Does Organizational Identification Lead to Information System Success?

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Abstract: Research on organizational identification (OI) has increased dramatically in the various fields during the past decade, but little is known about OI in the area of information systems (IS). This study explores the effect of OI on perceived usefulness and end-user satisfaction as a precedence of IS success at the individual level. A total of 135 useful responses were analyzed by using the partial least squares method. Our results supported the hypothesized relationships: namely, that OI was positively related to satisfaction and perceived usefulness. The results call for managers to pay attention to the importance of OI during the implementation and post-implementation phases of an IS.

Key words: Organizational Identification · Information Systems · Information System Success · Satisfaction · Perceived usefulness

INTRODUCTION

There is a full body of literature exploring the factors that enhance information system (IS) success [1, 2, 3]. Little attention has been paid to individual behaviour and characteristics, in spite of their potential impact on effectiveness. Most systems fall short of meeting the objectives and goals defined for them, not because of technical issues, but because of the organisational and psychological aspects that are not given direct attention during the implementation and post-implementation phases of the IS [4, 5]. Lack of commitment and support from users is one of the key factors in the failure of an IS [6]. In addition to implementing an information system successfully, it is also essential to make sure that users are both willing and able to use the new system. A number of scholars have revealed strong associations between the intention to use or actual use of an IS and user satisfaction [7, 8].

Therefore, user satisfaction is one of the measures extensively used to measure the success of an IS [1]. To enhance user satisfaction, realizing the antecedents of user satisfaction or the factors that influence the creation of user satisfaction is critical for organizations during and after the implementation of an IS [9]. Previous studies have attempted to capture the antecedent factors which influence IS user satisfaction [10, 11]. Despite this, understanding the effect of organizational identification (OI) in IS success has yet to be determined.

As organizations become more complex and boundary-less, attention to investigating OI has grown considerably because OI is an approach to describe the relationship between individuals and the organization they work for. Moreover, OI has important implications for organizations and is viewed as a means for providing consistency and as a key element of organizational success [12, 13]. Specifically, OI has been found to be positively linked with performance, employees' job attitudes and satisfaction [14, 15].

Since the impact on end-users is one of the important dimensions in IS satisfaction, in this study we focus on investigating individual perceptions and attitudes of IS success. Therefore, this study asks: How the concept of OI affects IS success? To the best of our knowledge, no prior study has looked at OI as an antecedent of IS success.

Theoretical Background and Research Model: The theoretical model supporting this study is presented in Figure 1, suggesting that OI has a positive effect on user satisfaction and perceived usefulness. The following sections elaborate on the constructs in the model and the proposed relationships between them.

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IS Success: Investing in the implementation of a new enterprise system or updating an existing one is not a simple undertaking for any businesses because of the high costs. Similar to any investment, the outcome of an information technology investment should be based on careful deliberation, evaluation and analysis and as such, organizations want to know if their investments will yield a profit as a key for their future success. Consequently, IS success has been an important topic in the field of IS. A number of scholars have attempted to explain how IS success occurs in an organization [1, 16, 3].

According to Delone and McLean (2003) [1], the taxonomy IS success consists of six factors; namely, system quality, information quality, user satisfaction, information use, organisational impact and individual impact. These dimensions fit into both socio-technical and organizational perspectives of an IS [17, 18]. One of the major criticisms of the organizational perspective is that it ignores the human aspect and focuses only on the quality of the interface and the information provided by an IS to support the workers in accomplishing their tasks. In contrast, the socio-technical viewpoint focuses on individual needs.

User satisfaction has been a central concept of interest, in behavioural IS research, to evaluate IS success and foresee user behavioural intention [9, 19, 20]. In addition, Myers (1994) [21] explained that IS success can be achieved when an information system is perceived to be successful by users. User satisfaction has continued to be an important topic for IS researchers [20, 19]. A review of factors that affected user satisfaction in prior studies can be found in the study by Au *et al.* [9]. These factors, such as relationships between user satisfaction and training [22] and user participation [23] and personality (including moods), continue to be popular in many studies [24]. However, not all possible factors have been identified in the prior studies.

User satisfaction can be generally grouped into three major dimensions: information quality, staff and services and user involvement [25]. Baroudi and Orlikowski (1988) [25] defined measures of information quality as accuracy, completeness, relevance, currency, timeliness, security, reliability, documentation and format. Measures of staff and services consist of staff attitude, level of support, relationships, training, ease of access and communication. Lastly, measures of user involvement consist of user training, user understanding and participation. Furthermore, user participation, top management support and organization support are also

suggested as elements of IS user satisfaction [26, 27, 28]. The impact on end-users is one important element that should be embraced in any aspect of IS success.

In this study, we focused on exploring individual perceptions and attitudes of IS success; therefore, we needed to look at the antecedents of success at the individual level. We employ user satisfaction (end-users' overall affective and cognitive assessment of their fulfilment when using IS) and perceived usefulness, which is an indicator of individual performance when using an IS [1] as measures of IS success. In addition, these two IS success measures are related to several concepts at the individual level, such as task performance, improved individual productivity and individual impact [16], which makes the concept specifically related to users.

Organizational Identification: Organizational identification appeared very early in the development of organizational science as a root concept in organizational studies. For example, Taylor [29] argued that the interests of individuals and organizations should be in the form of close personal collaboration between the management and the men. Furthermore, Hall *et al.* [30] defined organizational identification as the individual notion of becoming integrated with the organization by assimilating organizational values and goals into one's own identity.

The definition of OI for this argument is derived from social identity theory (SIT) [31, 32]. SIT suggests that individuals need to simplify the social world by categorizing and assigning themselves to be a member of a particular group and classifying themselves into a perceived organization. The first researchers to represent OI from SIT were Ashforth and Mael [33]. They defined OI as the psychological attachment between an individual and his or her work organization in which individuals perceive that they are psychologically interlaced with the outcome of their organization. Other authors have defined OI as an alignment of individual and organizational values [34]. These definitions describe the main idea of OI, which is the relationship between the individual and the organization and the identification of oneself in relation to the characteristics of the organization.

Organizational Identification and IS Success: Interest in OI has recently grown noticeably because of the positive effects that it has been shown to have on various work outcomes [35, 36, 15]. Part of this attraction has been the broad range of organizational outcomes linking
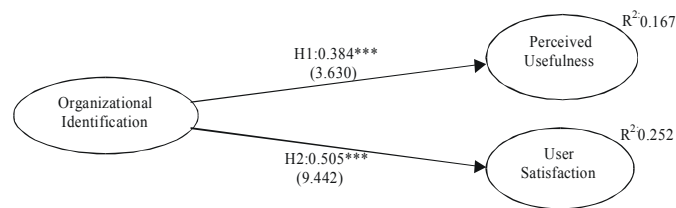
Fig. 1: Significant path coefficient in the model

identification with organizationally relevant targets. In particular, OI has been found to be positively linked to performance and negatively related to turnover [37-14]. OI is perceived by employees to be stable or continuing despite objective changes in the organizational environment [42]; therefore, it positively affects employees' job attitudes and perceptions of their work environment [15]. In addition OI can affect both the satisfaction and behaviour of employees and the effectiveness of the organization [42-46]. Millward and Postmes [12] claimed that OI has a positive impact on organization's financial benefit. Therefore, OI can no longer be a metaphor for realizing organizational life.

Employees with high organizational identification share the organization's goals and therefore are more motivated to work hard to accomplish these goals [47, 48], so we believe that OI can lead system users to adopt the interests and goals of the organization as their own interest and that the more IS users identify themselves with an organization, the more their attitudes, behaviours and actions tend towards accepting and using the new IT artefact; this perception enhances their IS satisfaction. This leads to the following hypotheses:

Hypothesis 1: Organizational identification is positively related to system users' perceived usefulness.

Hypothesis 2: Organizational identification is positively related to system users' satisfaction.

Research Methodology: The target population of this research is an Iranian manufacturing company that recently implemented an enterprise system. First, the firm was identified; second, we asked senior managers of the firms to participate in this study when visiting the firms; third, questionnaires in hard-copy format were distributed to staff. The sector in which the company operates is characterized by aggressive competition, leading to a high increase in the acquisition of IS.

A survey questionnaire was designed to collect data from samples. A total of 220 questionnaires were

distributed, of which 164 were collected and 135 were valid for analysis. This sample size is enough for structural equation modelling [49]. The items in the questionnaire were adapted from previous studies. All items were measured using a 7 point scale from a range of "strongly disagree" to "strongly agree". The measurements for OI were adapted from Smidts *et al.* [50], the measurements for perceived usefulness were adapted from Rai *et al.* [16] and the measurements for satisfaction were adapted from Raymond [51]. Table 1 shows the demographic variables of the respondents.

RESULTS

The structural equation modelling approach was used to validate our research model. To perform the analysis, partial least squares (PLS) was employed. PLS offers several strengths according to Chin [52]: it places the least demands on measurement scales; it is appropriate for conditions with little theoretical development; it prevents identification problems of recursive models; it prevents factor indeterminacy problems; it makes no assumptions about the data; it assumes the errors are uncorrelated; there is no need for specific distributions for measured variables; and it works well with small samples. Data analysis was carried out in two steps. First, confirmatory factor analysis (CFA) was conducted to validate the measurements (Table 2). Second, the path coefficient in the research model was assessed through the structural equation model. Chin (1998) recommends testing the significance of each path coefficient using t-tests; to do this, we employed bootstrapping (with 300 sub-samples). Figure 1 shows the results of this analysis.

PLS can test the convergent and discriminant validity of the scales. Table 2 shows the factor loadings of the measurement items, composite reliability, AVE and Cronbach's Alpha. The factor loadings of all items exceed the recommended level, with 0.60 representing convergent validity and all t-values are also greater than 1.96 [53]. We checked two measures of reliability: composite reliability and Cronbach's Alpha.

Table 1: Characteristics of the respondents

Measure	Categories	Frequency	Percent
Gender	Male	95	70.3
	Female	40	29.7
Age	Below 30 years old Between	35	25.9
	Between 31-40 years old	57	42.3
	41-50 years old	33	24.4
	Over 50 years old	10	7.4
Education	Diploma	33	24.5
	Undergraduate	76	56.3
	Postgraduate	26	19.2
Employment with the Company	Less than 5 years	23	17.0
	5-10 years	64	47.6
	More than 10 years	48	35.5

Table 2: Result of reliability

Construct	Items	Factor Loading	Composite Reliability	AVE	Cronbach Alpha
Organizational Identification	OI1	0.869	0.909	0.669	0.876
	OI2	0.848			
	OI3	0.745			
	OI4	0.737			
	OI5	0.786			
Perceived Usefulness	PU1	0.756	0.898	0.689	0.863
	PU2	0.865			
	PU3	0.853			
	PU4	0.842			
Satisfaction	SAT1	0.783	0.916	0.678	0.888
	SAT2	0.889			
	SAT3	0.773			
	SAT4	0.817			
	SAT5	0.873			

As shown in Table 2, our scales had Cronbach's Alpha and composite reliability exceeding 0.80, demonstrating adequate reliability. To test for convergent validity we used Fornell and Larcker's [54] assessment criteria: factor loadings of all items should be significant and surpass 0.7 and the average variance extracted for each construct should surpass 0.5.

DISSCUSION

The aim of the present study was to expand current research on IS and the underlying mechanisms of organizational identification in IS success. In particular, the study was focused on how OI affects end-user satisfaction and perceived usefulness. Based on the results of our PLS analysis (Figure 1), OI is positively associated with satisfaction (path = 0.505, $p < 0.001$) and perceived usefulness (path = 0.384, $p < 0.001$). These results were consistent with findings in the organizational and management literature; therefore, hypotheses 1 and 2 are supported.

This study proposed an important contribution to the IS literature. First, the proposed model suggests that the organizational identity positively influences system users' perception of the organizational objectives and their attitudinal support for the objectives. Second, the supportive and helping behaviours of the system users have a very significant impact on IS success. A high level of OI among the system users creates more positive perceptions, particularly their perception of usefulness of the system. Thus, managers need to observe and listen to system users if there are warning signs. In the form of low levels of OI, for example, corrective actions should be taken. Therefore, managers should persistently use practices and focus on expressing the central values and goals of the organization to the system users to create high levels of identification, which leads to IS success.

CONCLUSION

Research on OI has increased dramatically in various fields during the past decade, yet little is known about OI in IS. This paper has begun to identify the consequences of OI in the context of IS. To achieve this purpose, this study merges different or commonly disparate theoretical frameworks. The current research model is based on two dimensions from the DeLone and McLean (2003) model; namely, user satisfaction and perceived usefulness as measures of IS success and OI.

Furthermore, the study revealed the impact of organizational identification on users' perceived usefulness and satisfaction. As IS users identify more strongly with the organization, their attitude is more positive toward accepting and using the new IS. This result is consistent with other studies that found a positive association between OI and employees' behaviours and beliefs [33, 45, 47]. In addition, IS users' who support the organization in their behaviours will identify themselves more with the organization. This suggests that IS users gain intrinsic satisfaction when they realize that they are making a behavioural contribution to the organizational objectives.

The main reason for an organization's existence is the achievement of their objectives such as using a newly implemented IS to get competitive advantages in the marketplace among competitors. To stimulate IS users to work towards the goals and objectives of the organization, the organizational values and objectives should be more than a sign on the wall. Managers should continuously use practices which focus on the organizational objectives and create high levels of OI among IS users.

The study has demonstrated the centrality of OI as a positive influence on IS users' satisfaction and perceptions of usefulness. It is important in closing to underscore the significance of this study as we investigate the extent to which OI affects user satisfaction and perceived usefulness and we extend prior research on IS success by describing the effect of OI in IS.

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