

Strategic management based on information technology in organizational empowerment and creation of competitive advantage

Shahin Alavitalab*

Faculty of industrial engineering and management system, Amirkabir
University of Technology, Iran

*E-mail: shahin.alavitalab@gmail.com

Received for publication: 27 June 2016.

Accepted for publication: 28 December 2016.

Abstract

Nowadays, information technology capabilities have changed from their traditional role and transformed to a means to create competitive advantage and increase market share. In this research, an attempt has been made to analyze strategic information technology and associated services and their ability in creating competitive advantage for the organization. Information technology has been grounded on extent of integration of information processes and structures. Findings of this study indicate that information technology strategies play a potential role in empowerment of organization, that an organization with special strategies will have a higher competitive advantage and better performance. With regard to the results from this research, IT-based strategies can be transformed to competitive advantage facilitating the strategic decision makings within organization. Ultimately, a model has been proposed to elaborate IT-bases strategies and create empowerment and competitive advantage within organization.

Keywords: competitive advantage, Information Technology, IT strategies, organizational empowerment, Strategic Management.

Introduction

Recently, most of researchers at information technology industry have paid attention to role of information technology in empowerment and improvement of business processes and its effect on creating competitive advantages (Davenport, 2009). After several years of huge investments in economic infrastructures of information technology, most of companies have failed to use their desired economic and financial results (Park, 2009). This is in a way that 80% of the production costs are specified at design and production stages (Bai, 2008). Strategic views of most of companies have been towards discovery of the extent of effectiveness in information technology at the area of product and companies' abilities (Fujimoto, 2010). Strategic management studies can be classified to two major fields:

Content and process research

Content research is conducted aiming at detecting the factors contributing in increase of competitive advantage within organizations; process research examines how strategies of organization reveal over time. In other words, content research specifies the steps that must be followed to achieve success and process research puts an emphasis on how to take step in practice (Molahi & Esminia, 2009). Lee Jun ki (2007) has provided an integrative framework for electronic business, putting an emphasis on this point that electronic business must be prospective, dynamic and clear introduced with IT-based strategies and applications of electronic business which result in competitiveness and improvement of business. As a result, development and implementation of information technology strategy has been regarded as the leading issue of information management

in industry and university. GATT Schalk (2009) proposed information technology strategy including the programs for development of applied projects of information technology and assistance to organizations to detect their aims. If an organization lacks organizational capabilities or information systems, implementation of information technology strategy can have negative effects on organization. Numerous studies have shown that organizations can put an emphasis on creating competitive advantage and organizational empowerment using strategic planning. Nevertheless, the information technology strategies can be rarely implemented effectively. This research examines use of implementation of information technology strategy and elaborates applications of this strategy regarding capabilities of information systems for creating competitive advantage and organizational empowerment. Effective use of information technology requires a strategy well suited with the organizational processes and structure. Otherwise, potential capabilities of information technology will be hidden under the current systems of organization. Ultimately, this research seeks a response for the questions below:

How IT-based strategies result in empowerment and creating competitive advantage within organization?

What are effective factors in creating empowerment and competitive advantage within organization?

What are effective factors in creating empowerment and competitive advantage in the context of information technology?

Literature review

Competitive advantage and information technology strategy

Strategic information technology is targeted in implementing mid-term to long-term program so as to employ information technology and implement associated instruments. In the past, businesses have been using similar methods for development of information system strategies in decision making process. For instance, Lee(2010) has developed five-stage strategic management model of information systems, including development of business strategy, finding strategic opportunities in use of information systems, designing a systematic framework for implementation of systems and evaluation of effect of strategic information systems on competitiveness. Ward & Peppard (2008) designed a conceptual framework for strategic planning of information systems. Their framework proposed three aspects including information system strategy, information technology strategy and information management strategy. Chan (2009) developed corporate framework for development of information system programs and strategies. This framework has been based on integration of business needs and optimization of value chain. Range of electronic business includes e-commerce, Enterprise resource planning (ERP), Supply chain management (SCM), customer relationship management, knowledge management and so forth. Hence, during implementation of e-commerce, the company must consider the key capability and domestic resources and consider comprehensive planning and implementation of information technology strategy to create competitive advantage and enter into new economic areas. Competitive advantages from information technology strategy are of great importance in evaluation of outputs of organization and adjustment with environmental changes. The investigations by researchers indicate that most of organizations have designed and implemented comprehensive programs for information technology strategy, yet they have failed to design and implement programs for creating competitive advantage, resulting in poor organizational performance. Werner & Kalpa (1998) mentioned that continuous evaluation of programs in information technology strategy is an important issue to assure that the programs must result in creation of competitive advantage and improvement of organizational performance. The results from their study indicated that users' attendance and

accountability in implementation of information technology strategy are the most important factors which affect implementation of information technology strategy and organizational empowerment. Theo & Ang(2010) mentioned that strategic system planning includes three stages of design, development of program and implementation. Implementation stage includes difficulty at commitment of senior manager and supervision on information technology programs which were developed.

Salma and his colleague (2009) have put an emphasis on significance of strategic implementation and indicated that development and implementation of information technology strategy include four courses. To sum up, having a comprehensive program which spans information technology strategy and ends in competitive advantage is required at any business. Nonetheless, effective implementation of information technology strategy is required to assist for business and achieve strategic aims and create competitive advantage. As a result, improving implementation of information technology strategy and finding the factors which affect quality of implementation of this strategy are of great importance. Businesses must enable to implement information technology strategies and allocate suitable and sufficient resources for implementation of information technology strategy so as to assure that their programs are implemented effectively. With regard to the resource-based views, businesses are considered as a combination of assets and capabilities. Competitive advantage is developed through combination of assets and strategic capabilities. These approaches indicate that businesses include unique assets and capabilities that allow them to control their competitive advantage at one area. All the successful businesses have their own special capabilities and unique resources, so that growth of organizations will come to realize when they use their own special capabilities and unique resources effectively and create their positions at market. Information system capability has a close relationship with these three challenges. Saberwal (2012) mentioned that higher capability in information systems raises an improvement in information systems and reduction of capabilities in organizational systems reduces the opportunity for success of information systems. An organization which uses information technology to improve its competitive advantage must improve effective capability of information systems. Bharadwaj (2010) has considered information technology as an important organizational capability and used empirical methods to examine the relationship between capability of information technology and business performance.

Organizational empowerment and information technology

At existing competitive environment, the companies are required to be innovative for survival (boubou& D'Souza, 2011). Without doubt, increasing use of information technology causes increasing job opportunities. Most of empirical investigations indicate positive effect in use of information technology (Van Der Memes, 2006). The organizations which are mediators between two or several sectors can have an important role in innovation (Holes, 2006). Mediating organizations can assist the companies to increase their chance and success at innovation through production of new services and products and research and development activities (Hartono et al, 2010; Lee & Park, 2010). Portals by means of their role and influence of organizations change make changes on organizations' performance as the mediating role (Sobai.et al. 2011). Prediction of possible changes causes avoiding repetition on several stages, resulting in innovation in production and empowerment of organization. If there has not existed coordination between information technology and organizational innovation, favourable results will not come to realize. According to the studies by Nikkei (2006), it has been reported that use of technology in some organizations has not raised any change in outcomes of company. Lack of designers' ability in implementation of considered aims can be another reason for lack of change in outcomes of company (Spacey, 2006). If the aim is not tangible in the design, this aim will not be executed properly in supply of services.

It requires more often returning the data from information technology to system. Such repetitive processes do not often associate to technology, but face organizational commitments. Information technology must raise saving in costs and time and empowerment of organization through changes in processes and facilitation of current activities; on the other hand, organization's performance changes based on the abilities to use information technology (Fujimoto, 2006). European and American companies have used some technologies three years before Japan, yet Japanese companies have been much more successful at this area based on results (Fujimoto, 2006). At the late of 1990, American companies have equipped 100% of their infrastructures with modern technologies, yet only 49% of subordinate Companies have been equipped with these technologies in Japan. Japanese companies might have been equipped with some technologies later than their western counterparts, yet they have enabled to coordinate their companies. In other words, Japanese companies have high organizational abilities in resolving the problems which raise at the early stages. Vendermebes and his colleague (2006) examined 240 American companies and perceived that use of information technology has a direct effect on outcomes of development of products. On the other hand, use of these technologies influences sharing functional information at the area of development of products of organizations, yet it has no effect on improvement of outcomes of production, e.g. information technologies such as three-dimensional design system is a communication means through which the early stages of production, different work groups, complicated design problems, technology-purchasing process are shared (Fujimoto, 2006). Use of such technologies can raise development of production and empowerment of organization and allow the subordinate companies to have integrative activities.

Strategic management and competitive advantage

However huge attention has been paid to aligning the strategic aims of organization with investments, capabilities and potential facilities, information technology and the challenge to implement the capabilities and facilities have often organized (Chan & Rich, 2007). Marcos (2009) have less engaged in detecting how to implement the change from strategic management (silver and his colleague, 2007) and benefits of information technology investments (Veid and his colleague, 2009). With regard to these challenges, the major concern is about strategy of information systems as well as limitations and competitive advantage (Garnier et al. 2012). In this regards, the organizations with one strategic aim are more stable, distributing their resources effectively and engage in selecting information systems and their capabilities in competitive activities to achieve their aims (Thompson et al. 2010). Unfortunately, concept of strategic information technology used in organizations depends on this simple hypothesis that information technology might be considered with success in the associated processes in order that a system works out successful from strategic perspective. Therefore, successful implementation of information technology strategy requires for an emphasis on competitive advantage (Nolan and his colleague, 2012), that is, it requires strategic regulation of organizational procedures (Silva and his colleague, 2007). Major challenge of competitive strategy engages in settling the complicatedness existing in a network consisting of actions, policies and economy (Merali et al. 2012). Since strategic role of changes arising from information technologies keeps increasing, the secondary processes of organization to facilitate changes and how to determine the trajectory of these changes are followed by major concern. Sanders and his colleague (2010) have examined the relationship between information technology model and business performance and mentioned that information technology capability has a huge effect on business performance. Rabirjan et al.(2011) believed that businesses with higher information technology capability can provide information technology services for the entire organization. With regard to e-businesses and developments of information technology in

competitive process of companies, a suitable electronic strategy will be planned. Implementation of strategy associates to change of market, yet capability of information technology in entire organization plays a potential role, thus development of information technology capability and strategic competitive advantage are the key duties in e-businesses. The results proposed by researchers represent a symbol of the effects that information technology capability put on organizational competitive advantages and business performance. Nonetheless, studies have examined quality of implementation of information technology strategy with an emphasis on quality of information systems.

Research method

The present research has been conducted based on the case study on implementation of strategic information technology and creation of competitive advantage. The information have been collected and examined through semi-structured interview and referral to the active companies in the context of information technology. This research has been conducted under the changes raised due to strategic information technology in organization and how to create competitive advantage. Some operational and middle managers in the companies were interviewed and how to use strategic information within organization and the role of strategic information in organizational empowerment were analyzed. Products of these companies have been at the area of information technology including system, software, data centre services and associated activities. Role of strategic information technology in detection and development of products, methodologies of analysis and design of information systems and backup mechanisms and associated services were analyzed. Another part of the required information was collected form software CRM at call centre of companies. With regard to direct relationship between these centres and customer and direct relationship between these centres and customers' current and upcoming needs, the aforementioned information was considered. Further, the personnel in call centre of companies were interviewed. To increase reliability of data, snowballing technique was used in which the interviewees were asked to introduce the individuals who have a close relationship with customers. These individuals' views have been of great importance regarding continuous interaction with customers, affecting determination and adoption of organizational strategies. Further, one of the consultants of the company has attended in the project team, whereby it was assured that the leading elements and theoretical framework of research have been spanned. In this research, to reduce error and increase accuracy of data, questionnaire has not been used. In this regards, the data have been collected through direct interview with the selected individuals and analyzed by research team.

Analysis of results

After analysis of data and overview of interviews and documents, data were analyzed encoded. In addition, the associated information including process descriptions, role of strategic information technology, organizational diagrams, management dashboards and reports, quality and quantity of information and competitive advantages were classified via SAW method.

An attempt has been made to examine data as a series of accumulative data so as to enable the researchers to determine strategic nature of companies and their operational environments. To increase confidence coefficient of data analysis, two PhD students were invited to attend in the research, that their suggestions have been considered as a basis for correction of data, resulting in increase of validity. After analysis of results, the factors affecting organizational empowerment and creation of competitive advantage through information technology were detected and explained as follow:

Enablers

Creation of Self Managing organizational units

Nature of information technology is in a way that persuading the individuals to progress. Information technology with creation of personal and collective ability in individuals increases their motivations for competing and being at the centre of organization. With regard to analysis of interviews, it was specified that some unities have matured to the extent that they can put their activities under major strategies of organization. These units have considered macro-strategies of organization centred at their agenda with taking courage and avoiding stress. Organizational empowerment arising from such actions has raised synergy among individuals and improvement in considered outputs. If performance of these unites continues properly, there will be the possibility for development of the companies which work out independently. Another important point lies on this fact that the speed at information circulation and the possibility to achieve records of information are the features of organizational strategies. This method will be useful when its effect on outputs of organization reveals and assists for realization of strategic aims.

Learning and e-learning

Findings of research indicated that dominance on information and communication technology and use of this technology has improved organizational strategies, so that training manpower has been assumed as the major components of this technology. Information sharing in organization has increased the individuals' ability through messengers and domestic systems. This correspondence which has been fulfilled in intra-unit and inter-unit ways has enhances the sense of learning among personnel, so that it has raised new styles in resolving organization's domestic problems. This virtual information sharing is held in form of short-term electronic classes and in work hours in some cases. These trainings have a huge effect on output of units and increase of their abilities.

Performance evaluation as the online strategy of organization

With regard to the results from research, development of performance evaluation system affects personal and organizational abilities. An electronic performance evaluation system within organization in order that the individuals record their daily function has a direct effect on alignment of current activities of company with strategies. Crises and problems often distract the organization from leading path. On the other hand, performance evaluation does not often reflect the results in a real way. The interesting point lies on this fact that evaluation via e-services paves the way for following up strategies in daily activities of organization.

Acceptance of the required change in information technology within organization

With regard to managers' view, change in use of information technology is the most important aspect of change. Creation of changes by means of influence of technology within organization require for special management, because such changes have not been predictable resulting in stress frequently. In this regards, holding briefing for personnel to understand the stages of change and attention to change at current business environment is useful. Any change which reveals in organization requires for use of different strategies so as not to cause the organization sustains away from leading aims. Results indicated that the destructive challenges and resistance will reduce under clear elaboration of aims and strategies of organization for the individuals.

Competitive advantages

Localization of information technology methodologies

With regard to investigations, it was specified that design and implementation of the required systems for the customers require for use of different methodologies. Results indicated that special use of software systems requires localization of methodologies that raises challenge in

implementation. Currently, sale of software packages faces the companies with problems in long term. With regard to staffs' view at call centre, some fixed modules of software and systems have not been always practical, required for attention by design team before designing. Combination of methodologies based on customers' need makes the stages of implementation of system more favorable. It seems that intelligence of analysis and design team in selection and localization of methodology facilitates realization of business strategies and acquisition of competitive advantage.

Conductance of thoughts in line with IT-based strategies

Interesting developments in information technology have raised numerous changes in progress of businesses. Access to modern instruments through advanced technologies has proposed a new definition of competition and strategy at current world. Findings of research indicated that if the organization does not conduct the customers' mind, it will be removed from competition. Customers' attitude was observed clearly, found under influence of organizational capabilities and abilities, whereby an increasing customers' trust on products and services will occur. Results of study indicated that strategies of organization have been under influence of attitude and feedbacks. Further, conductance of customers' thoughts and their trust can be considered as one of the competitive advantages and leading strategies of organization in maintenance of market share and development of products in long term.

Organizational De-stress through use of information technology

Analysis of results of study indicated that increasing awareness and development of information technology in current activities is one of the best ways to detect the factors contributing in stress within organization, because the transparency raised through development of technology increases following up the organizational events in addition to improvement of level of knowledge and awareness. On the other hand, informal communications among the individuals cause creating common tastes and desires, empathy and reduction of job stresses. Yet, if informal communications be in conflicting with the strategies of organization, there will be disturbance in long-term aims and organization's environment. Findings of research proved that the factors that cause the organization focuses on leading strategies and creates competitive advantage and reduces distraction from the considered path can be attention to individuals' tastes and views, attention to non-verbal symptoms and avoidance from job disclosures within organization's environment. These factors can be understood in customers' feedbacks after job meetings. Another important point lies on this fact that maintaining job personality of staffs affects reducing stress, so that men more likely seek organizational independence and position and women seek sense of usefulness and intimacy that must be taken into consideration.

Pragmatism instead of motto

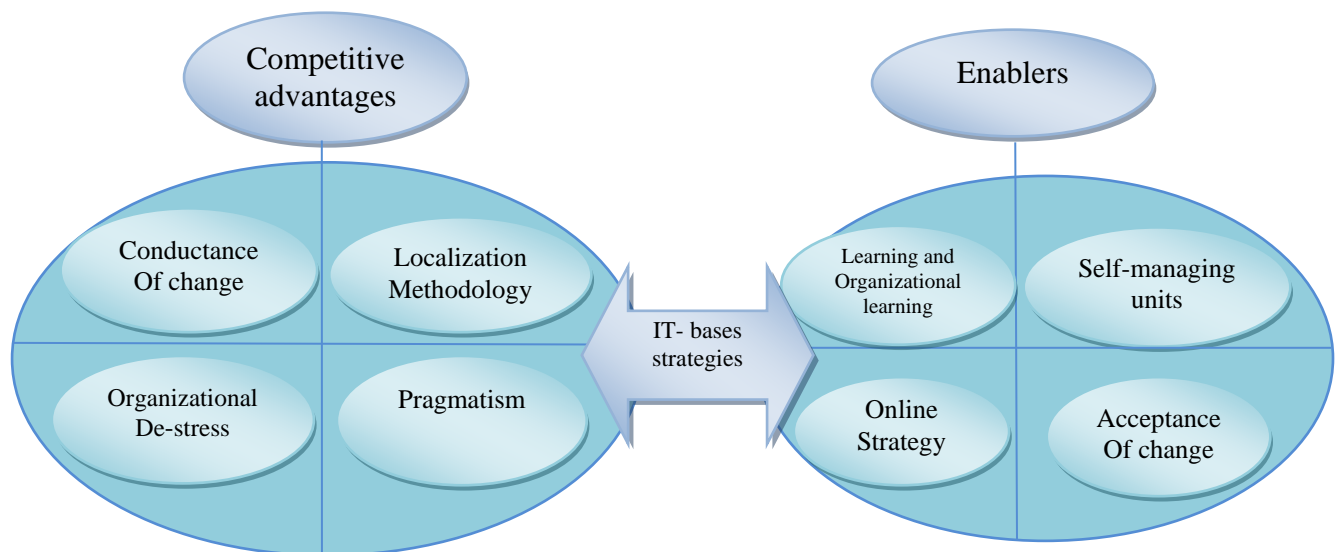
According to individuals' views in the interviews, organization's emphasis on meeting customers' needs far from vane exaggeration increases customers' sense of trust in a long term. Holding meetings to test accuracy will have not just considered effects but also will have increasing misunderstanding among customers. Results indicated that staffs' and managers' lack of effort to display personal and organizational capabilities can be transformed to one of the most important competitive advantages resulting in sense of satisfaction among customers. The reason for this problem lies on capability of information technology in proving the organization's abilities that there does not need to any justification when customers' needs are met. According to one of the staffs' statement at call centre, there will be no need to motto when the services are supplied based on customers' needs, and this has been seen indirectly in customers' feedbacks. Investigations indicated that this strategy of managers in long term will be transformed to a competitive advantage.

Conclusion

This research describes a clear change in formulation of strategies and creation of competitive advantage, because it can follow up and institutionalize macro-strategies of organization through different ways based on the current activities of organization. Understanding the complexities at current business environment requires for intelligence and considering all the aspects which have a potential role in formulation and implementation of strategies of organization. As the results of research indicated, new and reliable strategies and competitive advantages will reveal under adoption of professional implications by managers and staffs, resulting in creation of value added and stability of organization. The figure below represents the model for organizational empowerment and acquisition of competitive advantage based on IT-based strategies.

The model for organizational empowerment and acquisition of competitive advantage based on IT-based strategies

On the other hand, an image which is depicted in customers' mind from organization has led in current activities of organization, and this can be tracked in customers' meetings and feedbacks. Without doubt, empowerment and creation of competitive advantage must exist in thought of all the individuals in different organizational levels. Findings of this research proved that new views and acquisition of competitive advantage can be acquired in current activities of organization.



References

- Balogun, J. (2006). Managing change: steering a course between intended strategies and unanticipated outcomes. *Long Range Plan.* 39 (1), 29–49.
- Balogun, J., Johnson, G. (2004). Organizational restructuring and middle manager sensemaking. *Acad. Manag. J.* 47 (5), 523–549.
- Balogun, J., Johnson, G. (2005). From intended strategy to unintended outcomes: the impact of change recipient sensemaking. *Org. Stud.* 26 (11), 1573–1602.
- Beaudry, A., Pinsonneault, A. (2005). Understanding user responses to information technology: a coping model of user adaptation. *MIS Quart.* 29 (3), 493–524.
- Boudreau, M., Robey, D. (2005). Enacting integrated information technology: a human agency perspective. *Organ. Sci.* 16 (1), 3–18.
- Chan, Y.E., Reich, B.H. (2007). IT alignment: what have we learned? *J. Inform. Technol.* 22 (4), 297–315.

- Chen, D.Q., Mocker, M., Preston, D.S., Teubner, A. (2010). Information systems strategy: reconceptualization, measurement and implications. *MIS Quart.* 34 (2), 233–259.
- Cooper, R.P., Shallice, T. (2006). Hierarchical schemas and goals in the control of sequential behavior. *Psychol. Rev.* 113, 887–916.
- Corbin, J., Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, third ed. SAGE, Thousand Oaks, CA.
- Dane, E. (2010). Reconsidering the trade-off between expertise and flexibility: a cognitive entrenchment perspective. *Acad. Manag. Rev.* 35 (4), 579–603.
- Doherty, N.F., Terry, M. (2009). The role of IS capabilities in delivering sustainable improvements to competitive positioning. *J. Strategic. Inform. Syst.* 18 (2), 100–116.
- Hoffman, R.R. (Eds.), *Expertise in Context: Human and Machine*. MIT Press, Cambridge, MA, pp. 125–146.
- Galliers, R.D. (2004). Reflections on information systems strategizing. In: Avgerou, C., Ciborra, C., Land, F. (Eds.), *The Social Study of Information and Communication Technology: Innovation, Actors, and Contexts*. Oxford University Press, Oxford, UK, pp. 231–262.
- Galliers, R.D. (2011). Further developments in information systems strategizing: unpacking the concept. In: Galliers, R.D., Currie, W.L. (Eds.), *The Oxford Handbook of Information Systems: Critical Perspectives and New Directions*. Oxford University Press, Oxford, pp. 329–345.
- Galliers, R.D., Jarvenpaa, S.L., Chan, Y.E., Lyytinen, K. (2012). Strategic information systems: reflections and prospectives. *J. Strat. Inform. Syst.* 21 (2), 85–90.
- Grover, V., Kohli, R. (2012). Cocreating IT value: new capabilities and metrics for multifirm environments. *MIS Quart.* 36 (1), 225–232.
- Hamel, G., Prahalad, C. (2005). Strategic intent. *Harvard Bus. Rev.* 83 (7), 148–161.
- Jarzabkowski, P. (2005). *Strategy as Practice: An Activity-Based Approach*. Sage, London, UK.
- Jarzabkowski, P., Spee, A.P., 2009. Strategy as practice: a review and future directions for the field. *Int. J. Manage. Rev.* 11 (1), 69–95.
- Jarzabkowski, P., Balogun, J., Seidl, D. (2007). Strategizing: the challenges of a practice perspective. *Hum. Relat.* 60 (1), 5–27.
- Johnson, G., Langley, A., Melin, L., Whittington, R. (2007). *Strategy as Practice: Research Directions and Resources*. Cambridge University Press, Cambridge, UK.
- Kornberger, M., Clegg, S. (2011). Strategy as performative practice: the case of Sydney 2030. *Strateg. Org.* 9 (2), 136–162.
- Lewandowsky, S., Thomas, J.L. (2009). Expertise: acquisition, limitations, and control. In: Durso, F.T. (Ed.), *Reviews of human factors and ergonomics*, vol. 5, pp. 140–165.
- Inform. Technol.* 19 (1), 4–20.
- Melville, N., Kraemer, K., Gurbaxani, V. (2004). Review: information technology and organizational performance: an integrative model of IT business value. *MIS Quart.* 28 (2), 283–322.
- Merali, Y., Papadopoulos, T., Nadkarni, T. (2012). Information systems strategy: Past, present, future *J. Strateg. Inform. Syst.* 21 (2), 125–153.
- Mumford, M.D., Blair, C., Dailey, L., Leritz, L.E., Osburn, H.K. (2006). Errors in creative thought: Cognitive biases in a complex processing activity. *J. Creative Behav.* 40, 75–109.
- Nolan, R.L. (2012). Ubiquitous IT: the case of the boeing 787 and implications for strategic IT research. *J. Strateg. Inform. Syst.* 21 (2), 91–102.
- Orlikowski, W., Iacono, C. (2001). Desperately seeking the “IT” in IT research – a call to theorizing the IT artifact. *Inform. Syst. Res.* 12 (2), 121–134.

- Piccoli, G., Ives, B. (2005). IT-dependent strategic initiatives and sustained competitive advantage: a review and synthesis of the literature. *MIS Quart.* 29 (4), 747–776.
- Pollock, N., Cornford, J. (2004). ERP systems and the university as a “unique” organization. *Inform. Technol. People* 17 (1), 31–52.
- Sambamurthy, V., Bharadwaj, A., Grover, V. (2003). Shaping agility through digital options: reconceptualizing the role of information technology in contemporary firms. *MIS Quart.* 27 (2), 237–263.
- Sanger, S., Singh, J. (2012). Breaking free: understanding leadership entrenchment and disruptive strategies. In: 2nd International Conference on Engaged Management Scholarship.
- The Practice Turn in Contemporary Theory. Routledge, London/New York.
- Sia, S., Soh, C. (2007). An assessment of package-organisation misalignment: institutional and ontological structures. *Eur. J. Inform. Syst.* 16 (5), 568–583.
- Silva, L., Hirschheim, R. (2007). Fighting against windmills: strategic information systems and organizational deep structures. *MIS Quart.* 31 (2), 327–354.
- Soh, C., Sia, S. (2004). An institutional perspective on sources of ERP package-organisation misalignments. *J. Strateg. Inform. Syst.* 13 (4), 375–397.
- Stensaker, I., Falkenberg, J. (2007). Making sense of different responses to corporate change. *Hum. Relat.* 60 (1), 137–177.
- Suddaby, R. (2006). From the editors: what grounded theory is not. *Acad. Manag. J.* 49 (4), 633–642.
- Thompson, A., Strickland, A., Gamble, J. (2010). *Crafting and Executing Strategy*, 17th ed. McGraw Hill, New York.
- Wagner, E., Newell, S. (2004). Best for whom? The tension between ‘best practice’ ERP packages and diverse epistemic cultures in a university context. *J. Strateg. Inform. Syst.* 13 (4), 305–328.
- Ward, J.M. (2012). Information systems strategy: Quo vadis. *J. Strateg. Inform. Syst.* 21 (2), 165–171.