

Recruiters' Intention to Adopt Social Information Systems

Completed Research Paper

Jaffar Ahmad Alalwan

Institute of Public Administration, Dammam, Saudi Arabia
alwanj@ipa.edu.sa

Abstract

Social information systems are widely used by many human resources (HR) departments; however, research on HR in the context of social information systems is limited especially from the recruiters' perspective. Therefore, the objective of this paper is to investigate the recruiters' intention to adopt social information systems. To achieve this goal, institutional theory and innovation adoption literature are adopted to propose a model and suggest seven hypotheses. A survey with a random sample of Saudi Arabian organizations is used to examine the proposed hypotheses, and a PLS structural equation modelling tool is used to analyse the research model. The findings confirm that mimetic pressures, coercive pressures, relative advantage, and top management support have positive influence, while complexity has negative influence, on the intention to adopt social information systems in HR departments. Also, the findings show that normative pressures and compatibility do not have statistical influence on the intention to adopt social information systems.

Keywords

Social information systems, institutional theory, innovation adoption.

Introduction

Social information systems, such as Face book, Twitter, LinkedIn, and MySpace, are widely used among web users. As shown by Alexa database (AlexaInternet Inc., 2011), the number of social information systems users is exponentially growing. Social information systems are based on social technologies, or web 2.0 technologies, which include blogs, wiki, social networking, multimedia sharing, really simple syndication (RSS), and widgets (Kane and Fichman, 2009). Social information systems has several features such as sociality (i.e. social interaction), openness (i.e. unlimited number of users), and accessible content to all participants (Schlagwein et al., 2011). Because they have been utilized in different domains, social information systems have different names such as social networking, social collaboration, social commerce, and crowd-sourcing.

Literature shows that social information systems are used to support different organizational processes such as production and marketing processes. In production process, the development of new products can be outsourced (i.e. crowd-sourcing) to communities and external contributors (Ågerfalk and Fitzgerald, 2008). For example, Grewal et al. (2006) argue that the success of open source development project is affected by the embeddedness of an open source project to another open source project. In marketing process, social commerce can be used to track the online reputation of the firm (Berinato, 2010). Social information systems are also used to support human resources (HR) functions. The use of social information systems in HR context can be viewed from two perspectives: jobseekers' perspective and recruiters' perspective. Recruiters use social information systems to advertise job openings, and collect information about job candidates (National Association of Colleges and Employers, 2008). Also, social information systems are used by jobseekers to upload their job qualification and application information. Jobseekers will also be updated about job vacancies as soon as they are posted.

Although social information systems are used by many HR departments, research on HR in the context of social information systems is limited specially from the recruiters' perspective. In addition, literature

shows the need for more research in the domain of social information systems. In fact, there is a need for new theoretical foundations that are capable of explaining social phenomenon and openness (Schlagwein et al., 2011, Dahlander and Gann 2010). Therefore, the objective of this paper is to investigate the recruiters' intention to adopt social information systems. To achieve this goal, institutional theory and innovation adoption literature are adopted to propose a model and suggest several hypotheses. A PLS structural equation modelling tool is used to analyse the research model. The paper contributes to research as well as to practice. This paper is a step toward filling the gap that is highlighted by several researchers such as Schlagwein et al. (2011), and Dahlander and Gann (2010) where they elucidate the need for new theoretical foundations that are capable of explaining social phenomenon and openness. Therefore, the findings contributes to research by developing and validating a model that explains the recruiters' intention to adopt social information systems. The findings also specifies to practitioners the antecedent factors of the intention to adopt social information systems.

This paper is organised in six sections. After the introduction, human resources and social information systems are discussed in section 2. We discuss the theoretical background and the proposed model in section 3. Then the methodology is discussed in section 4, and the results of the model analysis are presented in section 5. Finally, we conclude the paper by summarizing the findings in Section 6.

Human Resources and Social Information Systems

In the past, the departments of HR were viewed as administrative business support function, but now HR departments are viewed as business partner that can achieve sustainable value (Ulrich, 1997). The main HR functions are: planning, management, development, and administration; the first three functions have iterative process as shown in figure 1 (Bohlander and Snell, 2007; Holtbrügge, 2010). HR Planning function includes personnel planning process, and assessment of personnel demand. HR management function involves recruiting, and compensation processes. HR development function deals with training, performance evaluation, and talent management. HR administration function has the payroll and controlling processes (ibid). Traditional human resources information systems (HRIS) are used to manage HR functions. HRIS, which are considered the “backbone of contemporary HRM function” (Hendrickson 2003), are used to acquire, process, analyze, store, and retrieve human resources' information. The adoption of HRIS is already discussed in literature. In a study of HRIS in Singapore, Teo et al. (2007) find that compatibility, top management support, departmental relative advantage, organization size, and HRIS expertise have significant relationship with the adoption of HRIS.

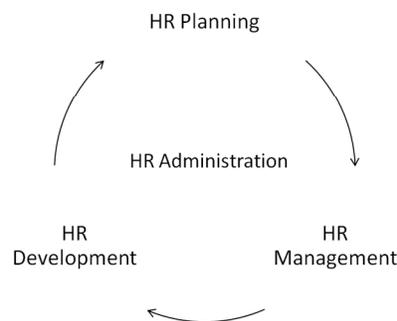


Figure 1. Main HR functions (adapted from Bohlander and Snell, 2007; Holtbrügge, 2010)

Recently, social information systems have been introduced to HR departments to patronize recruiting and staffing processes. The introduction of web 2.0 in organizations has significantly changed the HR functions (Strohmeier, 2007). For instance, Facebook, LinkedIn, and Twitter become the daily tools for HR employees to attract and recruit jobseekers, who most of them are regular patrons of social networking sites, and spend most of their times online via mobile internet phones (Laumer et al., 2010). Based on a Delphi-methodology, a study found that the introduction of web 2.0 technologies into the HR function is one of the most important external trends as rated by 144 HR managers from Fortune 1,000 organizations (ibid).

Although social information systems are significantly important to many HR departments, research on HR in the context of social information systems is limited from both the jobseeker's and the recruiters' perspectives. From the jobseekers' perspective, Plummer et al. (2011) propose and test a model that explains the intentions of jobseekers to apply for jobs by using social networking based on the literature of online consumer behavior. The study finds that the following factors have a significant effect on jobseekers' intentions to apply for jobs using SNSs: trusting beliefs (or perceived justice), privacy concerns, risk beliefs, performance expectancy, and the information that illustrates social network connections between jobseekers and potential employers. In a survey study of Irish users of social networking sites, Leahy and Broin (2009) examined the use of social networking sites by jobseekers that have visual impairment to explore whether there is full access and social inclusion. The respondents recognize that they are excluded from job opportunities as well as from making relationships with others.

From the recruiters' perspective, research on social information systems in the context of HR is almost absent. Therefore, the objective of this paper is to fill this gap by investigating the recruiters' intention to adopt social information systems based on the institutional theory and the innovation adoption literature. Also, this paper can be a step toward filling the gap that is highlighted by several researchers such as Schlagwein et al. (2011), and Dahlander and Gann (2010) where they elucidate the need for new theoretical foundations that are capable of explaining social phenomenon and openness.

Theoretical Background

Based on the institutional theory, the institutional environment of organizations is represented by the social conceptions of appropriate organizational forms and behaviors (Teo et al., 2003). When organizations compete for resources, organizations face pressures to adapt to these forms and behaviors, since violating them may break the organization's legitimacy and hence influence its capability to secure resources and social support (Tolbert, 1985). Therefore, pressures that HR department in one organization face can be described as isomorphic, and can be classified into three types: mimetic pressures that arise from competitors, coercive pressures that originate from the jobseekers, and normative pressures that initiate from the employees. Figure 2 depicts the three types of pressures.

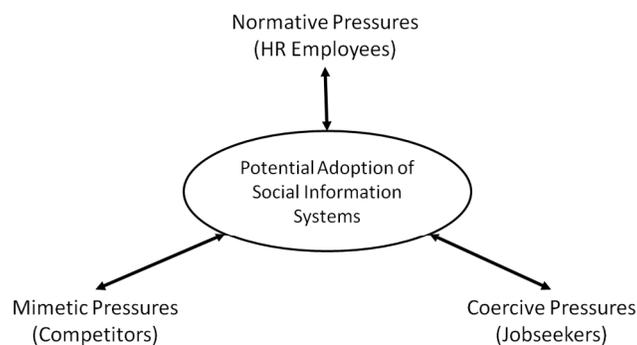


Figure 2. Types of pressures that face HR departments

An organization will emulate the actions of other structurally equivalent organizations because they compete for similar resources, share similar goals, and experience similar constraints (Burt, 1987). Mimetic pressures are evident in many studies that investigate the adoption of new techniques or practices (Teo et al., 2003; Khalifa and Davison, 2006). If competitors use social information systems to attract talented employees, mimetic pressures will probably force other firms to adopt similar social information systems. Since the use of social information systems to interact with jobseekers in many HR departments is increasing, it is highly possible that potential adopters of social information systems will be influenced by mimetic pressures. Therefore, we hypothesise the following:

H1: greater mimetic pressures from competitors will lead to greater intent to adopt social information system

Coercive pressures are exerted by firms or entities that have dependence resource relationship with the beneficiary organizations (DiMaggio and Powell, 1983). In this paper, jobseekers that use social

information systems have this relationship with the potential adopters of social information systems. The coercive pressure from jobseekers can be significant because most of them are regular patrons of social networking sites, and spend most of their times online via mobile internet phones (Laumer et al., 2010). Therefore, it is highly expected that potential adopters of social information systems will be influenced by coercive pressures.

H2: greater coercive pressures from jobseekers will lead to greater intent to adopt social information system

Normative pressures are represented by the internal pressures from employees. Organization employees can informally share norms with employees of other organizations while they communicate in cyberspace or in the actual life (Teo et al., 2003; Khalifa and Davison, 2006). Normative pressures can be exerted from these employees on their organizations to adopt a new practice or technology such as social information systems. These employees exert normative pressures because they do not want to be viewed as working for an organization that is technologically and socially less than other organization that socializes with jobseekers through social networking sites. This negative view may influence their future decision when these employees think of quitting their current jobs and find better ones. Therefore, it is likely that potential adopters of social information systems will be influenced by normative pressures.

H3: greater normative pressures from employees will lead to greater intent to adopt social information system

Innovation characteristics are factors that describe innovation and affect the rate of adoption such as relative advantage, complexity, and compatibility (Rogers, 1995). In previous studies, relative advantage has been found an important factor that influence adoption (Premkumar and Roberts, 1999; Jeon et al., 2006). Relative advantage can be described by the benefits of the adopted technology such as cost reduction, and time savings. Social information systems have benefits for HR management function as well as for HR development function. In HR management function, relative advantage of adopting social information systems can be the sociality and openness in communicating with jobseekers (Schlagwein et al., 2011), which facilitate finding the right candidates for the right jobs. In HR development function, social networking sites can be used to build strong bonds, and encourage information sharing among employees in the same organization (DiMicco et al., 2008). Hence, the adoption of social information systems can be influenced by the relative advantages.

H4: greater relative advantages of social information system will lead to greater intent to adoption

Complexity is the perceived degree of difficulty to use and understand the innovation (Rogers, 1995). Previous studies have recognized complexity as an inhibitor to adoption (Grover, 1993). Complexity is usually negatively related to adoption since it increases the risk of innovation adoption (ibid). The influence of complexity on adoption has been studied in previous studies such as (Ramamurthy et al., 2008; Grover, 1993). If the social information systems are perceived complex to use or understand, the adoption of the social information systems will be negatively influenced.

H5: greater perceived complexity of social information system will lead to less intent to adoption

Compatibility is the degree to which the innovation is perceived as being consistent with the current values, past experience, and the needs of the potential adopters (Rogers, 1995). The influence of compatibility on IS adoption has been verified in previous studies such as (Chen, 2003; Kendall et al., 2001; Menachemi et al., 2004). Therefore, it is likely that the consistency of social information systems with the existing IS architecture and platform will positively influence the adoption of social information systems.

H6: greater compatibility of social information system will lead to greater intention to adoption

Top management support is one of the organizational factors that has an influence in the IT adoption (Ngai and Gunasekaran, 2004; Ramamurthy et al., 2008). Top management support is required to provide adequate resources and supportive climate for the implementation process. Top management support can also increase the employee's satisfaction which will in turn reduce organizational resistance, and facilitate the IT adoption (Meyer and Smith, 2000). Hence, we believe that the potential adoption of social information systems will be influenced by the extent of top management support.

H7: greater the extent of top management support will lead to greater intention to adoption

Figure 3 shows the research model and the proposed hypotheses.

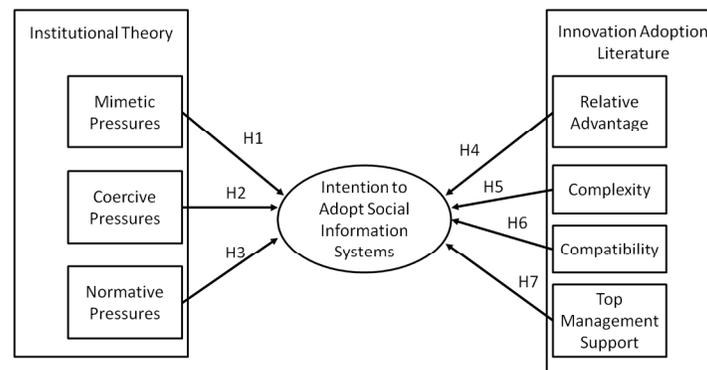


Figure 3. Research model

Methodology

To examine the proposed hypotheses, we conducted a survey with a random sample of Saudi Arabian organizations that have adopted social information systems in their human resources departments. A large research institution has provided us with a list of potential participants. From this list, a random sample of 500 organizations has been invited to participate in the survey. In the pilot phase, we asked 3 HR experts to evaluate the usability and the language of the survey. Based on their feedback, the survey was slightly modified. In the collection phase, we received 54 responses; 33 of these were usable. We tested the non-response bias based on Armstrong & Overton (1977), who suggest that the characteristics of early and late respondents are alike. T-tests show no significant differences between early and late respondents. Table 1 shows the descriptive statistics of the participants.

Measure	Value	Frequency	Percentage
Service Sector	Banking	5	15%
	Retailing	6	18%
	Food Companies	6	18%
	Telecomm. Companies	2	6%
	Others	14	42%
Number of Employees	<100	11	33%
	100-300	14	42%
	300-500	5	15%
	>500	3	9%
Degree of experience of using social information systems	< 1 year	4	12%
	1-3 years	8	24%
	3-5 years	9	27%
	> 5 years	12	36%

Table 1. Descriptive statistics of the participants

The survey questionnaire consists of questions taken from other studies. Intention to adopt social information systems indicators are based on Teo et al. (2003); mimetic pressures, coercive pressures, and normative pressures indicators are taken from Khalifa and Davison, (2006); relative advantage,

complexity, compatibility, and top management support indicators are adopted from Thompson et al. (2007). The constructs used in the survey can be provided upon request. A five point Likert scale, where 1= strongly disagree and 5 = strongly agree, is used in the survey. The proposed research model is analysed by using a PLS structural equation modelling tool, which evaluates the psychometric properties of the measurement model and estimates the parameters of the structural model (Chin, 1998).

Results

The results of the measurement model and the structural model are discussed in the following subsections.

The Measurement Model

Reliability results are shown in Table 2. As indicated by the composite reliability, the measures of the internal consistency reliability are robust because the values exceed the recommended threshold value of 0.70 (Nunnally, 1978). In addition, the average variance extracted (AVE) for each measure exceeds 0.50, which is consistent with the recommendations of Fornell and Larcker (1981).

Variable constructs	The composite reliability (internal consistency reliability)	Average variance extracted/explained
Intention to adopt social information systems	0.91	0.76
Top management support	0.90	0.68
Relative advantage	0.95	0.74
Mimetic pressures	0.81	0.60
Normative pressures	0.85	0.66
Coercive pressures	0.88	0.70
Complexity	0.90	0.70
Compatibility	0.85	0.60

Table 2. Reliability Results

The discriminant validity of the variable constructs is reported in Table 3. The discriminant validity means that the construct is different from other constructs. The square roots of the AVEs, which are the numbers in the matrix diagonal, are greater than the off-diagonal elements in all rows and columns. This result, which matches the recommendation of Hair et al. (2006), supports the discriminant validity of the scale used.

Latent variables	1	2	3	4	5	6	7	8
Intention to adopt social information systems	0.87							
Top management support	0.66	0.83						
Relative advantage	0.79	0.68	0.86					
Mimetic pressures	0.60	0.34	0.53	0.77				
Normative pressures	0.28	0.30	0.31	0.25	0.81			
Coercive pressures	0.77	0.49	0.69	0.43	0.25	0.84		

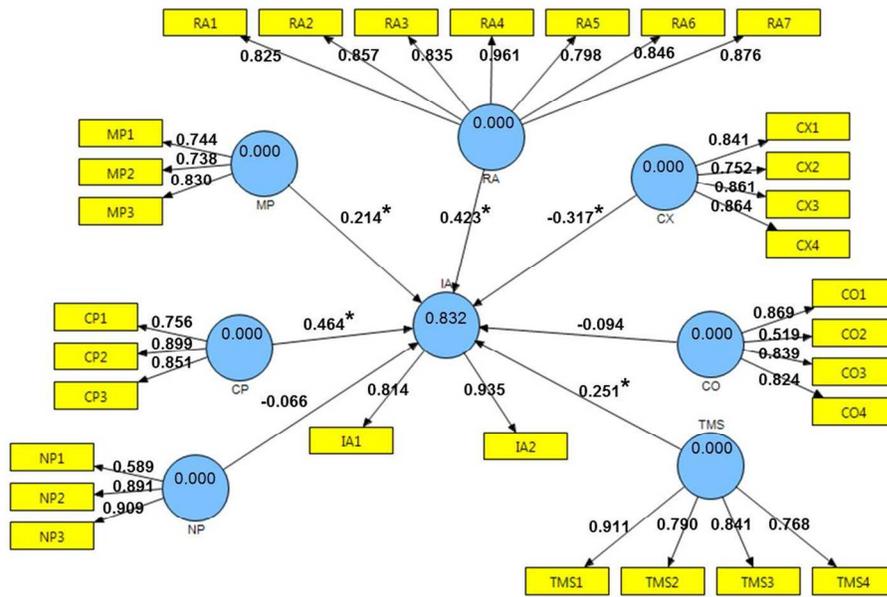
Complexity	0.55	0.53	0.76	0.41	0.16	0.68	0.84	
Compatibility	-0.38	-0.13	-0.30	-0.32	-0.20	-0.31	-0.22	0.78

Table 3. The discriminant validity results

We have extracted the factor loading and the cross loadings of the variables in order to test the convergent validity. The factor loadings and the cross loadings are shown in the Appendix. All factor loadings on their assigned latent variables are higher than their cross loadings on all other latent variables. In addition, the T-statistics of the outer model loadings range from a low value of 2 to a high value of 53, which demonstrates that each item's factor loading is highly significant. In summary, the results of the validity and reliability tests are satisfactory.

The Structural Model

The path coefficients and significance of each hypothesis and the variance explained (R2) are shown in Figure 2. The beta path coefficients of mimetic pressures (beta = 0.21), coercive pressures (beta = 0.46), relative advantage (beta = 0.42), and top management support (beta = 0.25) are positive and statistically significant at P < 0.05. Therefore, these variables have positive influence on the intention to adopt social information systems. However, the beta path coefficients of complexity (beta = -0.31) is negative and statistically significant at P < 0.05, which means complexity has negative influence on intention to adopt social information systems. On the other hand, the beta path coefficients of normative pressures and compatibility are not statistically significant at P < 0.05. Also, the model explains 83.2% of the variance in intention to adopt social information systems.



*Significant at P < 0.05

Figure 4. The structural model

Conclusion

Social information systems are used by many HR departments to support different organizational processes such as production and marketing processes. However, research on HR in the context of social

information systems is limited especially from the recruiters' perspective. The objective of this paper is to investigate the recruiters' intention to adopt social information systems. We have proposed a model based on the institutional theory and the innovation adoption literature, and the model is tested by using a PLS structural equation modelling tool. The findings confirm that mimetic pressures, coercive pressures, relative advantage, and top management support have positive influence, while complexity has negative influence, on the intention to adopt social information systems in HR departments. Also, the findings show that normative pressures and compatibility do not have statistical influence on the intention to adopt social information systems.

This paper has theoretical as well as practical contributions. The paper contributes to research by developing and validating a model that explains the recruiters' intention to adopt social information systems. Therefore, this paper is step toward filling the gap that is highlighted by several researchers such as Schlagwein et al. (2011), and Dahlander and Gann (2010) where they elucidate the need for new theoretical foundations that are capable of explaining social phenomenon and openness. Moreover, the findings specifies to practitioners the antecedent factors of the intention to adopt social information systems by confirming that mimetic pressures, coercive pressures, complexity, relative advantage, and top management support can affect the intention to adopt social information systems in HR departments. Finally, it is important to note that the findings of this study are based on data from one county. Therefore, caution needs to be taken when generalizing the findings beyond the context of this study.

References

- Ågerfalk, P.J., and Fitzgerald, B. 2008. "Outsourcing to an Unknown Workforce: Exploring Opensourcing as a Global Sourcing Strategy," *MIS Quarterly* (32:2), pp. 385-409
- Alexa Internet Inc. 2011 "Alexa, the Web Information Company" Retrieved from <http://www.alexa.com/>
- Armstrong, J. S. & Overton, T. S. (1977) Estimating nonresponse bias in mail surveys, *Journal of Marketing Research*, 14(3), 396-402
- Berinato, S. 2010. "Six Ways to Find Value in Twitter's Noise," *Harvard Business Review* (88:6), pp. 34-35
- Bohlander, George, and Scott Snell. 2007. *Managing Human Resources*, 14th ed. Mason, Ohio: Thomson South-Western
- Burt, R. S. "Social Contagion and Innovation: Cohesion Versus Structural Equivalence." *American Journal of Sociology* (92:6), 1987, pp.1287-1335
- Chen, M2003, 'Factors affecting the adoption and diffusion of XML and web services standards for E-business systems', *International Journal Human-Computer Studies*, vol. 58, no. 3, pp. 259-79
- Chin W. W. (1998) Issues and opinion on structural equation modelling, *MIS Quarterly*, 22(1), vii-xvi
- Dahlander, L., and Gann, D.M. 2010 "How Open is Innovation?," *Research Policy* (39:6), pp. 699-709
- DiMaggio, P. and Powell. W. W. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* (A8:2). 1983, pp.147-160.
- Fornell, C. & Larcker, D. (1981) Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research*, 18, 39-50
- Grewal, R., Lilien, G.L., and Mallapragada, G. 2006. "Location, Location, Location: How Network Embeddedness Affects Project Success in Open Source Systems," *Management Science* (52:7), pp. 1043-1056

- Grover, V. "An Empirically Derived Model for the Adoption of Customer-Based Interorganizational Systems" *Decision Sciences* (24:3), 1993, pp. 603-640
- Hair, J.F. Black, B. Babin, B. Anderson, R.E. & Tatham, R.L. (2006), *Multivariate Data Analysis*, 6th Edition, Prentice Hall, New Jersey
- Hendrickson, A.R. 2003. Human resource information systems: Backbone technology of contemporary human resources. *Journal of Labor Research* 24(3): 381–94
- Holtbrügge, D. (2010). *Personal management*. Springer, Berlin, 4th ed
- J. DiMicco, DR Millen, W. Geyer, C. Dugan, B. Brownholtz, and M. Muller, "Motivations for social networking at work," *Proceedings of the ACM 2008 conference on Computer supported cooperative work*, San Diego, CA, USA: ACM, 2008, pp. 711-720
- Jeon, B.N., K.S. Han, and M.J. Lee. 2006. Determining factors for the adoption of e-business: the case of SMEs in Korea. *Applied Economics* 38(16): 1905–16
- Kane, G.C., and Fichman, R.G. 2009. "The Shoemaker's Children: Using Wikis for Information Systems Teaching, Research, and Publication," *MIS Quarterly* (33), pp. 1-17
- Kendall, J, Tung, LL, Chya, KH, Ng, CHD & Tan, SM 2001, 'Electronic commerce adoption by SMEs in Singapore', paper presented to *Proceedings of the 34th Hawaii International Conference on System Sciences*, Hawaii
- Khalifa, M. and Davison, M. (2006)'SME adoption of IT: the case of electronic trading systems', *IEEE Transactions on Engineering Management*, vol. 53, no. 2, pp. 275-84
- Laumer, S., Eckhardt, E., and Weitzel, T. 2010. Electronic Human Resources Management in an E-Business Environment, *Journal of Electronic Commerce Research*, (11:4), 240-250
- Leahy, D. and Broin, U.O. (2009) "Social Networking Sites and Equal Opportunity: The impact of Accessibility", *BLED Proceedings*
- Menachemi, N, Burke, DE & Ayers, DJ 2004, 'Factors affecting the adoption of telemedicine -- A multiple adopter perspective', *Journal of Medical Systems*, vol. 28, no. 6, pp. 617-33.
- Meyer, J. P. & Smith, C. A. (2000) HRM practices and organizational commitment: Test of a mediation model *Canadian Journal of Administrative Sciences*, 17, 319–331
- National Association of Colleges and Employers – NACE (2008) Social Networking Sites Gaining Popularity Among Employers Seeking Job Candidates, <http://www.jobweb.com/jobmarketnews.aspx?id=1693>
- Ngai, E.W.T. and Gunasekaran, A. 2004, 'Implementation of EDI in Hong Kong: An Empirical Analysis', *Industrial Management & Data Systems*, vol. 104, no. 1, pp. 88-100
- Nunnally, J.C. (1978) *Psychometric Theory*, McGraw Hill, New York
- Plummer, M. Hiltz, S.R. Plotnick, L. (2011) Predicting Intentions to Apply for Jobs Using Social Networking Sites: An Exploratory Study, *Proceedings of the 44th Hawaii International Conference on System Sciences*
- Premkumar, G., and M. Roberts. 1999. Adoption of new information technologies in rural small businesses. *Omega* 27(4): 467–84

Ramamurthy, KR, Sen, A & Sinha, AP 2008, 'An empirical investigation of the key determinants of data warehouse adoption', *Decision Support Systems*, vol. 44, no. 4, pp. 817-41

Rogers, E.M. (1995). *Diffusion of Innovations*, New York: The Free Press.

Schlagwein, D. Schoder, D. Fischbach, K, 2011 *Social Information Systems: Review, Framework, and Research Agenda*, Thirty Second International Conference on Information Systems, Shanghai

Strohmeier, S. (2007). "Research in E-HRM: Review and Implications." *Human Resource Management Review* 17: 19-37

Teo, HH, Wei, KK, and Benbasat, I. "Predicting Intention to Adopt Interorganizational Linkages: An Institutional Perspective," *MIS Quarterly* (27:1), 2003b, pp. 19-49

Teo, T. S. H., Lim, G. S., & Fedric, S. A. 2007 The adoption and diffusion of human resources information systems in Singapore, *Asia Pacific Journal of Human Resources*, 45: 44–62

Thompson, SH, Lim, GS & Fedric, S, Ann. 2007, 'The adoption and diffusion of human resources information systems in Singapore', *Asia Pacific Journal of Human Resources*, vol. 45, no. 1, pp. 44-62

Tofbert, P. S. "Institutional Environments and Resource Dependence: Sources of Administrative Structure in Institutions of Higher Education," *Administrative Science Quarterly* (30:1), 1985, pp. 1-13

Ulrich, D. (1997). *Human resource champions*, Harvard Business School Press, Boston, MA, US