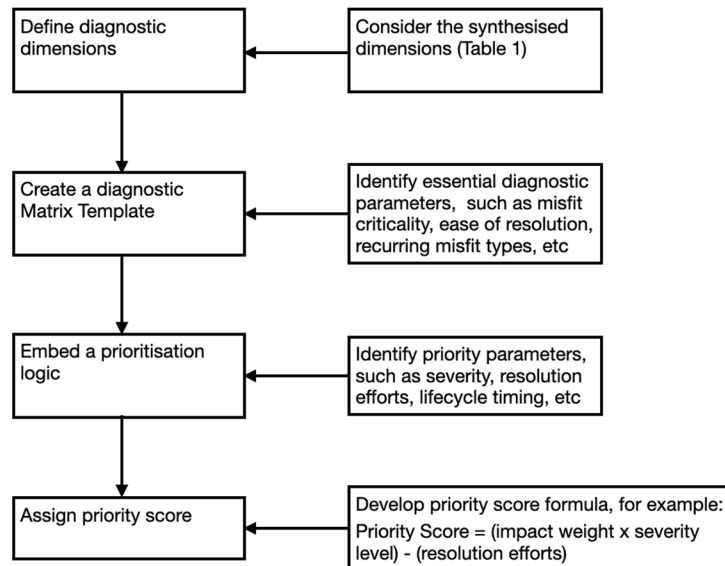
Figure 1: Misfit classification model with key diagnostic dimensions and prioritisation logic.

2. Misfit definition and classification

While widely used, the concept of 'misfit' itself is inconsistently defined across studies. Mostly, a system–organisational misfit refers to a gap or mismatch between the capabilities, assumptions, or structures embedded in an ERP (or other enterprise system) and the processes, rules, norms, or needs of the adopting organisation [1,3]. These misfits are multidimensional and extend beyond simple technical gaps. Scholars differentiate between actual misfits - objectively observable gaps such as missing data fields or unsupported processes - and perceived misfits, which stem from user dissatisfaction, resistance, or misinterpretation [1,6,11,16]. Misfits may also be imposed (arising from external pressures such as legal requirements or industry standards) or voluntary (stemming from strategic organisational choices that diverge from system logic) [7]. Conceptually, they range from deeper technical issues affecting data models and process integrity to surface-level concerns such as interface usability or access control. Misfit classification dimensions are summarised as presented in Table 1.

**Table 1**
Misfit classification dimensions

Dimension	Classification
Nature	Actual / Perceived
Source	Imposed / Voluntary
Depth	Surface / Deep structure
System Object	Data, process, output, role, control, usability
Timing	Pre-implementation / Post-implementation
Perspective	Technical, Organisational, Cognitive, Cultural

Based on accumulated empirical experience and academic research, the ERP misfit definition could be proposed as "a misalignment between the built-in structures of an ERP system (data, processes, outputs, roles, norms) and those of the adopting organisation". The clear misfit categorisation and prioritisation is an absolute first step in the further misfit resolution process. Therefore, within the proposed misfit definition, and based on the accumulated misfit multidimensional basis, there is also a need to build a diagnostic decision-support tool that will help practitioners to categorise and prioritise misfits accurately across industries and ERP lifecycle phases. The further building process of the misfit classification model with key diagnostic dimensions (Object, Depth, Nature) and prioritisation logic is shown in Figure 1.

The goal is to make the developed model easy to use; the assigned priority score has to be transparent. Next, the assigned priority score is to be used for further misfit resolution strategy as a part of a resolution framework.

3. Framework development and description

In this context, the term "framework" refers to a structured, repeatable set of concepts, classifications, and steps that guide the identification and resolution of ERP misfits. The misfit classification model (Figure 1) provides the diagnostic foundation, while the resolution process flow (Figure 2) outlines the operational steps for addressing each misfit in context. Together, these artifacts form the core components of the proposed misfit resolution framework. The misfit resolution framework process flow, showing phases, checkpoints, and feedback loops throughout the ERP lifecycle is shown in Figure 2.
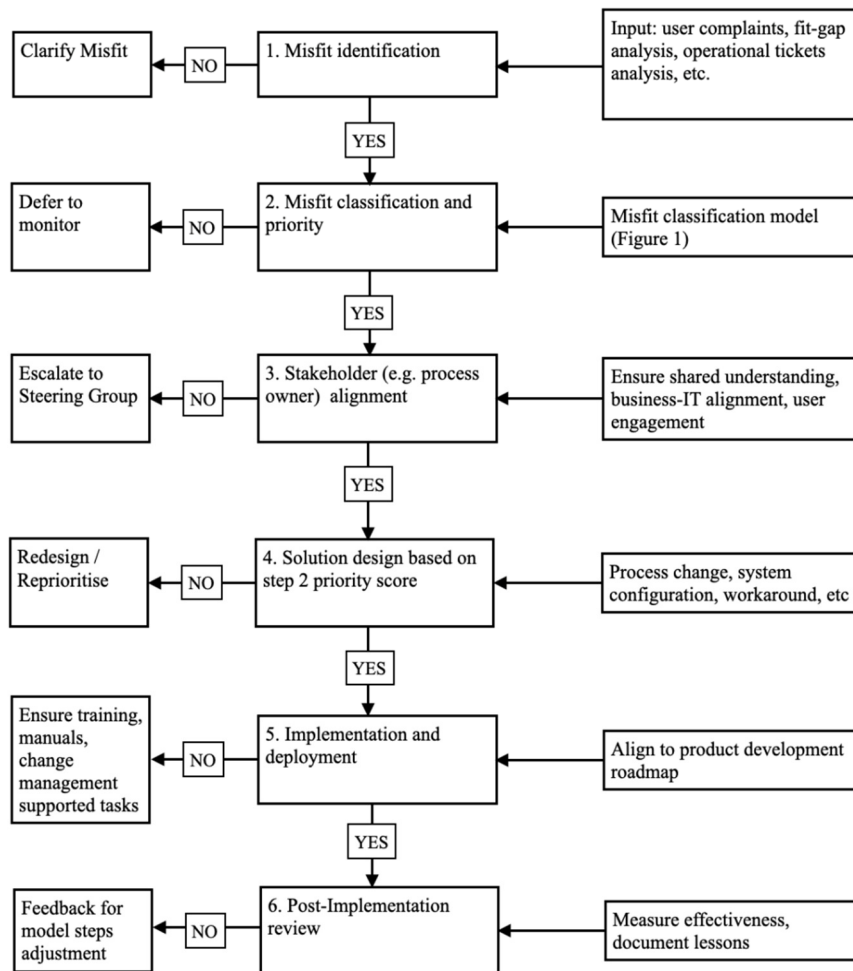
Figure 2: Misfit resolution framework process flow.

The process flow model presented above follows a linear yet feedback-enabled logic that mirrors the ERP lifecycle, beginning with misfit identification (fit-gap phase) and classification and advancing through stakeholder alignment, misfit solution design, implementation planning, deployment, and post-resolution review. Each step is verified both with topic-related academic literature and practical experience. Critical decision points (e.g., "Is the misfit clearly defined?") are integrated to ensure that premature or poorly informed actions are avoided. The model also incorporates escalation paths and adaptive loops, allowing teams to revisit earlier phases in response to implementation challenges or emergent insights. This makes the model especially suitable for dynamic and pluralistic environments where misfit resolution requires both strategic alignment and operational flexibility.

The model is designed in the attempts to avoid abstract misfit typologies, but to offer to practitioners a clear, pragmatic, decision-support tool that links specific misfit profiles with context-sensitive responses, such as organisational change, system reconfiguration, or workaround formalisation. The inclusion of checkpoints for stakeholder engagement, feasibility assessment, and training readiness reflects an awareness of change management factors empirically learnt during dozens of projects. Furthermore, the important feedback loop from deployment back to misfit re-diagnosis enables ongoing refinement; it is designed with a purpose to strength the organisation's ability to accept and adapt to future misalignments. The model is designed to be scalable across industries and ERP platforms and can be adapted to suit different governance structures. In sum, it is designed as a structured, stage-based process to guide organisations in diagnosing and resolving system–organisational misfits during ERP implementations.

3.1. Methodological basis for framework development

The proposed misfit resolution framework was developed through a combination of structured literature synthesis and reflective practitioner experience, aligned with principles of design science research. First, a systematic literature review was conducted to identify and synthesise misfit typologies, resolution strategies, and existing frameworks. Second, findings were validated against empirical insights gathered from the author's involvement in multiple ERP implementation projects, with a focus on SAP products. This dual-source approach ensured both academic rigour and practical relevance. The result is a conceptual framework that serves as a prototype to be validated in subsequent real-world ERP projects, following a design–evaluate–refine logic as proposed in design science research methodology [17].

3.2. Contextual factors influencing misfit resolution

Section 4 introduces key contextual factors that influence the success of misfit resolution in ERP implementations. Understanding these factors, ranging from organisational structure and system constraints to user perceptions and stakeholder roles, is essential for designing and applying resolution strategies that are both feasible and effective in real-world settings.

3.3. Organisational context

The organisational structure and culture significantly influence how misfits are perceived and addressed [18]. Next, hierarchical organisations may delay decision-making or suppress bottom-up feedback, whereas decentralised structures may facilitate local adaptations. Internal politics - such as power struggles between departments or resistance from influential stakeholders - can shape whether misfits are openly acknowledged or quietly bypassed through informal workarounds.

Additionally, organisational business readiness to adopt is a subject of additional analysis and was continuously investigated by many researches along with suggestions on business readiness measurement methodologies [19,20]. It is also essential to understand the key factors related to an organisation's ability to adjust business processes and workflows, such as organisational hierarchy, previous ERP experience, industry regulations, etc.

3.4. System constraints

The degree of flexibility allowed by the off-the-shelf ERP vendors or system architecture directly affects the range of feasible resolution strategies. Product development roadmap provided by vendors should always be considered [10]. Furthermore, public cloud solutions (vrs. private cloud) might significantly influence resolution method flexibility and the complexity of further upgrade.

3.5. User perceptions

Keywords should be separated by commas. Users' perceptions of the system's relevance and fairness, often shaped by their roles, workloads, and previous experiences, play an important role in misfit recognition and resolution [16]. Misfits perceived as illegitimate (e.g., decisions imposed without consultation) or low-utility (e.g., additional steps without added value) are related to a higher user resistance. Understanding these factors is essential to prevent misfit escalation or a workaround culture.

3.6. Stakeholder roles

The successful resolution of misfits depends on clearly defined stakeholder roles (business owners) [21]. Change management practices can facilitate discussions between users and technical teams, while IT ensures feasibility and compliance. Business owners provide strategic direction and validate process alignment. Without this coordinated engagement, resolution efforts may stall, lack ownership, or misalign with broader organisational goals.

4. Evaluating framework effectiveness

To ensure a robust assessment of the framework's utility, a combination of qualitative and quantitative evaluation methods is planned, following guidance from established design science research evaluation literature [17]. It is essential to apply a set of multidimensional metrics that capture both technical and organisational outcomes. Therefore, further research should be done to propose both (a) measurement metrics and (b) corresponding methodology

Key measurement metrics include:

- The degree of process alignment, measured through pre- and post-implementation gap analysis to identify how well the ERP system supports actual business processes

- User satisfaction, reflecting the system's perceived utility, usability, and acceptance across functional areas

- A reduction in workaround frequency, tracked through user feedback, operational tickets analysis, or audit trails, can signal improved fit between system design and operational needs

- Compliance to organisational IT KPI standards and governance protocols, as well as tangible benefits such as decreased resolution time, lower support costs, or fewer escalation cases

Methodologically, a combination of qualitative and quantitative techniques should be developed to ensure an assessment of framework performance. Pre- and post-resolution evaluations can involve structured interviews, stakeholder workshops, and analysis of operational tickets and related KPIs. Surveys could be administered to assess stakeholder perceptions of system fit, shared understanding

of misfits, and confidence in the resolution process. In more complex or high-risk environments, longitudinal studies are particularly useful to track whether misfit resolutions hold over time or require further refinement. By implementing these data sources, organisations can develop a comprehensive understanding of resolution outcomes and continuously improve the effectiveness of the framework in various ERP lifecycle stages.

5. Limitations and scope of the framework

While the proposed model for misfit resolution framework offers a structured and adaptable approach to diagnosing and addressing ERP misalignments, it also contains limitations. First, its effectiveness relies heavily on the quality and consistency of stakeholder input, which can be influenced by organisational culture, power dynamics, and varying levels of ERP literacy. Second, although the framework is designed to be cross-industry, certain misfit types or resolution strategies may not easily applicable and might require adjustments, especially in highly specific regulated environments. Additionally, the framework assumes a degree of organisational maturity in terms of change management and cross-functional collaboration, which may not always be obvious. Finally, while it incorporates a feedback loop for continuous improvement, empirical validation across diverse ERP platforms and lifecycle phases is still needed to fully assess its scalability and generalisability. These limitations underscore the need for ongoing refinement and adjustments tailored to specific implementation environments.

6. Conclusion

This paper has addressed the critical and growing challenge of system - organisational misfits in off-the-shelf ERP implementations, where standardised system designs often conflict with the complex realities of modern organisations. Through the analysis of existing literature and empirical insights, the research has highlighted the fragmented nature of current resolution approaches and the need for a structured, cross-contextual framework. In response, a stage-based misfit resolution model draft has been proposed, integrating diagnostic classification, stakeholder involvement, and context-sensitive strategy selection.

The framework is designed to be practical, scalable, and applicable across ERP lifecycle phases and industry settings. It takes into account key influencing factors, such as organisational structure, system constraints, user perceptions, and governance roles, to enable more effective and sustainable resolution outcomes. The next step in this research is to operationalise the framework and apply it in real-world ERP implementation environments. This will enable empirical validation, iterative refinement, and assessment of its impact on alignment, system adaptability, and project success.

The scientific contribution of this paper refers to the ERP implementation literature by proposing a novel, multidimensional misfit resolution framework tailored for off-the-shelf systems such as SAP Public Cloud. It builds on existing misfit typologies and resolution strategies, integrating them into a structured, scalable decision-support model. Unlike previous studies that focus on isolated misfits or context-specific solutions, this framework offers a cross-contextual, phase-aware tool designed for both diagnostic and strategic use. It lays the foundation for future empirical validation and practical application.

Declaration on Generative AI

During the preparation of this work, the author used GPT-4 and Grammarly in order to: Grammar and spelling check. After using these services, the author reviewed and edited the content as needed and takes full responsibility for the publication's content.

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