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Published online on: 21 Aug 2017

How to cite: - Liette Lapointe, Suzanne Rivard. 21 Aug 2017, Research on user resistance to information technology from: The Routledge Companion to Management Information Systems Routledge
Accessed on: 03 Aug 2023
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RESEARCH ON USER RESISTANCE TO INFORMATION TECHNOLOGY

Liette Lapointe and Suzanne Rivard

Introduction

Information technology (IT) innovations have challenged how people thought about behavior at work since the second half of the 20th century. Indeed, through time, efforts to introduce new IT in organizations, from early “electronic data-processing equipment” (Mann and Williams 1960) to recent Enterprise Social Networks (Choudrie and Zamani 2016), have encountered users’ resistance.

Early on, researchers have acknowledged resistance toward IT as a critical obstacle that often prevents organizations from reaping the potential benefits of its implementation (Ginzberg et al. 1984). While some have identified resistance as an important barrier to IT implementation, often leading to project failure (Kendall 1997; Ang and Pavri 1994), others have seen it as a means for the users to communicate their discomfort with a system that might be flawed (Keen 1981; Marakas and Hornik 1996).

Along with other researchers, our perspective is that resistance to IT is neither good nor bad (Ferneley and Sobrepez 2006; Markus 1983). Indeed, a recent study suggests that implementers’ responses to user resistance play a role in explaining whether resistance is functional or dysfunctional (Rivard and Lapointe 2012). First, resistance that is left unattended – either because implementers are not aware of users resisting, choose not to respond, or feel that they do not have the means to respond – or that is merely acknowledged can spiral into organizational disruption. Similarly, implementers’ responses to resistance that aim at rectifying the situation are likely to lead to increased resistance if the rectification is not congruent with the object of resistance – either the system or its significance. Likewise, dissuasive efforts from implementers will have a similar effect if these efforts are not credible. This implies that only when implementers’ efforts to rectify the situation are congruent with the object of resistance or when their dissuasive messages are credible in the eyes of the users that resistance will decrease. These results stress the importance of implementers understanding the phenomenon of resistance, in particular of why users resist a new IT. They also stress the importance of researchers’ contributions to that understanding by developing explanatory models of resistance.

Therefore, our first objective was to uncover and synthesize the explanations of user resistance to IT offered in the literature. During our literature review we observed that not all extant
models of resistance share the same conceptualization of resistance. Some authors theorize on resistance as behaviors (Lapointe and Rivard 2005), others on resistance as intention (Kim and Kankanhalli 2009) or as a negative perception of a new technology (Bhattacherjee and Hikmet 2007). Our second objective was thus to unpack the concept of resistance to IT implementation. To do this, we broadened our literature search and identified several definitions and conceptualizations of resistance. These two different readings of the literature on IT resistance lead us to identify some gaps that also constitute interesting research opportunities.

We then adopted a different perspective to analyze the literature, that of problematization, which implies relaxing one or several well-received assumptions about a phenomenon (Whetten 2002) and even challenging them (Alvesson and Sandberg 2011). We identified two such assumptions – managers fully embrace the new IT and technology is good – and we suggest that relaxing either assumption might lead to new and insightful explanations of the phenomenon of resistance to IT.

Explaining resistance

Although user resistance has often been portrayed as the culprit of failed implementations, there exist relatively few efforts to explain how and why resistance emerges. Several years ago, we reviewed 25 years of literature, and we identified and presented four such models (Lapointe and Rivard 2005). Extending this review to the contributions published in the AIS Senior Scholars’ Basket of Journals from 2005 to 2016, we now add eight new articles that purport to explain resistance.

The models of resistance we reviewed are based on two different assumptions about resistance and acceptance. One set of works assumes that resistance and acceptance are explained by different antecedents (cf. Table 13.1). The second assumes that acceptance and resistance are part of the same decision process regarding an IT being implemented, and thus often incorporate both in their explanation (cf. Table 13.2).

Explaining resistance independently from acceptance

Markus (1983) studies resistance to IT implementation through power relations within groups. She uses a political variant of interaction theory to explain empirical findings drawn from a case study. She suggests that resistance can be explained by an interaction between the information system being implemented and the context of use, which will translate into conflicts. If a group of actors considers that the use of the system is likely to support their position of power, they will be inclined to use it. If they expect that it will reduce their power, they will resist.

Joshi’s (1991) explanation of user resistance is based on equity theory. The underlying assumption held here is that there is no fundamental resistance to change, only concern with the fairness of an exchange when users compare their inputs into the exchange to the outcomes they obtain from it. Joshi suggests an equity-implementation model to understand resistance better when a system is implemented. The model supposes that users will assess their equity status on from three strata of analysis. The first stratum is the self, where users focus on themselves and where the net change in equity status can be defined as the resulting change – due to a new system – in their outcomes and inputs. When the net gain is negative, users will be unfavorably inclined toward the system, will resent it and be inclined to resist. The second stratum of analysis is considering the fair sharing of profits between self and the employer. If users feel that their employer has obtained greater relative gains, they will consider the system-induced
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Source: Adapted from Lapointe and Rivard (2005).
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| Martinko et al. 1996    | Characteristics of the IT                                             | Individual differences  
Efficacy expectations  
Outcome expectations                                                                 | User reactions to IT implementation (acceptance, reactance, and resistance)                        | Individual                      |
| Bhattacherjee and Hikmet 2007 | Change in work practices introduced by a new information system | Perceived threat: fear of losing control over work practices                                                                 | Resistance to change as an antecedent of perceived usefulness, perceived ease of use and intention to use | Individual                      |
| Kim and Kankanhalli 2009 | Change associated with a new IS implementation                          | Increase:  
Switching costs  
Decrease:  
Perceived value  
Organizational support for change                                                                 | User resistance                                                              | Individual                      |
| Stein et al. 2015       | IT stimulus event  
Affective characteristics (cues) of the IT stimulus event | Emotions (induced affective states)  
Affective evaluations                                                                 | User affective responses (including acceptance, resistance and ambivalence)  | Individual                      |
| Laumer et al. 2016a     | Characteristics of the IS                                             | User perceptual resistance to change  
Perceived usefulness  
Perceived ease of use  
Dispositional resistance to change                                                                 | User behavioral resistance to change                                             | Individual                      |
| Laumer et al. 2016b     | Characteristics of the new work routines associated with a new IS     | Technology perception (perceived ease of use; perceived usefulness)  
Work routine perception (perceived ease of use; perceived usefulness)                                                  | User behavioral resistance to change                                             | Individual                      |
change unfavorable and will be more likely to resist. Finally, the third stratum pertains to the
asymmetry in results between a user and his/her reference group. When users feel that they
have benefited less than others from the new system, they will experience inequity, will assess
the change as unfavorable, and will tend to resist.

Addressing resistance from a psychoanalytic and psychological perspective, Marakas and
Hornik (1996) challenge the view that resistance is dysfunctional. They consider that resist-
ance may be the result of sincere doubts about the relevance of a particular IT introduction.
In adapting a model of passive resistance misuse to IT implementation, the authors explain
behavior as the consequences of passive-aggressive responses to the threats or stresses that
a given individual will, rightly or wrongly, associate with a new information system. The
model suggests that, within an IS implementation, passive resistance misuse will manifest
itself through resistance behavior that will translate in different actions and reactions.

Lapointe and Rivard (2005) propose a process model of user resistance to IT implemen-
tation. Their model consists of five key constructs: the object of resistance, the subject of
resistance, initial conditions, perceived threats, and resistance behaviors. The model, devel-
oped from the analysis of three cases of clinical information systems implementation, suggests
that resistance behaviors occur when users perceive threats due to the interaction between an
object of resistance – a system, system significance, or system’s advocates – and a set of initial
conditions. When a system is first implemented, it is likely to modify the initial conditions of
the user environment. The interaction between the system and those conditions may create
a situation wherein a user feels threatened. In such a case, resistance behaviors, which may
vary from apathy to refusal to use the system, strikes, and even sabotage, will ensue. Over the
course of an implementation, the subject of resistance may vary, from the system to its sig-
nificance, to the system’s advocates themselves. The model further suggests that group-level
resistance emerges from the individual level, over the course of an IT implementation project.
At the beginning of a project, individual-level resistance behaviors are rather independent.
During the project, however, if group-level initial conditions are affected, individual level
behaviors will converge and become increasingly similar.

Klaus and Blanton (2010) anchor their explanation of the development of user resist-
ance in the psychological contract literature, which they enrich with a focus group and inter-
views conducted with informants from three organizations that implemented an enterprise
system. Although the authors recognize that an attitude that opposes implementation plans
may develop before, during, and after system implementation, their explanation focuses on
behavioral resistance as it occurs during implementation. They define behavioral resistance
as “the behavioral expression of a user’s opposition to a system implementation during the
implementation” (p. 627). The authors adopt the view of a psychological contract as “beliefs
that individuals hold regarding promises made, accepted, and relied on between themselves
and another” (Rousseau 1995, p. 9, as cited by Klaus and Blanton 2010, p. 626). The authors’
thesis is that user resistance occurs when users develop a perception of a violation of the
psychological contract that links them to their organization. They borrow from Morrison and
Robinson’s (1997) concept and explanation of violation – a major psychological contract
breach – that occurs when employees perceive that the promises that have been made to them
are unmet. Klaus and Blanton suggest that an enterprise system user experiencing a violation
“would likely have strong negative perceptions towards the ES [enterprise system] and the
change” (p. 627). The authors refined their explanation with a qualitative study. The resulting
model suggests that in the context of an enterprise system there are four domains of perceived
unmet promise: individual issues, system issues, organizational issues, process issues. Accor-
ding to the model, users will conduct equity comparisons on the unmet promises. This equity
comparison will play the role of a moderator of the relationship between unmet promises and perceived breach of contract. Users then interpret the breach of contract to determine whether it is significant enough to be considered a violation. The result of the interpretation may be that the severity of the breach justifies resistant behaviors; it may also be that it does not justify such behaviors. Klaus and Benton thus conceptualize breach of contract interpretation as moderating the relationship between perceived breach of contract and resistant behavior.

Focusing on cynicism, which they conceptualize as a passive form of resistance, and building on Lapointe and Rivard’s (2005) process model of resistance, Selander and Henfridson (2012) address the question of “what is the process by which cynicism emerges and is constituted as part of resistance in IT implementation?” (p. 290). The authors refer to cynicism as “cognitively distanced resistance that constitutes negative affect towards the IT implementation and manifests a perception of seeing through espoused goals of the implementers” (p. 293). The authors analyze data from a case study of a customer relationship management (CRM) system implementation and confirm the explanation offered by Lapointe and Rivard’s model. Also, their theoretical explanation suggests that the notion of cynicism adds to this earlier model in that it allows for capturing antecedents of resistance other than perceived threats. Indeed, they posit that that cynicism does not result from perceived threats as do active forms of resistance, but that instead, it emerges from seeing through espoused claims of the implementers and experiencing negative affect toward these claims. They also suggest that cynicism and active forms of resistance may co-occur and that the degree of cynicism is not constant but may vary during an implementation.

**Studying resistance and acceptance jointly**

The second stream of explanations considers resistance as one aspect of users’ decisions regarding an information technology (Laumer and Eckhardt 2012). As such, they propose models that integrate explanations of IT resistance with antecedents of IT acceptance – mostly perceived ease of use and perceived usefulness (Davis et al. 1989). We identified five such models in the literature we surveyed.

Martinko et al. (1996) offer a theoretical explanation of resistance to IT implementation at the individual level as part of an attributional model of reactions to IT. The authors’ thesis is that the intensity and the nature of user reactions depend on the interaction of some factors: external and internal influences as well as the individual’s prior experience with the technology. The model posits that a new technology, along with external influences (e.g., co-worker behavior and management support) and internal influences (e.g., prior experience and attributional style), combined with an individual’s prior success and failure at tasks involving similar technologies evokes causal attributions. In turn, these attributions influence the individual’s expectations regarding the outcomes in terms of efficacy and outcomes of future performance, which then drive his/her reactions toward the system, be they behavioral (i.e., acceptance, resistance, and reactance) or affective (e.g., satisfaction, hostility, fear, or self-esteem). The reactions result in actual outcomes, the nature of which will in turn influence the nature of future attributions.

Bhattacherjee and Hikmet’s (2007) model is one of IT acceptance, more precisely of intention to use IT. Because the model incorporates user resistance to change as a hinderer to IT acceptance and that it proposes one hypothesis regarding an antecedent of user resistance, we included it in our survey. The authors explain their choice of combining resistance and acceptance within the same model with the assumption that “user resistance is clearly a barrier to IT usage in organizations” (p. 726). Based on this assumption they propose a model aimed at explaining intention to use with three antecedents. The first two antecedents are the
well-accepted perceived usefulness and perceived ease of use from the Technology Acceptance Model (TAM) (Davis et al. 1989), which are hypothesized to influence intention to use an IT positively. The authors operationalized resistance to change as the extent to which users did not want the system being implemented to change how they worked. In the context of the study – health information systems to be used by physicians – this referred to the extent to which physicians did not want the system to change the way they ordered clinical tests, made clinical decisions, interacted with others on their job, and the overall nature of their job (p. 731). Along with the user resistance to IT implementation literature, the model posits that resistance is influenced by users perceiving threats from the system being implemented, more precisely a fear of losing control over their work practices. The model was tested with a survey of 131 practicing physicians. The empirical study provided support for the resistance-related hypotheses, that is, perceived threats are positively related to resistance to change, which in turn negatively influences intention to use the system.

Kim and Kankanhalli (2009) propose an explanation of user resistance that aims at filling the gaps in “understanding of the psychological and decision-making mechanisms underlying resistance to [a] new IS” (p. 567). To fill this gap, the authors introduce the concept of status quo bias, which refers to user preference for the current situation as compared to a situation that would involve a new system. The model they propose integrates user acceptance and user resistance literature with status quo bias. Adopting a conceptualization that is similar to that of Bhattacharjee and Hikmet (2007), the authors define user resistance as the “opposition of a user to change associated with a new IS implementation” (p. 568). The authors build their model from the theory of planned behavior (Ajzen 1991), the equity-implementation model (Joshi 1991), and status quo bias theory. The model hypothesizes some antecedents that will have the effect of reducing user resistance. These resistance-reducing antecedents are: perceived value of the new system, switching benefits – the benefits one would get by switching from an existing to a new system – self-efficacy, organizational support for change, and favorable opinion of a colleague. In turn, as per status quo bias theory (Samuelson and Zeckhauser 1988), the model hypothesizes that switching costs – related to “the perceived disutility a user would incur in switching from the status quo to the new IS and consist of three components, transition costs, uncertainty costs, and sunk costs” (p. 572) – will increase user resistance. The model was tested in a survey of 202 employees who were facing the implementation of a new enterprise system. The results support the hypothesis that switching costs increase user resistance and that perceived value and organizational benefits contribute to decreasing it.

Stein et al. (2015) propose a model that explains specific IT use patterns, including ambivalence, acceptance, and resistance. Their analysis of two case studies of two North American universities that implemented a software package to improve administrative functions efficiency and productivity showed the role of emotions in how such IT use patterns emerge. More precisely, the authors analyzed the relationships between affective cues, affective responses, and IT use patterns. They suggest that three of the five cues identified in their study (IT instrumentality, IT symbolism, identity work) tend to play a key role in IT implementations and will affect users’ responses, which sheds light on user acceptance and resistance. Their theoretical development extends Beaudry and Pinsonneault (2010) and builds upon Bagayogo et al. (2013). It shows, on the one hand, that users react to uniform emotions with clear adaptation strategies. On the other hand, their study reveals that users appear to react to ambivalent emotions with a mixture of different adaptation behaviors. Faced with ambivalent emotions, users go back and forth between focusing on positive and negative aspects of the situation. Such reactions appear, however, to ultimately lead to active and positive user engagement and positive organizational impacts.
Laumer et al. (2016a) formulate the general explanation that user resistance behavior results from a person’s assessment of a new information system and their predisposition to resisting change. The authors introduce the construct of dispositional resistance to change – a person-ality trait – as the main cause of employees’ resistance to IT-induced change. They borrow from the psychology literature and define dispositional resistance to change “an individual’s dispositional inclination to resist change” (Oreg 2003, p. 680, as cited in Laumer et al. 2016a, p. 69). The construct is conceptualized as including four dimensions: routine seeking, emotional reaction, short-term focus, and cognitive rigidity. Laumer et al. posit that dispositional resistance to change will not only influence one’s resistance behavior but also their appreciation of a system. More precisely, they hypothesize that dispositional resistance to change will have a negative effect on perceived ease of use and perceived usefulness and a positive impact on perceptual resistance to change. Adopting Bhattacharjee and Hikmet’s (2007) construct of behavioral resistance to change, the authors further hypothesize that perceived ease of use and perceived usefulness will negatively influence behavioral resistance to change and that perceived resistance to change will have a positive effect on behavioral resistance. The empirical test, conducted with a sample of 106 human resource employees, provides support for the influence of dispositional resistance to change.

Laumer et al. (2016b) propose a model that posits that behavioral resistance to change (adopted from Bhattacharjee and Hikmet 2007) is not only induced by the change required by new technology being implemented but also by the new work processes this new technology is likely to imply. More precisely, the model hypothesizes that perceived ease of use and perceived usefulness of the new information system being implemented and of the new work processes the system entails will negatively influence behavioral resistance to change. The model further suggests that perceptions regarding technology are determinants of work routine perceptions. More precisely, the model hypothesizes that the perceived ease of use of the technology and its perceived usefulness will influence those perceptions regarding the work processes that go along with the technology. The empirical test provides support for the model.

Identifying gaps

The models presented here enrich our understanding of how, when, and why users resist IT implementation. Anchored in different theoretical foundations, such as organizational behavior (e.g., psychological contract; Klaus and Blanton 2010) and psychology (e.g., dispositional resistance to change; Laumer et al. 2016a) or indigenous to the IT domain (e.g., Lapointe and Rivard 2005), the models we reviewed illuminate different antecedents and manifestations of user resistance. Notwithstanding the richness of these contributions, we identified gaps that we consider as opportunities for future research.

In addition to focusing their explanations on resistance itself, independently from acceptance, the models from the first stream of research share the characteristic of being process explanations, that is, explaining the overall pattern that generates a series of events or explaining “how one event leads to and influences subsequent events” (Van de Ven and Poole 2005, p. 1384). Those models are either conceptual elaborations (Joshi 1991; Marakas and Hornik 1996) or based on a small number of case studies (Klaus and Blanton 2010; Lapointe and Rivard 2005; Markus 1983; Selander and Henfridsson 2012). Indeed, there does not exist any large-scale validation of these models. Although process explanations do not readily lend themselves to validation through large-scale surveys, other methods such as simulation can be used for testing this type of model (Van de Ven and Poole 2005).
In contrast, five of the six models that provided explanations of resistance along with acceptance were variance models, four of them including an empirical test. Although they show that there exist relationships between acceptance and resistance, being variance models, they are silent on the dynamics of these interactions. Only Stein et al. pave the way to such an explanation. Future research could explore further these dynamics, for example, through a longitudinal model of users’ acceptance and resistance behaviors, their antecedents, and their associated impacts. Indeed, by identifying the dynamics underlying acceptance and resistance to IT, it would be possible to understand how antecedents, manifestations, and outcomes come together over time and to provide a better understanding of the evolving reactions to IT that sometimes evolve from acceptance to resistance or vice versa.

The third gap we observed constitutes an important hindrance to the advancement of knowledge on user resistance, as it pertains to the definition of resistance itself. Indeed, as synthesized in Tables 13.1 and 13.2, although all 12 studies we analyzed use the term user resistance, it often appears to refer to different concepts. A number of models are based on a conceptualization of resistance as behavior (e.g., Markus 1983, Lapointe and Rivard 2005, Laumer et al. 2016a), others conceptualize it more as an intention (Kim and Kankanhalli 2009) or as a negative perception that is an antecedent of acceptance (Bhattacherjee and Hikmet 2007). Such a difference implies that although the models pertain to a common phenomenon, they do not constitute a solid base on which to develop an integrated explanation. Having a clear conceptualization of the construct of interest being a critical issue of research on user resistance, we devote the next section to a new analysis of the literature with the objective of better illuminating it.

Defining and conceptualizing resistance

The previous section clearly highlighted inconsistencies in how resistance is defined and conceptualized in the models that explain the resistance phenomenon in IS research. To further explore this gap, we expanded our literature search to include top conferences papers and a broader set and range of academic journals. From this literature review, we identified several definitions of resistance that were proposed, over time. Then, we focused on the different conceptualizations of resistance that exist in the extant literature on resistance.

Defining resistance

As illustrated in Table 13.3, there is no consensus on how resistance to IT ought to be defined. A first, maybe disturbing, observation is that many authors do not even offer a clear definition of how they apprehend resistance in their research. A second observation is that the few authors who do offer a definition of resistance tend to emphasize different particularities of the phenomenon. A key differentiator in the way resistance is defined appears to relate to its valence. Indeed, many authors portray resistance neutrally, as a reaction or a response from users while several take a more negative stance, claiming that resistance is a problem, an opposition, or an obstruction. Finally, it must be noted that a few authors refer to ‘positive resistance,’ referring to a manifestation of user unease that is functionally useful or to a clue to what went wrong.

Conceptualizing resistance

With regard to conceptualizations of resistance in IS research, our analysis of the literature confirms an observation made by Kim (2010), and reveals that there exist two main
Table 13.3  Definitions of resistance

“Resistance is defined as behavioural reactions expressing reservation in the face of pressure exerted by change supporters seeking to alter the status quo (Waddell and Sohal 1998; Coetsee 1999; Lapointe and Rivard 2005; Meissonnier and Houzé 2010).” (p. 436)

“We define cynicism as cognitively distanced resistance that constitutes negative affect towards the IT implementation and manifests a perception of seeing through the espoused goals of the implementers (cf. Kunda 1992; Dean et al. 1998; Fleming 2005).” (p. 290)

Resistance, defined as “Opposition, challenge or disruption to processes or initiatives,” occurs in response to a perceived threat. The list of behaviours included under the heading of user resistance range from passive to active and through to aggressive. (p. 2)

“It was behaviourally defined as an adverse reaction (Hirschheim and Newman 1988) or the opposed intention of users to proposed changes resulting from IS implementation or use of system (Kim and Kankanhalli 2009; Markus 1983).” (p. 3)

User’s resistance is defined as a subjective process psychologically based at the individual level. (p. 541)

The literature has been dominated by negative connotations associated with resistance, often concluding that it is undesirable and detrimental to an implementation’s success (Schein 1988; Kossek et al. 1994); that it is a product of employees’ opposition to control and domination (Cook et al. 1999) and that it inhibits strategic change (Ansof 1988). However, resistance is emerging as a more complex phenomenon than previously thought and need not always be viewed negatively (Hirschheim and Newman 1988; Lapointe and Rivard 2005). Indeed, resistance may be a manifestation of user unease with a flawed system (Mumford et al. 1978; Keen 1981; Hirschheim and Klein 1994; Marakas and Hornik 1996) or may even be regarded as functionally useful (Markus 1983). (p. 345)

Resistance to system use has long been recognized as a problem to successful implementation of information systems (IS). However, most studies have focused on studying system acceptance and construed resistance as being the flip side of it. (p. 1297)

Routine workplace resistance refers to less visible [than formal resistance] and more indirect form of opposition that take place within the everyday world of organizations. (p. 388)

Resistance is often portrayed by the sponsors of change as a pejorative term conjuring images of unlawful or unwarranted acts. (p. 130)

Resistance is not a problem to be solved so that a system can be installed as intended: it is a useful clue to what went wrong and how the situation can be righted. (p. 441)

“Sees resistance as a signal from a system in equilibrium that the costs of change are perceived as greater than the likely benefits.” (p. 27)

conceptualizations of resistance: attitudinal or behavioral. We here distinguish between the conceptualization of resistance as a behavior or as a psychological state. In her seminal piece on resistance, Markus (1983) has depicted resistance as being a \textit{behavior}, which will be enacted to prevent implementation or use. Several authors (e.g., Marakas and Hornik 1996; Lapointe and Rivard 2005; Kim and Kankanhalli 2009; Campbell and Grimshaw 2015; Klaus...
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and Blanton 2010) have adopted a similar conceptualization of resistance in their work. Other authors have proposed an alternative conceptualization of resistance, claiming that rather than being a behavior, resistance is akin to a psychological state. In that perspective, some portray resistance as cognition claiming that it is “a cognitive force precluding potential behavior” (Bhattacheree and Hikmet 2007, pp. 727–728). Others conceptualize it as a psychological reaction that typically occurs when one assesses negatively IT implementation impacts (e.g., Ang and Pavri 1994; DeSanctis and Courteney 1983; Lorenzi and Riley 2000; Zuboff 1988). Some authors have adopted a conceptualization of resistance as an attitude (e.g., Robey 1979, Kim 2010) or as an affect (e.g., Stein et al. 2015). In the case where it is conceptualized as an affect, it has for example been construed as a “negative affect towards the IT implementation and manifests a perception of seeing through the espoused goals of the implementers” (Selander and Henfridsson 2011, p. 293).

A finer-grained analysis of conceptualizations of resistance is offered in Lapointe and Beaudry (2014). Table 13.4 synthesizes and enriches their analysis. In addition to the conceptualizations mentioned earlier, they identify a wider array of conceptualizations of resistance and propose a new, all-encompassing conceptualization of resistance, that is, as a user mindset, which ultimately translates into behaviors.

As pointed out by Lapointe and Beaudry, resistance has been conceptualized at times in a narrow fashion under the labels avoidance implying for “the individual has the opportunity and even the need, but consciously circumvents using the system” (Kane and Labianca 2011, p. 505) or opposition, that is, as “opposition of a user to change associated with a new implementation” (Kim and Kankanahalli 2009, p. 688), “an adverse reaction to a proposed change” (Hirschheim and Newman 1988, p. 398), or organizational disruption (Keen 1981, p. 27).

In a few instances, such as in Ferneley and Sobreperez (2006), resistance has been conceptualized as a process. The authors suggested that resistance is a two-phase process: an initial phase that is cognitive or emotional and a second one consisting of the decision to resist. They argue that resistance typically manifests in user workarounds, which are deviations from set procedures. Last, Lapointe and Rivard (2005) and Rivard and Lapointe (2012) conceptualize resistance as a multidimensional construct where resistance to IT implementation can be construed as behaviors that occur following perceptions of threats associated with the interaction between an object and initial conditions. During implementation, some triggers can either modify or activate initial conditions; a modification of the object of resistance may ensue. From the interaction of this new object and new set of initial conditions, different resistance behaviors may follow.

(Lapointe and Beaudry 2014, p. 4621)

Lapointe and Beaudry argue that resistance, akin to acceptance, is a mindset, which they define as

a complex multidimensional mental state that is based on cognitions, emotions, and attitudes that predispose an individual to perform IT-related behaviors of a certain type. More specifically, we argue that acceptance and resistance to IT comprise an emotional dimension (e.g., fear, anxiety, excitement), a cognitive dimension (e.g., performance expectancy, self-efficacy, perceived ease of use), and an attitudinal dimension (e.g., like/dislike, good/bad). Taken together, these three dimensions will, in turn, be associated to behavioral manifestations, which can be many and
### Table 13.4 Conceptualizations of resistance to IT

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<thead>
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<th>Conceptualization</th>
<th>Evidence</th>
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<tr>
<td>A process</td>
<td>“The concept of resistance is seen as a two-phase process, the first phase being the internal individual/group cognitive or emotional process that results in the decision to resist, the second phase being the resultant workaround behavior.” (p. 355)</td>
<td>Ferneley and Sobreperez (2006)</td>
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<tr>
<td>An attitude</td>
<td>“In the present study, user resistance is conceptualized as the individual’s attitude towards change.” (p. 3)</td>
<td>Kim (2010)</td>
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<td>A cognition</td>
<td>“Resistance is not a behavior but a cognitive force precluding potential behavior.” (pp. 727–728)</td>
<td>Bhattacherjee and Hikmet (2007)</td>
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<td>A behavior</td>
<td>“Behaviors intended to prevent the implementation or use of a system or to prevent system designers from achieving their objectives.” (p. 443)</td>
<td>Markus (1983)</td>
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<td>A psychological reaction</td>
<td>“A normal psychological reaction when the perceived consequences (e.g., loss of power) are negative.” (p. 443)</td>
<td>Ang and Pavri (1994)</td>
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<td>An affect</td>
<td>“Negative affect towards the IT implementation.” (p. 293)</td>
<td>Selander and Henfridsson (2012)</td>
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<td>A disruption</td>
<td>“A signal from a system in equilibrium that the costs of change are perceived as greater than the likely benefits.” (p. 27)</td>
<td>Keen (1981)</td>
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<td>An avoidance</td>
<td>“IS avoidance, however, occurs when the individual consciously chooses to avoid IS despite having time, need, and ability.” (p. 505)</td>
<td>Kane and Labianca (2011)</td>
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<td>An opposition</td>
<td>“As opposition of a user to change associated with a new implementation.” (p. 688)</td>
<td>Kim and Kankanhalli (2009)</td>
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<tr>
<td>A mindset</td>
<td>“In our proposed conceptualization of acceptance and resistance, we define a user’s mindset as a complex multidimensional mental state that is based on cognitions, emotions, and attitudes that predisposes an individual to perform IT-related behaviors of a certain type.” (p. 4622)</td>
<td>Lapointe and Beaudry (2014)</td>
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</table>

While Lapointe and Beaudry (2014) propose an umbrella conceptualization of acceptance and resistance, in extant research most authors have conceptualized resistance and acceptance varied (e.g., user or task adaptation, venting, usage, and even sabotage). This definition implies the existence of frames that shape one’s actions through a repertoire of potential reactions and responses. Though a mindset may be shared across a group, there will nevertheless be variation, and these differences will translate into a wide array of possible behavioral reactions within a given group. (2014, p. 4622)
as independent constructs, most construing resistance as being the flip side of acceptance. As explained in the previous section, apart from the few authors (including, for example, Bhattacherjee and Hikmet 2007; Bhattacherjee et al. 2013; Kim 2010; Smith et al. 2014; Laumer et al. 2014) who have conceptualized acceptance and resistance together in combination with perceived ease of use (PEOU) and perceived usefulness (PU), only a handful of authors have studied or conceptualized resistance and acceptance within a unified model or framework.

The first paper to present a unified model is that of Martinko et al. (1996), who proposed an attributional model of reactions to IT. According to this model, when faced with the introduction of a new technology, users develop positive and/or negative expectations regarding the impacts of IT use, which will drive their psychological and behavioral reactions. Lauer and Rajagopalan (2002) have looked at the relationship between acceptance and resistance, taking into account the time dimension. They argue that a system may appear to be accepted early on but may come to be resisted, eventually resulting in failure and, vice versa, that a system may be initially resisted, but that as a result of effective management may become accepted. More recently, Van Offenbeek et al. (2013) proposed a model that integrates acceptance and resistance. The framework they propose conceptualizes acceptance and resistance from a behavioral standpoint and identifies four categories of user reaction. The framework distinguishes between two dimensions; one ranging from high use to non-use, and the other from enthusiastic support to aggressive resistance. Bagayogo et al. (2013) view acceptance and resistance as a psychological reaction that is associated with a complex mix of behaviors. They argue that acceptance does not always imply effective use and resistance does not necessarily imply non-use. Finally, as mentioned earlier, Lapointe and Beaudry (2014) construe acceptance and resistance as mindsets.

In conclusion, our analysis of the literature confirms that there is overall no consensus on the definition or conceptualization of resistance. While this is not a fatal flaw of the current research on resistance per se, as it allows to explore different aspects and dimensions of the phenomenon, it nonetheless raises a red flag to which researchers should be sensitive. Indeed, to ensure the proper advancement of knowledge and the conceptual and methodological relevance of the research that focuses on resistance, it is critical to ensure conceptual clarity of the construct (Barki 2008). In the words of the author, “there are many opportunities for contributing to information systems (IS) research and practice through careful conceptualization and measurement of constructs, thereby providing a better understanding and explanation of interesting and important information technology (IT) phenomena” (Barki 2008, p. 9). We argue that this logic applies to the resistance to IT phenomenon and that the usefulness of well conceptualizing the resistance construct is becoming paramount.

**Problematizing the literature**

Our review of the literature presented earlier led us to identify gaps that we deem merit researchers’ attention. We now take another perspective to reflect upon extant literature, that of problematization, which implies identifying well-accepted explanations of phenomena and relaxing the assumptions on which they are based (Whetten 2002) and even challenging them (Alvesson and Sandberg 2011). To do this, we re-analyzed the literature on resistance to IT implementation to unearth some of its most basic assumptions. Two of these assumptions – managers fully embrace the new IT and technology is good – are common to most of the works we reviewed. We suggest, however, that they are at times erroneous and that relaxing them could allow for new and interesting explanations of the phenomenon.
Assumption 1 – managers fully embrace the new IT

The literature on user resistance rests on the assumption that managers, when they are responsible for a unit where an IT is implemented, embrace the new system and feel accountable for its successful implementation. This assumption does not exclude the possibility that managers, when they are themselves the target users of a new system, may resist. In such a circumstance they would be studied as “users.” However, when they are invested with the responsibility of having users in their unit adopt a system, managers are not expected to manifest resistance. A similar assumption underlies research in the domain of change management in general, where managerial resistance is rarely investigated (Page 2011).

A careful examination of accounts of IT implementation experiences suggests that managerial resistance may indeed be an important obstacle to successful IT implementation. For instance, the project director of a large ERP implementation commented as follows:

The unit directors may feel threatened by the project [. . .] A common defense mechanism is a resistance, which can manifest in different ways. One of them is lukewarm support. A director may agree in principle with the new system. Yet, their actions may create difficulties for the project. Someone will claim their support and at the same time wish that the project will fail [. . .] Another manifestation of resistance is the reluctance of a director to allocate his/her best resources to the project. Or to make critical decisions so slowly that the delay is interminable from a project point of view. [. . .] Another protection mechanism from unit directors is to attack the project director’s credibility.

(Landry and Rivard 2001, p. 57)

A recent study of the development of an information system aimed to support the merger of three previously independent hospitals into a single organization documents resistance manifestations on the part of one of the unit managers who was actually in charge of playing the role of boundary-shaker during the project (Vieru et al. forthcoming). Indeed, the role of boundary shakers is to act as change agents and to contribute to the elimination of boundaries between groups given collaboration (Balogun et al. 2005). Rather than fully embracing this role, one manager – from a pediatric hospital that was part of the merger – used her influence on the other parties involved in the project to resist the integration and reinforce the boundaries between the merging units, thus becoming a boundary consolidator. The actions of this manager are described as follows:

instead of focusing on commonalities and dependencies between the three sites, the Pediatric manager’s efforts and energy were invested in highlighting the differences (e.g. children vs. adult patients, no information exchange between the Pediatric and the Adult sites) as well as the uniqueness of the Pediatric site (e.g. in terms of procedures, clerical tasks, etc.). The Pediatric manager’s forerunner attitude as well as her legitimacy, based on her charisma, her experience and her reputation, enabled her to mobilize support around the idea that the Pediatric site on one side and the Adult sites on the other, had different ways of working and required different [information systems].

(Vieru et al. forthcoming, p. 12)

These examples open an avenue for adding to the explanation of IT implementation failures. Indeed, if the very people who are in charge of ensuring user acceptance of a new information
system do themselves resist, the contextual boundaries of studies of resistance will have to be expanded. This would imply including managers’ attitudes and actions in addition to those of users in studies of user resistance. It would also be important to develop explanations of managers’ resistance to IT implementation. Because the existing models of user resistance would not readily provide such explanations, new models might need to be developed, building on what we have learned from user resistance. A promising starting point might be the generic model components identified by Lapointe and Rivard (2005), which were common to several of the user resistance explanations we reviewed. Indeed, using the concepts of the object of resistance, subject of resistance, initial conditions, perceived threats, and resistance manifestations might allow for the development of explanations that would add to our current understanding of the phenomenon.

**Assumption 2 – technology is good**

The common view on IT is that it brings many benefits to individuals, organizations, and even society. Early on, IT has been depicted as having the potential for improving workers’ performance and bringing in organizational benefits (Davis et al. 1989; Zuboff 1988). In extant research, IT usage has long been considered a key indicator of IS success (Delone and McLean 2003), contributing to individual productivity and resulting in significant economic benefits for organizations. With the pervasiveness of IT in all aspects of organizational and even social life, IT is typically seen as a positive innovation, for example, by enabling effective and efficient information sharing and collaboration.

From a research perspective, the IS literature mostly provides a monolithic view of the IT use phenomenon, treating all usage behaviors equally (Bagayogo et al. 2013) where use is considered a desirable behavior. However, as reported in recent studies (Tarañdar et al. 2013), the use of IT – in its various forms – can have a downside and may lead to unexpected or undesired outcomes, especially when it is excessive, compulsive, and uncontrolled. A growing body of research has started to explore some negative aspects and outcomes of IT usage, for example, IT addiction (Turel et al. 2011), misuse (Bulgurcu et al. 2010), work overload (D’Arcy et al. 2009), and interruptions (Gupta et al. 2013). In the words of Tarañdar et al. 2013:

> considering that the ubiquitous and functionally pervasive nature of IT use is expected to expose users to ever greater levels of conditions that are potent for experiencing negative outcomes. Networked enterprises further aggravate the situation [Barjies et al. 2011]. Research occurring in these areas is embryonic and offers significant opportunity for conducting high-impact theoretical and applied studies.

(p. 270)

Research in different domains, including psychology, psychiatry, and information systems, already indicates that excessive and compulsive IT use may cause serious individual, organizational, and societal problems (LaRose et al. 2003; Block 2008; Vaghefi et al. 2017). In particular, IT addiction is increasing viewed as a serious and alarming matter in most professional settings. In recent years, calls have been made for further research on this phenomenon and for designing strategies to control and regulate excessive IT use, which can help remedy the potential consequences of addiction on the performance and well-being of such users.

While technology addiction might be an obvious drawback of IT use, there are more insidious negative consequences that can be associated with it. Due in large part to the advent of more ubiquitous and more sophisticated technologies that enable near constant contact with the workplace, the issue of work–life balance brings in new, disturbing questions about the
role of IT in organizations and society. Recent research shows that in response to changes brought about in large part because of technology usage, individuals tend to feel that they have to be constantly available for their organizations, “fixated on 24/7 connectivity, productivity, and multitasking” (Cook 2015, p. 17). Workplace technostress is increasing among employees and impacts both physical and mental health, costing employers lost productivity, higher absenteeism, higher turnover, lower engagement levels, missed deadlines, and low morale (Ayyagari et al. 2011; Tarafdar et al. 2011). All in all, evidence suggests that IT use may be blurring work–family boundaries with negative consequences for individuals and even organizations (Chesley 2005). Organizations now appear to feel pressured to implement work practices intended to facilitate employees’ efforts to fulfill both their organizational and their personal responsibilities (Wang et al. 2008; Ayyagari et al. 2011).

Conclusion

In this chapter, our first objective was to identify and synthesize models of resistance to IT implementation that are proposed in the literature. We found that these models were anchored in different theoretical foundations, thus illuminating different antecedents and manifestations of user resistance and enriching current knowledge of how, when, and why users resist IT implementation. Notwithstanding the richness of these contributions, we identified gaps that we consider as opportunities for future research.

The first gap pertains to the subset of models that offer a process explanation of resistance to IT. Being either conceptual or based on a small number of cases, those models have not been empirically tested. We suggest that although process explanations do not lend themselves to validation through large-scale surveys, other methods, such as simulation, can be used for testing this type of model.

The second gap pertains to the variance models that provided explanations of resistance along with acceptance. Although these models show relationships between acceptance and resistance, they do not explain the dynamics of these relationships. Future research could explore these dynamics, for example, using longitudinal models, thus providing a better understanding of the evolving reactions to IT that sometimes evolve from acceptance to resistance or vice versa.

The third gap is an important limitation to the advancement of knowledge on user resistance, as it pertains to the definition of resistance itself. Although the models pertain to a common phenomenon, they do not constitute a solid conceptual base for the development of an integrated explanation.

Following this observation, our second objective was to analyze the literature, focusing on definitions and conceptualizations of resistance to IT implementation. Our analysis confirms the lack of consensus on the definition or conceptualization of resistance. While this is not a fatal flaw of the current research on resistance per se, it unearths an important research issue. Indeed, to ensure the proper advancement of knowledge and the conceptual and methodological relevance of the research that focuses on resistance, we invite researchers to work toward achieving conceptual clarity of the construct.

Our third objective was to problematize the literature so as to pave the way to the exploration of unchartered territories. To do so, we would suggest two well-received assumptions that researchers may want to relax. The first is that of managers fully embracing the new IT. Relaxing this assumption would imply including managers’ attitudes and actions in addition to those of users in studies of user resistance. The second assumption is that of technology is good, that is, IT brings many benefits to individuals, organizations, and even society. However, research has revealed that IT has
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a dark side and may lead to unexpected or undesired outcomes, especially when its use is excessive, compulsive, and uncontrolled. More research in this direction is thus warranted.

In brief, although resistance to IT has been investigated for many decades, it remains a contemporary research and management issue. Furthermore, it offers opportunities for researchers to make new insightful and meaningful contributions.

Note


References


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