Review

User resistance in IT: A literature review

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ABSTRACT

User resistance is a complex phenomenon long viewed as a major constraint in successful information technology implementation. User resistance, which can vary between passive and active, could be a source of guidance towards reducing problems associated with organisational change. However, rather than embracing user resistance and seeing it as a learning opportunity and a tool for managing current and future difficulties around user resistance, organisations fear it. There exist a wide literature on user resistance spanning decades; focusing separately on user resistance, and various related factors. However, there is no comprehensive overview of the research work published. This study presents a comprehensive literature review to gain a better understanding of the contents of the current user resistance literature. Based on the findings from the literature review, areas of concern and the impact of user resistance on the development of new information technology are identified and how to overcome the resistance is suggested.

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1. Introduction

User resistance issues are of primary focus in information technology (IT) related projects. In today's business environment, technology is playing a critical role in improving organisational effectiveness and is being implemented extensively, understanding user resistance has gained considerable attention in the literature (Dickson & Simmons, 1970; Keen, 1981). Goodhue and Thompson (1995) argue that not understanding user resistance may lead to less productivity, which in turn can create serious problems for businesses. Hill (2003, p.1) asserts that user resistance must be understood since it has been found to be "at the root of many enterprise software project failures." Gravenhorst and Veld (2004) suggest that change and resistance go hand in hand; accordingly, change suggests resistance, and resistance imply change. For such reasons, Doppler (2004) advises against ignoring the causes of user resistance, and suggests that recognising and taking appropriate action will reduce enduring problems.

The user resistance literature covers a wide range of area such as various reasons, outcomes, and list of factors relating to user resistance. Markus (1983) states that IT development is a political beast as well as a technological animal where resistance is not a problem
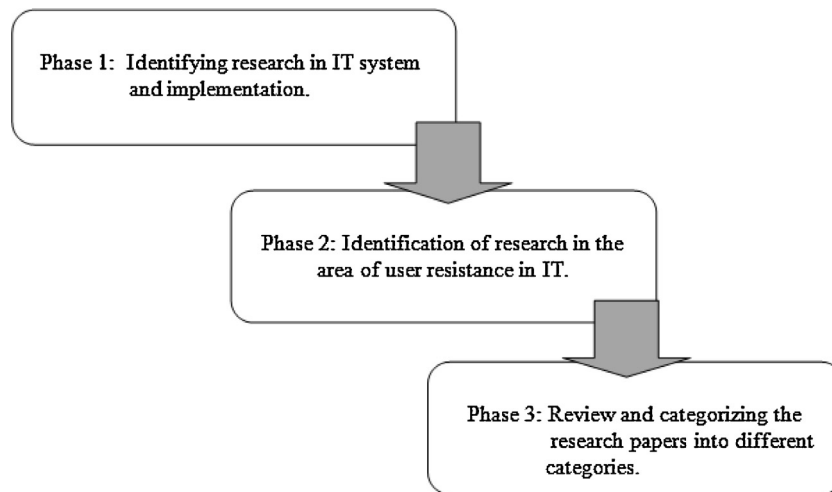
Fig. 1. Research framework.

to be solved, but more a useful clue as to what went wrong. King and Anderson (1995, p. 168) describe user resistance as a "complex kaleidoscope of interrelated factors." While Jiang, Muhanna, and Klein (2000) conclude that user resistance problems are wide and pervasive and no single feature can describe the phenomenon entirely. There are several examples of user resistance in the industry such as 'user resistance extended the duration of a US $6.9 billion defence intranet project by eightfold (Verton, 2002); underutilisation of new implemented enterprise system at a soft drink maker (Barker and Frolick, 2003); a company was forced to redevelop customer relationship management system when employees refused to use the original version (Kim and Pan, 2006); and research fieldwork undertook in China in July 2015 by the authors witnessed that in logistics companies majority of drivers refused to use transport monitoring system because they can be tracked and felt being watched by management all the time'. These examples indicate the need of getting a better understanding of IT user resistance, and therefore, motivate us to undertake a systematic review of the causes of IT resistance and other issues relating to user resistance, and explore the strategies to overcome these barriers.

The purpose of this study is threefold. Firstly, to overview research in the area of user resistance. Secondly, to overview the causes of user resistance. Finally, based on the findings from the study, we suggest the strategies to overcome user resistance, and offer recommendations for future research in this area.

The paper is organised as follows: Section 2 describes the definitions of user resistance in the literature. This is followed by a general discussion on user resistance in Section 3. Section 4 describes the methodology we adopt in the literature review. The theories of user resistance are discussed in Section 5, followed by an examination of user resistance in Section 6. In Section 7, the strategies of how to overcome resistance are reviewed. Finally, Section 8 concludes and provides future research direction.

2. Definition of user resistance

In the management literature, resistance is defined as a multifaceted phenomenon which brings forth unanticipated delays, costs and instabilities into the process of strategic change (Ansoff, 1988, p. 207). It is any conduct that serves to maintain the status quo in the face of pressure to change it (Zaltman and Duncan, 1977, p. 63).

Resistance to change is the intentional acts or commission that defy the wishes of others (Ashforth and Mael, 1998; Newman, 1988). Kim and Kankanhalli (2009) define user resistance as oppo-

sition of a user to changes associated with a new IT implementation. Klaus and Blanton (2010) classify user resistance as the behavioural expression of a user's opposition to system implementation and during implementation. User resistance is therefore a reaction to present on-going situations, perceived as a negative or stressful feeling (Ang and Pavri, 1994; Maraks and Hornick, 1996). It appears when users perceive changes as 'unfair' in regards to their or group workloads (Joshi, 1991).

In the IT sector, user resistance is defined as behaviour intended to prevent the implementation and use of new systems, or to prevent system designers from achieving their objectives (Markus, 1993). Such resistance to a proposed change is an adverse reaction, which may manifest itself in a visible and overt fashion (such as sabotage or direct opposition), or in a less obvious and covert action (such as inertia) to stall and ultimately kill a project.

3. Framework of the literature review

The introduction of new technology frequently involves varying levels of change to business processes and how employees carry out their daily job functions. This change can be as minor as a simple modification in the user interface, or installing a new application. Equally, it can be as complicated as implementing a complete enterprise system, such as SAP, Oracle, Lawson, MS Dynamics, etc. which requires a complete business transformation. Users react differently to these changes. Their responses can range from partial to complete acceptance of the changes, to absolute rejection of the new system, which in many cases may lead to project failure (Nov and Ye, 2008). In a summary of 13 recent studies by Jain (2004), in using IT as a tool for reform or change, at least six of the failures are attributed to employee's resistance to change.

Kling (1980) views resistance from three perspectives: people oriented, system oriented, and interaction theories. People oriented theory suggests that resistance to a system is created by factors internal to users as individuals or groups (Jiang et al., 2000), similar to Mumford and Banks (1967). This is consistent with Sacks, Bellisimo, and Mergendoller (1993) who explains that a user's individual beliefs, values and understanding contribute to individual's attitudes to new systems. The system oriented approach posits that resistance is induced externally by factors inherent in the design and introduction of a new system. Finally, interaction theory analyse the interaction between the user and the system. It is based on the premises that systems acquire different political and social meaning in different settings, whilst different users perceive the effect of the same system differently (Joshi, 1991; Kling, 1980).