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A Critical Evaluation of User Participation Research: Gaps and Future Directions

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Abstract

In this theoretical synthesis, we juxtapose three traditions of prior research on user participation and involvement: the survey and experimental literature on the relationship between user participation and IS success, the normative literature on alternative development approaches, and qualitative studies that examine user participation from a variety of theoretical perspectives. We also assess progress made in the three bodies of literature, and identify gaps and directions of future research for improving user participation.

Keywords: User participation, User involvement, User-centered design, IS success

1. Introduction

The involvement of users in system development and the role of user participation in IS success have been core topics of IS research since the 1960s (Swanson 1974). Although evidence of a positive relationship between user involvement and participation and IS success is convincing, much remains unknown about when, how, and why participation works.

The purpose of this theoretical synthesis is to revitalize research on this important topic. Changing historical circumstances alone warrant a new look at conventional wisdom. The majority of the so-called "factor studies" of user participation and involvement were done prior to significant recent developments in information technology (enterprise resource planning systems, knowledge management systems, and electronic commerce applications based on the Internet), IT management and outsourcing (application service provision), and system development techniques and methodologies (joint application development and contextual design). Moreover, many of today's strategically important systems are for discretionary use or external users, which demands high system quality and user satisfaction.

Furthermore, a growing body of qualitative research on users' role in system development and implementation reviewed in this paper suggests that the state of IS practice around involving users is weak. Numerous barriers hinder the effective participation of users; users' input is not always incorporated in system designs. If user participation can contribute to IS success even when the state of practice is low, how much more improvement in development and implementation outcomes is possible if participatory practices can be significantly improved?

In this paper we review three traditions of prior research on user participation and involvement: survey and experimental research, the normative literature on high user involvement approaches, and qualitative studies. We then propose several directions for future research in order to improve the user participation practice, drawing from the contributions of all three research traditions.

2. Review and Assessment

The three literatures reviewed in this section take very different points of view. The survey and experimental research on the relationship between user involvement or participation and IS success generally reflects a positivist social science tradition. The literature on high user involvement development approaches is normative and practice-oriented. The qualitative studies are social scientific, but many of them are interpretivist or critical in perspective. Whereas the focus in the survey and experimental studies is on what *users* do and feel, the focus in the normative and intensive literature is on *developers* or on developer-user interactions.

Although the topic of user participation has generated many critical reviews, meta-analyses, and syntheses, the majority of these integrative works have adopted a single theoretical perspective. To our knowledge, this synthesis is the first attempt to integrate insights from all three traditions.

Because our survey of the literature is so extensive, it is necessarily brief. Particularly in the survey and experimental literature, which has the longest tradition, the largest number of studies, and the most prior syntheses, we focus on seminal studies, more recent research, and prior reviews and meta-analyses. We aim to identify key themes and findings rather than to catalog prior literature exhaustively.

2.1 Participation Matters

When Ives and Olson (1984) published their review in 1984, the tradition of empirical research on user involvement in system development was already well established. Concluding that the literature lacked sound theory, was methodologically flawed, and failed to demonstrate convincing evidence of user involvement's benefits, Ives and Olson's paper spurred numerous subsequent investigations that largely addressed their concerns.

Later empirical studies (Hunton and Beeler 1997; McKeen and Guimaraes 1997; McKeen et al. 1994) and quantitative meta-analyses (Alavi and Joachimsthaler 1992; Hwang and Thorn 1999; Pettingell et al. 1988; Straub and Trower 1988) revealed statistical relationships where Ives and Olson's qualitative analysis had not. Conceptual developments were also made: The concept of user involvement (affective experience) was analytically separated from user participation (activities or behaviors performed by users) (Barki and Hartwick 1989). In the methodological realm, measurement improved and contingencies were investigated (Barki and Hartwick 1994; McKeen et al. 1994). In addition, experiments were conducted to augment prior surveys and isolate the effects of critical factors and alternative approaches (Browne and Rogich 2001; Hunton and Beeler 1997; Saleem 1996).

Taken as a whole, the research record suggests that there is a strong positive relationship between user involvement (the affective measure) and IS success and a moderate positive relationship between user participation (the behavioral measure) and IS success (Hwang and Thorn 1999), where IS success is usually measured in terms of user information satisfaction or other measures. Studies concluded that task complexity (McKeen et al. 1994), users' technical expertise (Saleem 1996), and users' ability to influence the design of the system (Hunton and Beeler 1997; Robey et al. 1989) were critical contingencies.

Despite these contributions, a review by Cavaye (1995) and the qualitative studies examined below continued to complain that important issues remained unexplored. For example, in some studies the participation *of managers* is examined; whereas other studies focus *on end-*

users (Cavaye 1995). Yet, no study has examined whether the correlates of participation and involvement are the same for *different types of users*.

Similarly, some studies have examined participation and involvement in the context of transaction processing systems (TPS), but others have considered decision support systems (DSS) (Cavaye 1995), and a growing number focus on ERP systems (Akkermans and van Helden 2002; Kawalek and Wood-Harper 2002). Although the literature on DSS recommends a development approach that differs considerably from that for TPS (Markus et al. 2002), and although ERP systems have a life cycle that is different substantially from the traditional SDLC (Brehm and Markus 2000), no empirical study that we know of has compared the effects or styles of participation across *different types of systems*. This absence is particularly glaring, given that the types of systems and the nature of development practices have changed so much since the early participation research was conducted.

Another underexplored issue is *how participation is conceptualized* (Cavaye, 1995). Many studies have examined participation only in the context of particular stages of development (usually requirements elicitation). However, the few studies that adopt a broader view, e.g., McKeen et al. (1994), find that users' involvement throughout the development process is critical. Further, few studies consider the effects of participation in conjunction with related post-development activities such as training, support and maintenance. (See Alavi and Joachimsthaler (1992) for an exception.)

Even more intriguing is the way that participation and involvement have been defined in this body of research, which is almost entirely in terms of what *users* do, think, and feel. Discussion of the behavior, attitudes, and experiences of *developers* is almost entirely absent. The exception is a few studies, such as McKeen and Guimaraes (1997), which mention user-developer communication. For example, Ives and Olson (1984) defined user involvement as "participation in the system development process by representatives of the target user group" with no mention of the extent to which such participation was required, encouraged, or discouraged by developers. Their model of user involvement includes system types and development stages, participant types and involvement types, but no mentions of developer types, roles, attitudes toward users and their involvement or other attributes. To the best of our knowledge, *developer characteristics and behaviors* other than communication are not among the contingencies extensively examined in this literature.

Finally, it should be noted that the purpose of the factor research is social scientific in nature. It is intended to explain and predict success, but not primarily to influence practice. Consequently, other than the basic observation that participation is good, this literature offers limited guidance to developers. Thus, the opportunity exists to enhance this body of knowledge by bringing in insights from other traditions.

2.2 Participation Practices Vary

Since 1990, researchers have begun to observe that system development contexts and methodologies differ in their approaches to involving users in system development. For example, Grudin (1991) described three development contexts: traditional or in-house system development, contract development (in which a software house or consulting firm develops a custom system for a client), and product development (involving development of software packages for sale to external customers). He explained that the development contexts differ considerably in *how much interaction occurs* between developers and users and *when the*

interaction occurs. For example, package developers have much less access to users that in-house analysts during the early stages of development.

The normative literature on development practices differs considerably from the studies we reviewed in the prior section. It aims primarily to provide guidance to developers in how to develop successful systems. Two key streams of normative literature are participatory design and user-centered design. The former includes the so-called "Scandinavian approach" to system development and the sociotechnical approach that originated in the UK. The latter is an approach to developing software products that emerged in the human-computer interaction and usability communities.

2.2.1 Participatory Design Approaches

Garrity (2001) categorizes the "American" approach to system development as a designer-centered approach in which organizational systems are viewed in primarily functional terms. In contrast to the American approach is the "European" approach with its socio-technical orientation and goal of maximizing the quality of users' work lives. According to Garrity (2001), even when American approaches achieve high levels of participation, as in joint application development (JAD) and rapid application development (RAD), they do not achieve "participatory design" in which users' quality of work life is a central concern.

Both the Scandinavian approach (Clement and Besselaar 1993) and the UK sociotechnical approach (Hirschheim and Klein 1994) have their origins in action research designed to promote democracy in worker-management relationships, often in unionized settings. Both approaches heavily emphasize improving the quality of system users' working lives. Both advocate mutual learning between developers and users, in which users teach developers about their work practices and the latter educate the former about technical possibilities. Both recommend a high degree of user control over the outcomes of system design: in the ETHICS method, technically feasible (and even desirable) solutions are rejected if they cannot be made to fit with preferred social arrangements of work processes. There are well documented principles and methodologies such as the ETHICS.

Prototyping, both with low-tech tools and with working systems, is a common practice in the Scandinavian participatory democracy approach. As Garrity (2001) noted, its value is not merely to ensure that system specifications are functionally correct, but also to serve as a vehicle for dialogue and mutual learning between developers and users.

2.2.2 User-Centered Design

The human-computer interaction literature has developed an elaborate body of advice, known as user-centered design (UCD) (Maguire 2001), for developers in the packaged software product development context. The objective of the approach is to enhance the usability of systems. For example, contextual design is an anthropological approach in which users are closely observed in the field and questioned about their work practices and goals (Beyer and Holtzblatt 1998; Holtzblatt and Beyer 1993). Developers are urged to form a partnership, a "sense of shared quest" with users, in which designers try to acquire sufficient domain knowledge to build systems that are both useful and usable. Like participatory design, UCD makes the user the center of the design activities.

Unlike traditional IS software development processes, contextual design does not employ formal modeling tools. Pictures are drawn as conversation aids, and users are invited to use

working prototypes in the course of doing their work, providing immediate feedback to developers. In recent years, UCD principles have been incorporated into ISO documents. ISO 13407, for example, advocates active user involvement and iterative design and evaluation. It also specifies common UCD activities and methods by which these activities can be performed (Maguire 2001).

2.2.3 Recap

The literature reviewed in this section is mainly normative and descriptive in purpose, with a practical action orientation. It provides much more procedural guidance to developers. Table 1 compares the traditional IS development approaches with participatory and contextual design approaches.

Several key differences in professional practice stand out. First, traditional approaches emphasize the importance of formal requirements specifications, which must be approved by users and frozen prior to development in the "waterfall" SDLC. In alternative design approaches, the evolutionary nature of requirements is acknowledged, and specification documents are viewed as creating "a wall" between developers and users (Grudin 1991).

Second, the approaches differ in the nature of prescribed communication between developers and users. The use of formal modeling tools in the traditional approaches requires professional training, thus preventing effective and meaningful user involvement, which is a recurring theme in the qualitative IS literature discussed later. By contrast, the alternative approaches minimize the use of formal design aids, preferring to find user-friendly representations of work and the role of systems.

A further difference between the approaches involves the location of development work. In traditional approaches, users are often brought to project team rooms or conference rooms outside their workplace for participation in system development. The alternative approaches generally take place in the users' work areas; in contextual design, observing and understanding the work setting is an important design task.

Perhaps the most important differences concern the goals and nature of system development activity. Alternative approaches seek to achieve systems that contribute to the quality of users' work lives as well as meeting functional requirements. In addition, alternative approaches stress the importance of high-quality relationships between developers and users. To develop high-quality relationships, alternative approaches strongly recommend that users, rather than developers, control the development process.

The observations of the literature on alternative development approaches appear to have much to offer to both theoretical and practical knowledge about user participation. It is important to note, however, that these alternative development approaches arose in development contexts that differ appreciably from the traditional IS development context, in which the factor studies were performed. Therefore, the applicability and validity of the alternative approaches must be, and have not yet been, established in the IS context.

2.3 Participation Is Problematic

A third branch of literature on user participation and involvement consists of qualitative studies of system development and implementation, reflecting positivistic, interpretivist, and critical perspectives. The qualitative literature considers participation as one aspect of the system development and implementation process, which itself exists in a larger

organizational (or, increasingly, interorganizational (Cavaye 1995)) context. Participation or involvement may not be the primary focus of these studies, but their careful descriptions yield important observations about the nature and quality of participation and about the barriers to successful participation.

Table 1. Differences Between Traditional IS Development and Alternative Approaches

	Traditional Approaches	Participatory Design	Contextual Design
Context in which approach originated	In-house custom developed systems for internal users; use may be mandatory (TPS) or discretionary (DSS)	Systems custom developed, sometimes under contract with external developer, often for mandatory use	Software products developed by vendors for external customers; customer adoption is optional, although use by customer's end-users may not be
Control over system design and design process	Analyst led; users' role is largely reactive	Joint ownership and responsibility; users and developers are equal partners	Developer-initiated; developers attempt to foster mutual learning with customers
Objectives of user participation	Primarily functional, to obtain requirements; academic literature emphasizes the affective, motivational benefits of participation (buy-in)	Better fit between technology and organization; enhance users' quality of work life	Enhanced system usefulness and usability
Requirements elicitation process	Traditional SDLC: collected early, usually through interviews, and frozen DSS SDLC: developed iteratively through prototyping JAD: developed during intensive group workshops	Collected in an iterative process via prototyping and interactive experimentation	Collected in an iterative process via observation and interview/ prototyping and interactive experimentation
Where requirement elicitation occurs	Usually project team room	In or near users' workplace	Where the work takes place
Use of formal modeling tools	Extensive use of structured diagrams such as data flow diagrams and modeling languages, implicitly requiring users to learn IT techniques	Low-tech discussion aids	Users encouraged to describe and diagram work in their own language
Procedural guidance for developers on how to foster user participation	Little in academic literature; some guidance in practical development methodologies such as JAD	Literature provides philosophy and principles but little procedural guidance	Literature provides principles; extensive procedural guidance found in ISO documents

2.3.1 The Nature and Quality of Participation

In the literatures previously reviewed, system development is primarily understood as a "rational" activity, the goal of which is a high-quality system that is accepted and used by the intended users. Participation is a means to an end—a process of gaining the information required for system building (Urquhart 2001). By contrast, the qualitative literature often portrays system development as a contested, "political" process (Markus 1983), characterized by negotiations over whose needs are served. Participation is viewed as a context in which power plays are enacted or as a tool (e.g., selection of participants, restrictions on access) by which the outcomes of system development can be controlled (Gasson 1999). It may also be seen as a tactic for shaping the relationships between developers and users (Akkermans and van Helden 2002; Bashein and Markus 1997).

Users are not uniform in their interests, and although much negotiation in system development occurs among users (Davidson 1999; Howcroft and Wilson 2003; Markus 1983), negotiation between users and developers is also rampant (Akkermans and van Helden 2002; Gasson 1999; Maehring 2002; Newman and Noble 1990; Robey et al. 1989). Negotiation between users and developers takes two forms. The first is negotiation over the *object* of system development, that is, the specifications a system must meet and the features it must have. Developers may value system design elegance more highly than users' needs for efficiency (Newman and Noble 1990), or they may have concerns about their ability to implement features that users request (Maehring 2002; Markus and Keil 1994). The second type of negotiation is a contest for control: Who is or should be in charge of the development process? Many system developers believe that control over the design and the system development process is rightfully theirs (Beath and Orlikowski 1994; Urquhart 2001) and consequently may avoid or subvert user participation processes that could weaken their control (Gasson 1999; Newman and Robey 1992).

Developers have considerable expertise-based power (Markus and Bjorn-Andersen 1987; Urquhart 2001). Even well designed processes of user participation in system development may not result in better system designs, as developers may exercise their control and fail to accept users' requirements and incorporate them into the design (Markus and Keil 1994). Users' requirements may be ignored for other reasons, e.g., user requirements may have "a low signal-to-noise ratio" (Keil and Gallivan 2003), certain types of users may not participate (Davidson 1999), or the particular elicitation technique used may not reveal critical requirements (Browne and Rogich 2001; Byrd et al. 1992). In short, participation processes are not always well executed (Cooper 2000; Newman and Noble 1990).

The qualitative literature also offers some intriguing ideas about what is required for participation to succeed. Successful participation may require IS professional credibility, which is more than expertise, but also includes perceived trustworthiness (Bashein and Markus 1997). Successful participation may require a supportive organizational context, such as a common organizational climate (Butler and Fitzgerald 2001) or incentives for users to participate (Cooper 2000). Successful participation may require user control (Byrd et al. 1992). Different participation processes may be necessary for developing different kinds of systems (Markus et al. 2002; Poltrock and Grudin 1994). Participation may need reinforcement through other implementation tactics such as top management support, project team competence, a communication (Akkermans and van Helden 2002). And finally, participation simply may not work in every instance in which it is used (Cooper 2000; Keil and Gallivan 2003).

2.3.2 Barriers to Participation

The qualitative literature also provides useful insights into the barriers to effective participation. Barriers to effective participation can be found in users, in developers and their methods and techniques, and in the organizational context, including relationships between developers and users. Users may lack the technical knowledge that they need to participate effectively (Keil and Gallivan 2003; Newman and Noble 1990), particularly when developers use techniques that users cannot understand (Davidson 1999). Users may defer too much to developers' technical expertise (Bashein and Markus 1997; Davidson 1999). Users may have too many demands on their time (Beynon-Davies et al. 2000), and their managers may not be willing to free them up to participate (Davidson 1999) or to give them appropriate incentives to participate effectively (Cooper 2000). Users may see participation as an obligation rather than a necessity (Iivari and Igbaria 1997).

Barriers to participation may be found in developers' view of their role: They may believe that professional credibility demands that they make all the decisions (Bashein and Markus 1997; Gasson 1999) or that the role of participation is only to gain information they need to build systems (Akkermans and van Helden 2002; Urquhart 2001), not also a way to build relationships with users. Developers may treat users condescendingly (Beath and Orlikowski 1994; Hirschheim and Newman 1991), or inappropriately privilege some users' input over others' (Gasson 1999). The methods and techniques used by developers may not be sufficient to ensure effective participation (Beath and Orlikowski 1994; Byrd et al. 1992; Davidson 1999; Koh and Heng 1996; Markus et al. 2002). And developers may manipulate participation processes to achieve their own ends (Gasson 1999; Newman and Noble 1990).

The organizational context, including prior relationships between developers and users, can also place barriers in the way of effective participation and the adoption of more user-centered methods (Newman and Robey 1992). Developers may not have good access to users because of the organizational (or interorganizational) distance between them (Poltrock and Grudin 1994). The political milieu of the organization and unequal power relations between developers and users may distort and compromise participatory processes (Howcroft and Wilson 2003; Kawalek and Wood-Harper 2002). Corporate constraints may prevent the application of preferred development methods (Smart and Whiting 2001).

2.4 Assessing the Three Literatures

The factor research, the alternative approaches literature, and the qualitative studies are not commensurate on a number of dimensions: goals, philosophical perspectives, methods, and findings. It is not easy to integrate them in a simple way. Nevertheless, they each provide a piece of a puzzle that cries out to be completed. The factor studies tell us that participation matters, but not how participation should be conducted and what change needs to be made in light of changing technological and managerial conditions. The alternative literatures tell us that there are other ways, possibly better ways, to conduct participatory processes. The qualitative studies provide a strong counterpoint to the factor and normative literatures claiming the value of user participation. By contrast, the qualitative studies show that participation is not always done, not always done well, and does not always achieve the desired results. Comparing these literatures suggests the strong need for revitalization of research on user participation. In the next section, we begin the task of identifying directions for future research.

3. Gaps and Directions for Improvement

If the benefits of participation are as great as the factor and normative studies suggest, *despite* the poor practice depicted in the qualitative studies, the potential value of improving participatory practices is great. Fortunately, the literature on alternative approaches to user participation, along with qualitative studies, also provide valuable clues about the barriers to effective participation and what can and should be done to improve the state of practice.

However, the alternative approaches emerged in other development contexts, thus it remains to be proven how well their insights work in today's IS development contexts. The qualitative studies tell us that the state of participatory practice is far lower than the other literatures would lead us to suspect. Although they suggest ways to improve practice, their recommendations should be validated in survey and experimental research.

One important omission from the extant literature is the *developers'* point of view. Why should we care about the developers' point of view? Robey et al. (2001) characterized traditional development as developer-centered, and the hallmark of "developer-centered" approaches is that developers control the process: they hold meetings to elicit requirements and orchestrate walkthroughs. Users participate by providing information, but they do not have responsibility for design and their role is largely peripheral. Therefore, to promote effective user participation, it is more important to focus on the developers' attitude and behavior. To this end, there is also a need to examine how principles of participatory design and user-centered design can be incorporated into IS development.

If we believe that participation increases IS success and other positive outcomes, then we should want to improve the state of practice so that developers will employ participatory development strategies more frequently and more effectively than they currently do. This suggests that we need to understand potential negatives and risks of participation, from developers' point of view, that might discourage developers from employing participatory development strategies. Therefore, more qualitative studies are needed to investigate the process of user participation from the developer's point of view.

More specifically, we suggest several relationships that should be investigated from the developers' point of view. Such research can explain why developers might resist or superficially involve user participation as commonly reported in the qualitative literature. Moreover, in light of the numerous barriers that could hinder effective user participation, it is important to recognize that the effects of user participation on the following outcomes are likely to be negative, as suggested by some limited prior research:

- developers' **perceived control** over the process and the outcomes of system development (Beath and Orlikowski 1994; Gasson 1999)
- developers' **perceptions of system aesthetics** (Keil and Gallivan 2003)
- **project schedule and budget**, because participation takes time, increases conflict with clients or users, and leads to requirements changes (Beynon-Davies et al. 2000; Davidson 1999; Robey et al. 1989).

If these are proven to be true, effective measures need to be found to overcome the barriers before more effective user participation, wider adoption of the practice and greater impact can occur.

Moreover, if developers lack the motivation to involve users and may even have disincentives to involve them, as the extended literature suggests, then we will want to establish a persuasive positive connection between participation and outcomes that matter to developers.

This suggests that we need to construct IS success measures that represent the developers' point of view. Developers are likely to value performance against personally consequential metrics, such as whether the project is terminated prior to completion and whether the clients hold them in esteem.

Given that the evidence of positive participation outcome is well established but there is a lack of procedure guidance in the extant literature, it would be fruitful for future research to focus on investigating conditions, behaviors, and participation processes to identify guiding principles for effective user participation. For example, based on the literature on alternative approaches to participation, along with qualitative studies of participation, we expect that the adoption of principles and guidelines given in the alternative approaches could help alleviate problems identified by the qualitative studies reviewed earlier. Therefore, it would be beneficial to investigate if the quality of participation can be greater when:

- developers have a **genuine desire** to satisfy users' needs (Bloom and Chung 2001)
- developers do not **manipulate** the participation process to achieve their own ends (Hirschheim and Newman 1991; Kawalek and Wood-Harper 2002)
- developers incorporate **users' input** into system design (Gasson 1999; Keil and Gallivan 2003)
- developers have **good communication skills** (Bashein and Markus 1997; Bloom and Chung 2001)
- developers **avoid condescending** attitudes toward users (Beath and Orlikowski 1994) or relying too heavily on their expertise (Bashein and Markus 1997)
- **the right participants** are selected and actually participate (Keil and Carmel 1995)
- users have incentives **for effective participation** (Cooper 2000)
- users have a real **opportunity to shape** system design (Hunton and Beeler 1997; Saleem 1996)
- users have the **time to participate** effectively (Beynon-Davies et al. 2000)
- participation occurs **throughout the development process** rather than just in limited phases (Bloom and Chung 2001; Cavaye 1995; Grudin 1991; McKeen and Guimaraes 1997)
- participation strategies are used that **reduce the amount of time and/or specialized knowledge required of users** while maintaining quality of input (Davidson 1999; Newman and Noble 1990)
- participation occurs in conjunction with **related supportive critical success factors** such as top management support (Akkermans and van Helden 2002; Alavi and Joachimsthaler 1992)
- participation **follows the guidelines** proposed by the alternative development literatures (Beyer and Holtzblatt 1998), specifically as regards to:
  - the **goals** of participation (e.g., enhance users' quality of working lives as well as meeting requirements)
  - the **locus** of participation (e.g., the users' workplace)
  - **Avoidance** of technical jargon and formal modeling approaches
  - employment of **iterative development and prototyping**
  - **control**, that is a user-led process
- **better requirements elicitation methods** are used (Browne and Rogich 2001; Byrd et al. 1992)

Since most of the above expectations are drawn from the normative literature and a small number of qualitative studies, more future research is needed to test these expectations. Both

factor research and additional qualitative studies should be conducted on the process of user participation.

Lastly, changing historical circumstances also call for a new look at many aspects of the phenomenon of user participation. While user participation practice should vary according to development context (Grudin, 1991), our extensive literature search has identified few studies of participation in the contexts of contemporary systems of strategic concerns including enterprise resource planning (ERP) systems (e.g, Akkermans and van Helden 2002; Kawalek and Wood-Harper 2002), knowledge management systems, and electronic commerce applications based on the Internet (e.g., Beynon-Davies et al. 2000). These systems are significantly different from earlier transaction processing systems and decision support systems. For example, an ERP project has a distinct implementation path than those traditional systems in system selection, planning, implementation, adoption, participants, and scope of organizational impact. Electronic commerce applications are usually for a large amount external users, who can make a switch to competitors with a single mouse click. As a result, these applications must have high usability in addition to desirable functionality. These new contexts introduce new issues and perspectives to the study of user participation, such as new types of participants, activities, and relationships.

4. Concluding Remarks

In this paper, we juxtaposed the survey and experimental literature on the relationship between user participation and IS success with two related literatures. All things considered, the factor and normative literatures have shown convincing evidence of the value of user participation. By contrast, the qualitative studies provide a strong counterpoint that participation is not always done well, and does not always achieve the desired results. The good news is that, if the benefits of participation are as great as the factor and normative studies suggest, despite the poor practice depicted in the qualitative studies, the potential value of improving participatory practices is great. Fortunately, the literature on alternative approaches to user participation, along with qualitative studies, also provide valuable clues about the barriers to effective participation and what can and should be done to improve the state of practice.

Our review of the literature identified some gaps and opportunities for a revitalized approach to this perennially important topic. Whereas certain principles of the alternative approaches are appealing, their applicability and validity must be established in the IS context. We believe that much more additional research is needed to investigate participation from developers' perspective, participation processes with procedural guidance, and necessary adaptations to be made to participation practice in light of the new information system development contexts. Our hope is that this work will motivate others to contribute to the effort and provide them a sound basis from which to do so.

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