Adoption Management: A Review of the Benefits Management and the Adoption Literature

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ADOPTION MANAGEMENT: A REVIEW OF THE BENEFITS MANAGEMENT AND THE ADOPTION LITERATURE

Research Paper

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Abstract

The adoption of Information Systems (IS) is among the critical topics for IS research and practice. However, despite rich insights across IS literature streams, many IS implementation projects still struggle with user adoption and realising benefits. This paper argues that a knowledge gap exists because research has paid little attention to the definition, manifestations, and effects of adoption management in mandatory environments. The article proposes definitions and systematically reviews findings related to adoption management at the cross-section of the adoption and benefits management literature. The findings show that adoption management manifests across the two literature streams as constructs, models, and methods. While some articles examine these manifestations in the analysis, many discuss adoption management as an afterthought in the implications for practice in discussion sections, and few articles explicitly label it adoption management. We discuss these and other gaps and provide avenues for future research.

Keywords: Adoption Management, Benefits Management, Value, Literature Review, Mandatory Use.

1 Introduction

Although information systems (IS) implementation and adoption are among the most extensively studied phenomena in IS research (Davis, 1989, Rivard & Lapointe, 2005, Venkatesh et al., 2016), lacking system use and business value from implementing mandatory IS (Beaudry et al., 2020) remain an enduring challenge for organisations (Maas et al., 2014; Mouakket, 2012; Ferneley & Sobrepeerez, 2006; Alvarez, 2008). More than 20 years ago, Dos Santos and Sussmann (2000) found it "surprising that after over 40 years' experience with IT, firms still are unable to obtain many of the benefits of information technology (IT) investments until many years after expenditures have been incurred." (P.439-440). In 2005, a study found that up to 15% of IS projects are abandoned a few months after delivery (Charette, 2005). Seven years later, McKinsey reported that IS projects returned, on average, 56% less value than predicted (Bloch et al., 2012). In line with these diagnoses, observers notice a strong interest in digital adoption platforms, i.e., tools designed to facilitate and manage adoption (Hilbert et al., 2022), highlighting that managing IS adoption is an enduring challenge for organisations.

In this article, we argue that part of the problem is that despite the abundant research on adoption, the issue of managing adoption has received relatively little attention. The extant research findings on managing adoption are scattered across two literature streams that have developed largely in isolation from each other. The first literature stream, which we call the adoption literature, has focused on user acceptance (Davis, 1987; Davis, 1989; Barki et al., 2008; Cenfetelli & Schwarz, 2011), resistance (Hirschheim & Newman, 1988; Alvarez, 2008; Lapointe and Beaudry 2014), emotional drivers of IS implementation (Beaudry & Pinsonneault, 2010) and on socio-technical changes associated with IS implementations (Keen, 1981; DeSantics & Courtney, 1983; Markus, 1983), though often not with a primary focus on managing adoption. The second literature stream, which we refer to as the benefits management literature, has focused on processes of managing and realising benefits from IS investments (Ward et al., 1996; Braun et al., 2009; Holgeid et al., 2019), though often not with a primary focus on adoption. Although literature reviews are available for the adoption literature (Venkatesh et al., 2016) and the
benefits management literature (Schryen, 2013; Holgeid et al., 2019), these reviews do not explicitly focus on adoption management. Moreover, we are unaware of any literature review that ties together the two literature streams, identifies their joint knowledge contribution or discusses the current gaps in managing IS adoption.

Against this background, this literature review is dedicated to bridging adoption and benefits management literature, answering the following research questions: (1) What findings on managing adoption in mandatory environments do the adoption and the benefits management literature provide? (2) How do the adoption and the benefits management literature differ in their examination of managing adoption? (3) What limitations concerning managing adoption are identified when combining adoption literature and benefits management literature? We address these research questions through a systematic review of adoption and benefits management literature. In the following section, we provide definitions of key terms. In the remainder of the paper, we describe the literature review methods, synthesise key findings, identify patterns and gaps in both literature streams, and delineate areas for future research.

2 Background and definitions

2.1 Adoption

Recently, there has been an emerging call for defining core terminology used in the IS discipline to accommodate the field’s continuous advancement (Baiyere et al., forthcoming). This paper adds the term adoption to that list. Although adoption is a key theme in the IS literature, there is no unified definition and most work refrains from explicitly delimiting the term. In the acceptance and resistance research branch, technology or user adoption is often synonymous with obtaining acceptance and stimulating usage, eliminating resistance and avoiding non-usage (Beaudry et al., 2020). In these analyses, adoption is also used in parallel to describe system success (Markus et al. 2000) or implementation (Lapointe & Rivard, 2005). Thus, the meaning of adoption is conveyed in relation to other more established concepts. In a branch of acceptance and resistance studies, recent research call for a differentiation between voluntary and mandated use of technology. These studies show that the determinants of voluntary use do not necessarily translate in mandatory environments (Bhattacherjee et al., 2018; Beaudry et al., 2020; Nah et al., 2004). Brown et al. (2002) argued that mandatory environments require users to utilise a specific IS to keep and perform their jobs. These findings call for an environmental contextualisation of the term adoption to determine its distinctiveness in adoption literature.

The following section will introduce previous literature that inspired the proposed definition elements that ultimately make up the final preliminary delimitation of the term adoption. Beaudry et al. (2020) found that existing studies overlook the nuances between acceptance and resistance. Instead, they argue for the need to understand IT user behaviour in relation to the organisations’ intentions and goals for the given IT. This idea correlates with Burton-Jones and Grange’s (2013) argument that the mere use of technology does not afford benefits. Use must be effective, defined as when a system is used in a way such that it helps attain the goals set for using the system (Burton-Jones & Grange, 2013). Against this background, we argue that the adoption definition in the context of mandatory environments or enterprise software must convey organisational alignment and valuable task completion. In the study of benefits management practices, Ashurst et al. (2008) found that delivering business value depends on aligning technical functionality with business processes, organisational structures and user practices. This finding aligns with the identified organisational perspective whilst highlighting a holistic perspective of the users’ practices and behavioural manifestations that sustain the general perception that technology and behaviour are inseparable (Hevner et al., 2004). Against the organisation’s intentions, the definition must epitomise the desired user behaviour and outcomes. We rely on Schryen’s (2013) definition of business value as the impact of investments in particular IS assets and the behaviour afforded by the performance outcomes produced. IS business value is multi-faceted (Schryen, 2013) and must therefore represent a clear delimitation. In the context of adoption in mandatory environments, value or valuable outcome becomes signifying of user behaviour or usage that aligns with the organisational task, thus becoming problem-solving and valuable to both the organisation and the user itself. User adoption of enterprise software embodies a complex socio-technical construction that triangulates a system, user behaviour and an organisational context in which value must be realised. Inspired by these assumptions,
we propose that adoption is defined as *when a system enables usage that solves a given problem with a valuable outcome*. In this way, we integrate the identified key elements in a definition contextualised for enterprise software but agnostic to the problem or goal (e.g., increased efficiency, higher decision quality) of the IS implementation.

### 2.2 Adoption Management

Next, while building upon the adoption definition, we seek to conjoin the terms adoption and management. As a term, management is extremely versatile. Within IS research, it appears in many different constellations and can refer to senior management or data management as in the practice of collecting and organising organisational data. In alignment with the scope of this paper, our delimitation of the term management is found in the original challenge. Given that adoption of IS remains an enduring challenge for organisations, an important practical question is how organisations can manage adoption manifestations and processes such that a system enables usage to create valuable outcomes. Like the term adoption, the constellation of adoption management is rarely defined in the adoption or the benefits management literature. Thus, we find inspiration elsewhere and begin with the Merriam-Webster dictionary that defines the act of managing as the conducting or supervising of something, or the judicious use of means to accomplish an end (Merriam-Webster, 2023). We compared this to the classical definition by Fayol (1949) that described management as the five functions of coordinating, controlling, planning, organising and commanding. In the cross-section of these perspectives, we find inspiration from the wise use of means to accomplish a goal through control and organising. This continues to sustain the importance of expressing a benefit or outcome from an aligning process of system and user. With inspiration from the findings related to the adoption definition and the dictionary definitions of management, we define adoption management as managers' attempts to influence IS implementation processes to ensure system usage that solves a given problem with a valuable outcome. While this broad definition potentially encompasses many different practices, organisational structures, and other types of attempts, we lack a consolidated perspective on what types of adoption management attempts are discussed in the adoption and benefits management literature and what findings research has generated about these attempts. Hence, starting from a broader definition will enable us to grasp the main patterns of adoption management manifestations. Finally, the definition continues the triangulation of user behaviour, system implementation and organisational alignment in the form of benefit or value realisation. These are identified as core definition elements of both proposed definitions, and next, we describe how they have further guided the methodology of the literature search process.

### 3 Method

We addressed our research questions through a systematic literature review (Schryen, 2015; Webster & Watson, 2002). Figure 1 shows our process. We started by experimenting with keywords grounded in the proposed definitions of adoption and adoption management and its key elements of system, user behaviour, and organisational value in the context of mandatory environments or enterprise software. We used the databases that are most relevant for the IS discipline (Schryen, 2015): AIS Electronic Library, EBSCO Host, ScienceDirect, JSTOR, Google Scholar, and IEEE. An initial title search using the keyword "adoption management" returned zero matches across AIS Electronic Library, EBSCO Host, ScienceDirect, JSTOR, and IEEE. Google Scholar returned 77 results when excluding keywords that showed papers associated with irrelevant topics such as "orphan". But upon reading the abstracts, none of the papers proved to be related to adoption management. We proceeded with several rounds of keyword experimentation by constantly narrowing and broadening the search phrases to find a way of targeting the desired articles that focused on adoption management.

After several rounds of keyword experimenting, we arrived at the following search phrase: In Abstract: (AB:) – ("adoption management" OR "adoption") AND ("benefit* management" OR "benefit* realisation") AND ("value" OR "impact") AND ("enterprise software" OR "information systems") AND ("implementation" OR "acceptance" OR "resistance"). After applying filters for publication type, language and journal filter, the number of returned results was 1,378 (ScienceDirect: 199, JSTOR: 550, EBSCO Host: 266, AIS Electronic Library: 51, IEEE: 250 and Google Scholar 62).
We then read the title and abstract of these papers. To determine whether a paper focused on adoption management, we assessed whether the abstract and the title portrayed the desired triangulation of system, user behaviour and organisational value realisation. However, because none of the papers utilised the term adoption management, we looked for related terminology, as shown in Table 1. Only 43 papers matched these criteria. After reading the full texts of these papers, we excluded 35 papers and identified 19 additional papers through backward and forward search, arriving at a final set of 27 papers. We then analysed the paper by coding each paper for adoption management manifestation (i.e., how adoption management is captured in the article), the section in which adoption management is treated (core vs. discussion), the theory type (Gregor, 2006), the dependent variable, and mediators.

**Table 1. Keywords from Core Search Phrase and Synonyms & Related Terminology from Literature**

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Synonyms and related terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td>Increase success rate, IT/IS success, post-acceptance behaviour”, increase user acceptance, minimal probability of failure, IT/IS diffusion</td>
</tr>
<tr>
<td>Management</td>
<td>Strategy, strategic, realignment strategy, tactics, post-adoptive interventions, intervention actions, evidence-based advice</td>
</tr>
<tr>
<td>Enterprise Software</td>
<td>Mandatory environments, mandated software, at work, in organisations (rather than: consumer, voluntary, customer)</td>
</tr>
<tr>
<td>Implementation, Acceptance, Resistance</td>
<td>Usage, adaptation, use, overcoming resistance, post-implementation, successful implementation, post-implementation success, IT underutilisation, low-level use</td>
</tr>
<tr>
<td>Value, Impact</td>
<td>Return on investment, IT value management (rather than: social value)</td>
</tr>
</tbody>
</table>
4 Synthesizing Research Findings

4.1 Adoption Management Manifestation

Table 2 provides an overview of our literature analysis. Although few papers in our sample explicitly utilise the term adoption management, they focus on adoption management by capturing or discussing managerial attempts to influence user behaviour, system implementation, or value realisation. Yet, they focus on adoption management in different ways. We use the taxonomy suggested by March and Smith (1995) and Hevner et al. (2004) to describe how the focus on adoption management manifests in these papers.

Drawing on this taxonomy, we distinguish whether adoption management manifests through constructs, models, methods, or instantiations. Constructs present basic language and form the vocabulary of concepts that characterise the studied phenomena. For example, Seo et a. (2011) suggest several managerial strategies for promoting adoption, such as building dialogue and negotiation without identifying relationships between these strategies and other constructs. Models describe relationships between constructs. For instance, Kim & Kankanahalli (2009) examine how various facets of the organisational context of an IS implementation (e.g., self-efficacy for change, colleague opinion) affect user resistance and discuss how managers can affect this organisational context. Methods embody the ways of performing goal-driven activities. These steps or processes are based on the underlying vocabulary and the representation of the phenomenon, though it may not be explicitly expressed. For instance, Ward et al. (1996) propose a method for benefits management consisting of five steps (see Table 2 for the steps). Instantiations signify the implementation of the preceding in a specific product to enable a certain task. Thus, instantiations are the operationalisations of constructs, models and methods such as through IT systems (March & Smith, 1995). We did not find any paper that focused on instantiations of adoption management.

As the overview in Table 2 shows, the benefits management literature strongly emphasises methods. 8 out of 10 (80%) papers of this literature stream focus on methods, while only 2 (20%) focus on models. Conversely, the adoption literature puts a strong emphasis on models. 13 out of 17 papers (76%) focus on models, two (12%) focus on constructs, and two (12%) papers—Martinko et al. (1996) and Joshi (1991)—present both a model and a construct. We found no paper in the adoption literature focusing on a method.

4.2 Adoption Management in the Core of the Paper versus in the Discussion

We also distinguish whether a paper focuses on adoption management in the core of the paper versus in the discussion. When an article holds adoption management at the core of research, the manifestation is used in the findings section of the article, thus involving some effort to empirically measure or describe the construct and analyse or theorise how it affects usage or benefits. Studies focusing on adoption management in their core sections empirically focus on how managers can influence IS implementation processes to ensure system usage that solves a given problem with a valuable outcome. Other papers focus on adoption management in the discussion section. These articles do not capture constructs related to adoption management in their findings or analysis sections, but they use the discussion section to propose strategies, recommendations, interventions, or implications for practice based on their analyses.

As Table 2 shows, across the two literature streams, only eight articles treat adoption management at the core of the paper (Ashurst et al., 2008; Peppard et al., 2007; Simonsen & Hertzum, 2022; Ward et al., 1996; Seo et al., 2011; Joshi, 1991; Martinko et al., 1996; Jasperson et al., 2005), while the remaining 19 studies focus on adoption management in the discussion section and, thus, without an explicit effort of empirically measuring or describing a facet of adoption management and its relationships to other constructs. With four out of ten papers (40%), the benefits management literature treats adoption management slightly more frequently in the paper's core than the adoption literature with four out of 17 papers (23%). Hence, in the adoption literature, adoption management is typically discussed as an afterthought of how managers could influence the constructs treated in the paper.
We next review the papers that treat adoption management as the core of their paper. Much of the work in the benefits management stream builds on Ward et al. (1996). Ward et al. (1996) offers a process model for benefits management that consists of five practical steps for managers. Thus, adoption management manifests as a method in the analysis and application of these steps. The actionable and holistic approach to the management of implementation and realisation of IS benefits manifests in the core analysis of the paper. For Ashurst et al. (2008), adoption management manifests in their Benefits Realisation Competencies method framework, where they have clustered knowledge, skills, and routines that contribute to the benefits realisation capability. This forms the basis of the four competencies that enhance an organisation's ability to realise value. For Peppard et al. (2007), adoption management is constructed as a method framework consisting of principles and process descriptions. In their research on how organisations can improve the return on IT investments, they present five principles for realising benefits through IT. These are supported by seven questions that help develop the business case, which is further sustained by a core tool called the Benefits Dependency Network (BDN) used for addressing and constructing the benefits realisation plan. The findings highlight how the fundamental idea driving the five presented principles is the inextricable link between managing behaviour changes made by users and managing benefits (Peppard et al., 2007). Simonsen & Hertzum (2022) focus on a similar link, as they propose effects-driven IT improvement (EDIT) practices that iteratively specify, realise, and evaluate the usage effects pursued with a system. As a method, it constructs adoption management as the objective to facilitate local actors in realising benefits from systems already in use. Hence, they propose a pragmatic and systematic process approach to manage adoption to realise benefits (Simonsen & Hertzum, 2022). To summarise, the practicality of benefits management is repeated consistently across the presented articles and concurrently centres adoption management at the core of these articles (Ashurst et al., 2008; Peppard et al., 2007; Simonsen & Hertzum, 2022; Ward et al., 1996). Furthermore, the papers empirically describe facets of adoption management and prescribe practices to realise benefits in a methodological framework as part of the analysis.

Despite the variety in findings, all four benefits management articles treat adoption management in their core and share systematic characteristics. The articles from the adoption literature that treat adoption management at their core are more distinct. The four articles that were identified from the adoption literature treat adoption management as either a construct (Seo et al., 2011), model (Jasperson et al., 2005) or model accompanied by method (Joshi, 1991; Martinko et al., 1996). Seo et al. (2011) explore ambivalent behaviour as a construct and introduce the terminology in a conceptual quadrant. Here, four user behaviours are grouped and based on the identification of these, the paper present managerial strategies for promoting adoption. These strategies are aimed at helping managers acknowledge user behaviour that has been taken for granted before and articulate the nature of these behaviours in order to manage accordingly to ensure adoption and use as intended. Jasperson et al. (2005) argue that organisations can achieve economic benefits by enabling users to enrich their use of implemented systems in what they define as the post-adoption stage. They describe a two-level model of post-adoptive behaviour and link them to managerial interventions. Joshi (1991) treats adoption management in the conceptualisation of both a model and methods. The paper argues that benefits materialise through the successful implementation of technology that is critical for enhancing the productivity and the competitive position of an organisation. Benefits are argued to stem from low user resistance, which can be obtained by ensuring that the technology implementation and change are considered favourable (Joshi, 1991).

The paper presents the equity-implementation model that provides a theory-based understanding of users’ resistance to IS change. The model provides a descriptive overview of a user's assessment of the impact of implementation. It is in combination with the presented guidelines for managing change during implementation that we observe the manifestation of adoption management in both model and methods. The paper offers an extensive elaboration of the guidelines and centres the analysis as actionable for managers. Martinko et al. (1996) offer the same structure of analysis. First, the paper presents the attributional model of reactions to IT (AMRIT), which describes the relationship between the constructs. Through the presentation of the AMRIT model, several interventions are mentioned, and summarised in a strategy table. The paper places adoption management at its core through the extensive bridging of the analysis and the application of the model.

In conclusion, the eight articles that treat adoption management at the core of the analysis centre on behaviour, system and benefit realisation in a variety of constructions. However, the common pattern
is the rich and detailed construction of guidelines or processes aimed at realising some value for the organisation. The user is central to this value realisation, and the system is aligned accordingly. The following section examines the theoretical nature of the papers and the patterns identified in manifesting adoption management in both analysis and discussions.

4.3 Theory Type

4.3.1 Design and Action

The column theory type refers to the five theory types presented by Gregor (2006): analysis, explanation, prediction, explanation & prediction, and design & action. Based on the analysis above, we continue to see clustering patterns between the papers that manifest adoption management in the core or in the discussion section of the paper. First, all articles identified to analyse adoption management at the core are characterised by some level of design & action. This means that the papers present a set of findings and provides explicit prescriptions, which are empirically analysed, of how to manage those findings according to a defined and desired outcome or benefit. In addition, some papers also subscribe to the predictive (Joshi, 1991; Martinke et al., 1996) or the explanatory category (Jasperson et al., 2005). This is explained by the papers’ presentation of both a predictive and descriptive model accompanied by methods that enable managers to influence IS implementation processes so that system usage solves a problem while realising business benefits. The ability to empirically create prescribed methods for adoption management separates these papers from the papers that situate recommendations in the discussion section.

Other papers also focus on design & action but do so in the discussion rather than in the paper’s core. In these papers, the analysis focuses on understanding what, how, why, when and where adoption management is. Afterwards, these findings are positioned as implications for practice or discussed as possible suggestions for managers. Though these suggestions are based on the findings, they are not part of the analysis (Coombs, 2014; Cao et al., 2013; Kopmann et al., 2015; Seddon et al., 2010; Mohan et al., 2016; Berg et al., 2023; Shirish & Batuekueno, 2021; Bhattacharjee et al., 2018; Magni et al., 2012; Ke et al., 2012; Kim & Kankanhalli, 2009; Sykes & Venkatesh, 2009; Nah et al., 2004; Brown et al., 2002; Jiang et al., 2000; Polites & Karahanna, 2012; Beaudry & Pisonneault, 2010). The papers that discuss practical implications instead of empirically analysing them are presented in the following sections according to their theory type.

4.3.2 Explanation

The explanatory studies manifest adoption management as a construct, model, and method. Bhattacharjee et al. (2018) introduce constructs describing different user responses that manifest in enterprise use contexts. Berg et al. (2023) create a model for evidence-based advice to contribute to better benefits management. Lapointe & Rivard (2005) provide a model of resistance to IT implementation from a longitudinal perspective. Later, Rivard & Lapointe (2012) continue this research and present a correlation and explanatory model of implementers’ responses to use resistance. Coombs (2014) presents a method for determining facilitators and inhibitors that influence the realisation of business benefits from IS, using the Cranfield Benefits Dependency Network as an explanatory and diagnostic device. Finally, Mohan et al., 2016 also present a method for developing a holistic view of benefits management competencies that influence benefits management success.

However, the actionable or managerial aspect enabling managers to influence implementation processes is missing from the research core and the presented construct, models and methods. Instead, significance for IS practitioners (Coombs, 2014), strategic perspective (Mohan et al., 2016), practical recommendations (Berg et al., 2023), implications for practice (Lapointe & Rivard, 2005; Rivard & Lapointe, 2012) or contributions for practice (Bhattacharjee et al., 2018) are presented in the discussion section, hence after presenting the analytical findings. Though it can be argued that these discussions apply some level of prescriptiveness, it does not qualify according to the required explicitness and tangibility of design & action (Gregor, 2006).
<table>
<thead>
<tr>
<th>Authors</th>
<th>Adoption Management Manifestation</th>
<th>Section</th>
<th>Theory Type</th>
<th>Dependent Variable</th>
<th>Mediator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berg et al. (2023)</td>
<td>Model: Five Practical Recommendations for Benefits Management in IT Projects based on the Cranfield model of BM</td>
<td>Discussion</td>
<td>Explanation</td>
<td>Realisation of Benefits</td>
<td>-</td>
</tr>
<tr>
<td>Cao et al. (2013)</td>
<td>Method: Post-Implementation Review (PIR) Dimensions such as Review of Overall Project Scope and Planning</td>
<td>Discussion</td>
<td>Prediction</td>
<td>Post-implementation Enhancement Decisions</td>
<td>-</td>
</tr>
<tr>
<td>Coombs (2014)</td>
<td>Method: Cranfield Benefits Dependency Network (BDN)</td>
<td>Discussion</td>
<td>Explanation</td>
<td>Realisation of benefits</td>
<td>-</td>
</tr>
<tr>
<td>Peppard et al. (2007)</td>
<td>Method: Five Principles for Realising Benefits through IT, Seven Questions for Producing a Benefits Realisation Plan and Benefits Dependency Network (BDN)</td>
<td>Core</td>
<td>Design &amp; Action</td>
<td>Realisation of benefits</td>
<td>-</td>
</tr>
<tr>
<td>Beaudry &amp; Pinsonneault (2010)</td>
<td>Model: Model of Happiness/Excitement and Anger/Anxiety predicting IT use</td>
<td>Discussion</td>
<td>Prediction</td>
<td>System Use</td>
<td>Emotions (e.g. Anger, Anxiety)</td>
</tr>
<tr>
<td>Bhattacherjee et al. (2018)</td>
<td>Construct: Taxonomy of User Responses</td>
<td>Discussion</td>
<td>Explanation</td>
<td>User Response</td>
<td>-</td>
</tr>
<tr>
<td>Jasperson et al. (2005)</td>
<td>Model: Two-level Organisational Action Model of Post-Adoptive Behaviour</td>
<td>Core</td>
<td>Explanation and Design &amp; Action</td>
<td>System use</td>
<td>-</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td><strong>Model and Method</strong></td>
<td><strong>Discussion</strong></td>
<td><strong>Prediction</strong></td>
<td><strong>User Resistance</strong></td>
<td><strong>Perceived</strong></td>
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</tr>
<tr>
<td>Jiang et al. (2000)</td>
<td>Model: 20 Different Strategy Dimensions such as Employee Involvement and Job Transfers</td>
<td></td>
<td>Discussion</td>
<td></td>
<td>Perceived Fit, Perc. Compat.</td>
</tr>
<tr>
<td>Ke et al. (2012)</td>
<td>Model: Job Autonomy and Socialisation Tactics</td>
<td></td>
<td>Discussion</td>
<td>Prediction and Action</td>
<td>Feature Exploration</td>
</tr>
<tr>
<td>Lapointe &amp; Rivard (2005)</td>
<td>Model: A Longitudinal Perspective on the Nature of IT Implementation Resistance and Recommendation for Managers</td>
<td></td>
<td>Explanation</td>
<td></td>
<td>User Resistance</td>
</tr>
<tr>
<td>Martinko et al. (1996)</td>
<td>Model and Method: The Attributional Model of Reactions to Information Technology (AMRIT) and Intervention Strategies: e.g., Cue Differentiation, Immunization, Plan for Success, Selection, Attributional Training, Modelling</td>
<td>Core</td>
<td>Prediction and Design &amp; Action</td>
<td></td>
<td>User Resistance</td>
</tr>
<tr>
<td>Nah et al. (2004)</td>
<td>Model: Perceived Ease of Use, Perceived Usefulness, Perceived Fit, Perceived Compatibility and Attitude Toward System Use</td>
<td></td>
<td>Discussion</td>
<td>Prediction</td>
<td>Symbolic Adoption</td>
</tr>
<tr>
<td>Rivard &amp; Lapointe (2012)</td>
<td>Model: Inaction, Acknowledgement, Rectification, Dissuasion</td>
<td></td>
<td>Discussion</td>
<td>Explanation</td>
<td>Resistance</td>
</tr>
<tr>
<td>Seo et al. (2011)</td>
<td>Construct: Four Actor Group Quadrants Model and Strategies for Promoting IS Adoption According to the Quadrant Model</td>
<td></td>
<td>Core</td>
<td>Design &amp; Action</td>
<td>Attitude Towards IS Implementation</td>
</tr>
</tbody>
</table>

**Table 2. Summary of Adoption and Benefits Management Literatures**
4.3.3 Prediction

We observe the same pattern for papers that fall in the prediction category. At the core, these papers focus on methods (Cao et al., 2013) or models (Kopmann et al., 2015; Seddon et al., 2010; Shirish & Batuekueno, 2021; Magni et al., 2012; Ke et al., 2012; Kim & Kankanhalli, 2009; Sykes & Venkatesh, 2009; Nah et al., 2004; Brown et al., 2002; Jiang et al., 2000; Polites & Karahanna, 2012; Beaudry & Pinsonneault, 2010) that provide testable propositions and correlations between dependent variables and mediators.

The articles from the adoption literature focus on factors that affect user reactions or responses. Kim & Kankanhalli (2009) investigate user resistance behaviour as the dependent variable from a status quo bias perspective. The testing of the model indicates that perceived switching costs increase user resistance without focusing the analysis on concrete managerial attempts through which management can shape such a context. This is discussed subsequently in practical implications for management. Shirish & Batuekueno (2021) depart from the same theoretical foundation and support the significance of perceived switching cost and switching benefits as causation of user resistance among IT-savvy employees. The findings are related to practical implications for managers to reduce resistance in a section that discusses study limitations and proposes future research directions. Jiang et al. (2000) present similar research and try to understand the factors that contribute to the success of system implementation through resistance of change. Though they provide and analyse an extensive list of promotion strategies, such as involving employees or rewarding ideas, the analysis does not include a review of how to involve employees or reward ideas. Thus, the theory type is categorised as predictive and implications are discussed after the data analysis. Nah et al. (2004) extend the original TAM with the key determinants, perceived fit and perceived compatibility, to predict symbolic adoption that reflects users' acceptance of enterprise software. In addition to the findings, the paper concludes that the analysis has managerial implications for successful systems implementation. Magni et al. (2013) analyse the effects of interconnected structures and social interactions in teams and found that the practice of social network configuration influences individuals' user behaviour. The paper provides a discussion of managerial actions based on the findings. However, this section does not prescribe guidelines or process recommendations. Ke et al. (2012) identify how job autonomy and socialisation tactics enhance an individual's motivation to explore the features of an implemented system. Though the paper provides a thorough and detailed of the different constructs in the prediction model, the practical implications are not a part of the analysis and do not prescribe recommended processes or guidelines. Sykes and Venkatesh (2009) found network density and network centrality to be key predictors of system use. The practical implications discuss the importance of managers' recognition of the informal social network in organisations but do not prescribe an actionable framework for how as part of the analysis. Brown et al. (2002) identify ease of use as the primary determinant of behavioural intention. The findings' relevance for practitioners is discussed in a limitation section. Beaudry and Pinsonneault (2010) research the direct and indirect effects of happiness and anger related to IT use. The paper's contribution to practice is discussed and related to different examples to explain possible ways of applying the findings. Polites and Karahanna (2012) found that habit, perceived cost and inertia have an inhibiting effect on the acceptance of a new system. Practical implications are discussed, and intervention examples from other studies are emphasised.

In sum, the adoption studies in the prediction category provide important insights into how organisational factors can affect and predict different variations of use. They include various recommendations or implications for managerial attempts to influence the dependent variable, but the focus on such managerial attempts does not reside in the empirical core.

We also found three articles from the benefits management literature with theory-type prediction. Cao et al. (2013) provide evidence for how post-implementation review practices promote favourable performance outcomes and system enhancements. Practical implications for managers are mentioned in conclusion. Kopmann et al. (2015) predict how the practice of business case control drives project portfolio success. The paper presents a brief section of implications for management as the last section of the paper. Seddon et al. (2010) identify functional fit and overcoming organisational inertia as key to creating and realising benefits. The overall importance of the findings is discussed in the conclusion.
Despite the different variations of the dependent variables across both literature streams, adoption management materialises in various ways of triangulating user behaviour, system implementation or exploitation, and organisational benefits. Hence, they capture the contextual elements that help explain and predict resistance, acceptance, or use. Still, none of the papers provides structured and detailed guidelines as part of the core analysis that enables managers to influence use to achieve other desired outcomes. Instead, practical implications, strategic examples, and management suggestions are discussed in the penultimate sections of the paper, providing fewer insights compared to the identified articles that construct adoption management at the core.

4.4 Dependent Variable and Mediators

We also analysed the dependent variables and mediators in the papers we reviewed (see the last two columns of Table 2. Dependent variables are the constructs that are explicitly or implicitly argued to be affected by adoption management. Mediators are variables that are argued to be affected by adoption management and to affect the dependent variable.

As can be seen in Table 2, 8 out of 10 (80%) of the papers from the benefits management literature focus on the realisation of benefits or the closely related construct of benefits realisation success as the dependent variable, while one paper predicts post-implementation enhancement decisions (Cao et al., 2013) and one project portfolio success (Kopmann et al., 2015). None of the papers in the benefits management literature focuses on mediators. Conversely, the papers in the adoption literature focus on individual-level user responses such as system use or behavioural intentions as their dependent variables. 10 out of 17 (59%) papers in the adoption literature examine mediators, including emotions and changes in social networks.

Figure 2 summarises these findings. As the figure illustrates, even though both the benefits management literature and the adoption literature share an interest in adoption management, they have developed mainly in isolation. Although user responses (including use) are likely an important mediator in the relationship between adoption management and benefits, the benefits management literature does not focus on this mediator. Conversely, the adoption literature stops at user responses, paying little attention to how user responses (including use) result in benefits or value. Hence, there is little focus on the link from user responses to benefits and the role of adoption management in affecting this link.

Figure 2. Integrated model.

5 Discussion

While our literature review shows that important work has been done to capture many different issues related to adoption management, it also shows three significant gaps in the existing literature (see Table 3 for a summary). First and foremost, there is little explicit attention to adoption management. Indeed, although 27 studies provide insights into adoption management, few explicitly define adoption or use the term adoption management. This poses a paradox as the findings show that adoption management manifests across adoption and benefits management literature as constructs, models and methods. However, we identify surprisingly few papers that present (the implicit) manifestations of adoption management as a core part of the analysis. Many papers present findings on constructs (e.g., social network
structure, user cognitions and emotions) that can be affected by adoption management and then use the implications section of the papers to discuss how management can affect these constructs. This is problematic because adoption management may not automatically sprout from analysing, explaining or predicting mediators or practices. Instead, we call for research that theorises and examines how specific, well-defined managerial interventions affect user behaviour and, ultimately, the desired outcomes of an IS implementation. It is this level of detail and nature of prescription and guidance that is missing from current literature. By taking the meaning of adoption management for granted, we miss the opportunity to link key findings of how to obtain use and how to obtain benefits.

Second, our literature review identified a missing link between user responses (e.g., use) and benefits from use. This gap manifests because the benefits management and the adoption literature have largely developed in isolation. While the benefits management literature suggests practices for specifying and monitoring benefits, these practices rarely focus on specifying, monitoring, influencing, or adapting to use as it materialises and evolves throughout an IS implementation. Conversely, the adoption literature rarely focuses on the organisational benefits that emanate from using the system. Hence, we lack a holistic approach or perspective that supports managers in their attempt to influence IS implementation processes to ensure that system usage and user behaviour are aligned with the organisation’s intentions to solve a problem and create value.

Third, while existing research provides both models of and methods for adoption management, we could not identify instantiations of adoption management, such as through design research that builds IT artefacts for adoption management. This state of affairs is surprising, given the strong interest in adoption management platforms in practice (Hilbert et al., 2022). Although cloud-based enterprise software and technologies such as process mining provide new opportunities for measuring adoption and acting upon it, this does not yet seem to have attracted the interest of adoption research, providing thus little guidance to practice about principles for the design and use of adoption management platforms.

<table>
<thead>
<tr>
<th>Research Gaps</th>
<th>Deficiencies in Research</th>
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<tbody>
<tr>
<td>(1) Lack of explicit focus on adoption management</td>
<td>Few studies explicitly utilising the term adoption management</td>
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<td></td>
<td>Relatively few studies focussing on adoption management in the</td>
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<td></td>
<td>core of the paper</td>
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<tr>
<td>(2) Lack of attention to the link between user responses and benefits</td>
<td>Little attention to managing user responses in benefits management research</td>
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<tr>
<td></td>
<td>Little attention to managing benefits in adoption research</td>
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<tr>
<td>(3) Lack of attention to instantiations (e.g., adoption management platforms)</td>
<td>Design research mostly focused on methods rather than IT artefacts such as adoption management platforms</td>
</tr>
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</table>

Table 3. Deficiencies in Research

6 Future Research

This literature review has uncovered deficiencies in knowledge about adoption management and calls for further research on the phenomena to create valuable insights for both scholars and practitioners. There is a general need to bring adoption management into the spotlight and study it as an independent practice. From the presented findings, it is evident that the management of adoption manifest across research streams. However, the nature of the practice must be studied as a well-defined and delimited phenomenon to grasp its dimensions truly. Hence, there is a call for qualitative research that explores and aims to understand how managers and practitioners currently manage adoption. The presented definition of adoption management could potentially serve as a point of departure or inspiration for future literature to target research questions such as: How do managers influence IS implementation processes? What managerial practices drive desired system usage to ensure that desired benefits are realised?
What patterns of user behaviour constitute benefits realisation, and how are these patterns currently managed?

The lack of attention to instantiations such as adoption management platforms invites future research exploring how organisations can better leverage enterprise software and adoption platforms to manage IS implementations and IS-based process innovations. For example, researchers could ask questions such as: How does the use of adoption management platforms affect IS implementation and benefits realisation? What capabilities of adoption management platforms are effective in which types of IS implementations? What features could digital products provide to support the management of their adoption? Indeed, the rising complexity and prominent positioning of enterprise software also call for another dimension that is underappreciated across IS research. Tim Brown’s (2009) trinity of feasibility, desirability, and viability is becoming a well-established framework for designing digital products. However, it could be advantageous to introduce measurability as a fourth dimension and as part of adoption management as a practice. In the search for enabling managers to influence IS implementation processes to ensure system usage that solves a given problem with a valuable outcome, guiding indicators must be available and information-driven.

7 Concluding Remarks

Our review of the adoption and the benefits management literature shows that adoption management remains elusive and is implicitly treated in research. It was possible to explicitly identify manifestations of the phenomena in literature by scrutinising the elements that make up the term adoption management and uniting it again under a preliminary definition. The study of adoption management in the intersection of adoption and benefits management literature has revealed that it is manifested in various forms across both streams. Specifically, the manifestation of adoption management takes the form of constructs, models and methods. In the review of these characteristics, we also observe how some manifestations are centred in the analysis and are a core part of the bridging between findings and practical application. Conversely, other papers explain or predict adoption management manifestations in the analysis but lack a strong connection between these findings and the prescription of managerial guidelines or strategies. These are formed in the discussion sections and do not qualify as the core of the paper. Furthermore, the difference in the nature of adoption papers and benefits management papers are summarised in an integrated model (Figure 2) to emphasise the missing link from user responses to benefits and the role of adoption management in affecting this link. These findings lead to a discussion of deficiencies in research. We argue that current literature lacks an explicit focus on adoption management, attention to the link between user responses and benefits and attention to instantiations. This literature review is a call for a general explicit awareness towards adoption and adoption management semantics. We argue that future research could focus on adoption management manifestations in practice to help validate and delimit the proposed definitions. Furthermore, we invite future research to explore how organisations can leverage enterprise software and adoption platforms to better measure and manage the adoption of IS implementations. As more research illuminates different aspects of adoption management, one can expect to see the topic grow and become more tangible in research and practice.

References


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