A Qualitative Study on the Difference in Organizational Fit of IT Supporting Organizations

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ABSTRACT

For many years, factors that increase the competitive advantage of organizations have been studied in organizational research. For an Information Technology (IT) organization, the main issues are the fitness of the IT and organization strategies and methods for revitalizing IT knowledge management (Earl, 2001; Rathnam, Johnsen, & Wen, 2005; Zack, 2002). However, there are few studies that have evaluated the competitiveness of an organization with reference to the correspondence of these constituent factors with organizational objectives. In this research a multi-contingency view was applied to Korean agencies, and the regional agencies with good performance and those with poor performance were compared with regard to this measure of fitness. The results of this study confirmed that the regions that received a favorable evaluation from experts exhibited good fit overall, and the constituent parts of the organization were consistent with the firm's objectives.

Keywords

IT supporting organization, organizational fit, multi-contingency view,

INTRODUCTION

It is well known that Information Technology (IT)-intensive industries have achieved significantly better productivity than those that underutilize IT (Stiroh, 2001). This is also true for the agricultural industry, in which IT applications can be used in various ways; some examples include making the use of chemicals and the care of farm animals more precise or meeting the demand for food documentation, better equipment, or improved crop fertilizing and plant protection practices (Cox, 2002; Thysen, 2000).

However, IT applications have not spread rapidly in the agricultural industry because even the most IT-experienced farmers have not appeared to accrue significant benefits from using the IT applications that are available to them (Gelb, 1999; Parker, 1999; Thysen, 2000). Although the insufficient use of IT can be explained in various ways, it is obvious that organizational support is necessary for the effective propagation of IT and the fulfillment of IT's potential (Cooper & Zmud, 1990; J. L. King et al., 1994; Kwon & Zmud, 1987).

In Korea, the agricultural promotion agencies that are affiliated with each local government are working on various educational and business programs that encourage the effective diffusion of IT. Although the agricultural promotion agencies in Korea are uniform as government agencies, they have different structures and promote businesses differently according to the regional context (Cheol-Yeung Jang, 2008).

Although these business plans and management practices are based on regional characteristics, experts indicate that performance varies from region to region (Sung-Youl Park, 2008. Byeong-Min Yu, 2009).

Therefore, this research was intended to investigate the cause of the performance gap among regional agricultural promotion agencies that employ strategies that are customized by region. Toward this end, using a multi-contingency view, we examined the factors that affect the performance gap among IT support organizations. This method was not intended to help us determine the most important factor (objectives, strategy, environment, work responsibility, or knowledge management, for example) but instead helps us to examine whether these factors are consistent with the objectives of the organization from various points of view (Burton, Obel, & DeSanctis, 2011). Based on expert recommendations, we divided the regional organizations into two groups, namely, high- and low-performing organizations. Then, we conducted an analysis of these organizations through interviews with key authority figures in each organization. First, we examined whether high-performing and low-performing organizations exhibited different degrees of fit between the factors under consideration and the objectives of the firm. Then, we analyzed the performance gap among agricultural promotion agencies based on the results of a survey that was distributed to farms and the businesses that were targeted by the agricultural promotion agencies. The survey asked whether the IT education and business assistance that is provided by government agencies is satisfactory. Based on these results, we showed that assessing the overall fit of organizational factors can help to improve organizational performance.

LITERATURE REVIEW
Previous studies on the organizational constituent factors that affect organizational performance

Strategic management research often attempts to reveal the root causes of firm-level competitive advantage (Barney, 1991). Many studies have shown that the fitness of the strategies that are implemented to improve organizational performance on the intra- and inter-firm levels are rapidly changing in the presence of IT (Drazin & Van de Ven, 1985; Miller, 1988).
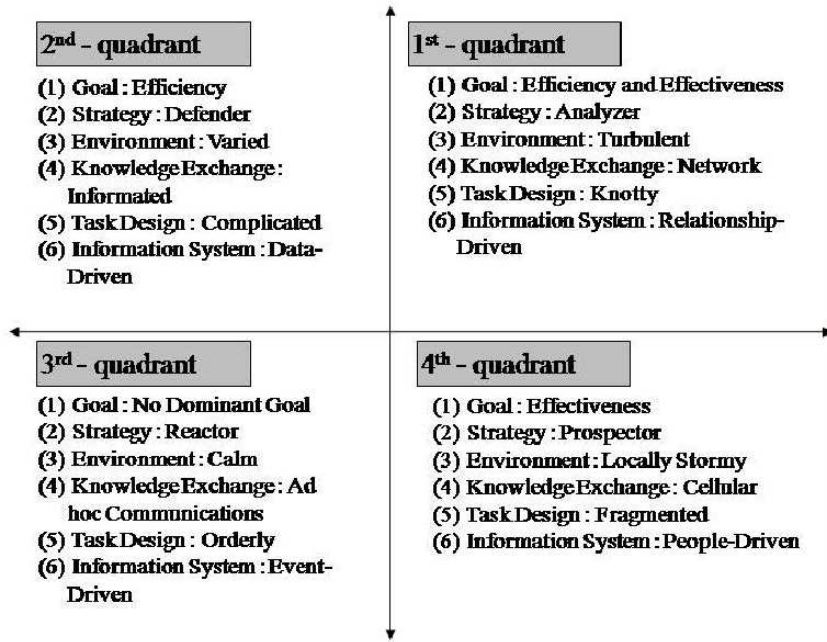
The strategic contingency theory emphasizes the need to fit strategies to the exterior firm environment, and many studies have focused on the relationship between this type of fit and management performance. Miller (Miller, 1988, 1991) reported that the strategies varied with environmental uncertainty and suggested that this type of fit has a meaningful relationship with corporate performance. In addition, Miller (1988) discovered that the environment can affect competitive strategy and plays a meaningful complementary role in the management strategy of companies with good management performance. For this reason, he insisted on the necessity of considering this type of context when developing firm-level strategy.

As the world has become increasingly more knowledge-based, knowledge has also attracted attention as an important element of continuous competitiveness (Tiwana, 2000). Many studies of knowledge and information within organizations have treated person-job fit and knowledge management as important factors in IT. However, despite its recognized importance, knowledge management is regarded as difficult to promote due to the separation of the different parts of a business (Birkinshaw, 2001). According to Davenport & Prusak (1998), most knowledge management plans have the following three objectives: to make knowledge visible and to show the role of knowledge in the organization, to develop a knowledge-intensive culture, and to develop the company's knowledge infrastructure through interpersonal connections. In addition, studies have stressed the importance of corporate and IT strategy to organizational performance (W. R. King, 1978; Sabherwal & Chan, 2001).

An organization divides important tasks and their related objectives into subcomponents, creating an interdepartmental system of departments and tasks (Hickson, Hinings, Lee, Schneck, & Pennings, 1971). In this process, the fit of the various components determines the level of organizational performance, and an organization with poor fitness will obtain a poorer outcome. (Burton, et al., 2011). The effect of various factors on organizational performance has been discussed, but we must use the multi-contingency view to observe the fit of these various factors. The multi-contingency view offers a comprehensive view of an organization in that it reviews corporate strategy, technology, management, environment, and size as contextual factors.

THE COMPOSITION OF A LOGICAL MODEL OF AN IT-SUPPORTING AGRICULTURAL PROMOTION AGENCY

Various studies that considered fit within corporate organizations were used to create the logical model shown below, which can be used to evaluate fit within IT-supporting agricultural promotion agencies. The logical model functioned as an analytical tool for determining whether empirically observed incidents theoretically supported or refuted the model. Using such a model, the theory can be verified by analyzing whether the IT-supporting agricultural promotion agencies are consistent with it (Yin, 2008).

2nd – quadrant
(1) Goal : Efficiency
(2) Strategy : Defender
(3) Environment : Varied
(4) Knowledge Exchange :
    Informated
(5) Task Design : Complicated
(6) Information System : Data-
    Driven

1st – quadrant
(1) Goal : Efficiency and Effectiveness
(2) Strategy : Analyzer
(3) Environment : Turbulent
(4) Knowledge Exchange : Network
(5) Task Design : Knotty
(6) Information System : Relationship-
    Driven

3rd – quadrant
(1) Goal : No Dominant Goal
(2) Strategy : Reactor
(3) Environment : Calm
(4) Knowledge Exchange : Ad
    hoc Communications
(5) Task Design : Orderly
(6) Information System : Event-
    Driven

4th – quadrant
(1) Goal : Effectiveness
(2) Strategy : Prospector
(3) Environment : Locally Stormy
(4) Knowledge Exchange : Cellular
(5) Task Design : Fragmented
(6) Information System : People-Driven

<Figure 1> The name and allocation of six composition

Corresponding quadrant in organizational design space	1st quadrant		2nd quadrant		3rd quadrant		4th quadrant	
	Name	Criteria	Name	Criteria	Name	Criteria	Name	Criteria
Goal	Efficiency and Effectiveness	Efficiency high Effectiveness high	Efficiency	Efficiency high Effectiveness low	No Dominant Goal	Efficiency low Effectiveness low	Effectiveness	Efficiency low Effectiveness high
Strategy	Analyzer	Exploitation high Exploration high	Defender	Exploitation high Exploration low	Reactor	Exploitation low Exploration low	Prospector	Exploitation low Exploration high
Environment	Turbulent	Complexity high Unpredictability high	Varied	Complexity high Unpredictability low	Calm	Complexity low Unpredictability low	Locally Stormy	Complexity low Unpredictability high
Knowledge exchange	Network	IT-infused high Virtualization high	Informated	IT-infused high Virtualization low	Ad hoc communications	IT-infused low Virtualization low	Cellular	IT-infused low Virtualization high
Task design	Knotty	Divisibility high Repetitiveness high	Complicated	Divisibility high Repetitiveness low	Orderly	Divisibility low Repetitiveness low	Fragmentd	Divisibility low Repetitiveness high
Information system	Relationship-Driven	Amount of information high Tacit nature of information high	Data-Driven	Amount of information high Tacit nature of information low	Event-Driven	Amount of information low Tacit nature of information low	People-Driven	Amount of information low Tacit nature of information high

<Table 1> The composition of the logical model

The logical model included some important factors for organizations, including strategy, environment, information systems, tasks, and knowledge exchange, based on the diagnostic tool suggested by Burton et al (2011).

Although organizations attempt to achieve both effectiveness and efficiency, a firm may take a different direction depending on the goal upon which it is focused. Efficiency requires the minimization of costs or the improvement of processes; the focus is the firm's inputs. Effectiveness focuses on the development of new products or innovation in the market; the focus is on the firm's outputs. Some organizations that attempt to create a relatively low level of effectiveness and efficiency include monopolistic and oligopolistic organizations and venture companies, which can easily maintain those levels. Organizations that focus on efficiency are more interested in minimizing costs by exploiting new technology and continually improving processes. Organizations that focus on effectiveness are more interested in developing first-mover advantage and attempting to produce new ideas consistently. In contrast, organizations that aim for both effectiveness and efficiency strive to achieve innovation while keeping costs low. This is the model that most organizations aim to employ eventually. The agricultural promotion agencies in Korea are affiliated with local governments and aim to increase the income of agricultural management organizations through IT support. Because the technology that is developed by central organizations is used on site, there appears to be more of a focus on efficiency than on effectiveness via innovation.

To achieve corporative objectives, a strategy is established based on the environment. The strategy can be developed on the exploitation and exploration axes. Whereas exploration includes searching, variation, risk taking, and innovation, exploitation refers to the act of discovering a new technology or a new method to use. Exploitation includes refinement, effectiveness, selection, and implementation (March, 1991). It also refers to the act of discovering a new way to use a well-known technology. Both exploitation and exploration are developed by analyzing the characteristics of knowledge and learning and are related to strategy. Strategy is the use of knowledge and learning to develop a new plan of action.

The previous studies are those that discussed the general characteristics of the environment, and the environment as it is understood by managers rather than as a matter of objective fact is considered important for organizations. This leads to two concerns, namely, complexity and unpredictability. Complexity indicates the number of factors that can seriously affect an organization. If an organization has one or two main competitors, the level of complexity is low. If an organization must continuously adjust itself to various conditions (e.g., competitor price, the labor pool, or new products), its complexity is high. Unpredictability refers to the degree of uncertainty surrounding these factors.

Contemporary companies can manage knowledge exchange using two main methods, knowledge virtualization and IT. Knowledge virtualization refers to the degree of boundary-spanning, which is the basis of knowledge exchange or the degree of organizational "reach" (Davidow & Malone, 1992). In an organization with high knowledge virtualization, teams, business units, and sometimes even the entire company obtains knowledge by connecting with a group outside its own organization. In contrast, an organization with low knowledge virtualization is focused inwardly and obtains knowledge within the company boundaries or in specialized groups; such a firm protects whatever knowledge it acquires from outside the firm. The degree of IT infusion is how much a company depends on an IT-based system. This concept includes the use of data processing systems and computer-based communication systems to manage knowledge exchange.

Task design is the act of decomposing a task into subtasks and coordinating those subtasks and to achieve corporate objectives. Based on previous studies of the relationships between different kinds of tasks, it appears that task design can be analyzed based on the task's level of repetitiveness and divisibility. Standardized task execution can be referred to as repetitiveness. If a task becomes continuously repetitive, it has high repetitiveness. In contrast, if a task is not standardized but is instead operated in various ways, it is said to have low repetitiveness. Highly repetitive tasks have low uncertainty, whereas low-repetition tasks have high uncertainty. If a large task is divided into subtasks that do not require coordination, as when subtasks are independent, then this task can be regarded as having high divisibility. In contrast, a task has low divisibility if its subtasks require extensive coordination. The definition of divisibility is related to Thompson's separation of tasks into three categories, namely, sequential, common, and interdependent. Along with the two dimensions of repetitiveness and divisibility, there are four basic task designs; these are orderly, complicated, fragmented and knotty.

Information systems are an important part in organizational infrastructure and provide meaningful data to decision makers. Such frameworks include every system that collects, stores, and processes information within an organization. They also include one-on-one, in-person meetings, although computers and communication equipment may be used as well. Information systems can be analyzed with regard to the amount and the degree of implicitness of the information being processed. The amount of information is the size of the information that should be collected, processed, and stored by the organization, and although the amount of information is determined according to the size of company, the amount of shared information may increase even in a small organization if the organization completes many different types of tasks and if the design of those tasks is complex. The degree of the implicitness of the information can be measured based on the degree of information exchange within the organization. Knowledge that is very implicit is mostly undocumented, is difficult to align, is difficult to transfer because the cause-effect relationship is unclear, and is difficult to systemize (Choo, 2005; Polanyi &

Sen, 1983; Sorenson, Rivkin, & Fleming, 2006). Explicit knowledge, which is the opposite of implicit knowledge, is part of an official "factual system" and can be readily communicated.

Based on the logical model of the six organizational factors isolated using the multi-contingency view, we intend to verify whether the organizational fit of IT-supporting agricultural promotion agencies has a significant impact on performance.

RESEARCH METHODOLOGY

Sample and data collection

Agricultural promotion agencies are affiliated with local governments, and the structure and operation of the agencies can be reorganized depending on the circumstances. Although the objective of each organization is slightly different, their main activities include farm management consulting, farm IT education, e-commerce education, and information exploitation education.

But there is no tool consistently used to evaluate the performance of the agricultural promotion agencies that are affiliated with local governments. Therefore, based on the recommendations of a few experts, we divided the agencies into two groups, Region A (which exhibited good performance) and Region B (which exhibited poor performance) and selected three organizations from each region, interviewing a total of six organizations. To increase the reliability and internal validity of the qualitative research, the multiple case-study method (Whitehead & Yin, 2003) was used. The interviews with six organizations were conducted based on the pre-configured logical model, and we compared the overall fit of the organizations by diagnosing the constituent factors for each organization through interviews and then placing them within the quadrants.

Because the organizations were selected based on expert recommendations, we surveyed the farms in the two regions to confirm the existence of significant differences in performance between the two regions. However, because this survey was a supplementary component of the research, it was conducted via a pilot test. Thirty-four farms from high-performing Region A and 33 farms from low-performing Region B completed the questionnaire.

Measurement

For the interviews that were used to determine the level of organizational fit, a survey proposed by Burton et al. (2011) was modified for use with the agricultural promotion agencies, and the interviews were conducted using semi-structured questions. Each interview lasted for approximately two hours and five questions were used to evaluate each factor. A survey was also conducted to identify performance differences using a structured questionnaire. The items on the questionnaire were used to determine the farms' level of satisfaction with the activities of the agricultural promotion agencies.

SAMPLE ANALYSIS AND DISCUSSION

Result of the analysis of the agricultural promotion agency case

Organization "a" in the high-performing region exhibited high efficiency and low effectiveness ("How effectively the business can be operated under the given circumstances is a critical factor") and exhibited low exploration and high exploitation in terms of its strategy ("It helps farms to apply and exploit a current technology rapidly rather than to develop a new technology"). Organization "a" exhibited high complexity and low unpredictability within its environment and exhibited low virtualization and high IT-infusion in terms of knowledge exchange ("Knowledge was obtained via interior cultivation" and "Communication requires more than 80% system utilization"). Organization "a" exhibited low task divisibility and high task repetitiveness ("Although each has its own task, many tasks should be performed together because of their high correlation rate") In addition, this organization exhibited a high degree of the implicitness of information and employed a low amount of information ("Personal connections, know-how, and experiences are important")

Although only the representative facts are shown, the interview results for the other five organizations are shown in the table using quadrants, as was the case for organization "a" above.

<Figure 1> Compare of two region's fit

Organization "a" organization in good-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal		■		
Strategy		■		
Environment		■		
Knowledge exchange		■		
Task design		■		
Information system				■

Organization "d" in poor-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal		■		
Strategy			■	
Environment			■	
Knowledge exchange			■	
Task design		■		
Information system			■	

Organization "b" in good-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal		■		
Strategy		■		
Environment			■	
Knowledge exchange			■	
Task design		■		
Information system	■			

Organization "e" in poor-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal		■		
Strategy		■		
Environment			■	
Knowledge exchange			■	
Task design			■	
Information system	■			

Organization "a" in good-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal		■		
Strategy		■		
Environment			■	
Knowledge exchange		■		
Task design		■		
Information system		■		

Organization "f" in poor-performing region

	1st quadrant	2nd quadrant	3rd quadrant	4th quadrant
Goal				■
Strategy		■		
Environment			■	
Knowledge exchange				■
Task design		■		
Information system		■		

Overall, organizations "a" and "c" exhibited high organizational fit, with all factors except one being in the first quadrant. However, this was not the case for the remainder of the organizations. Although organization "b" in the good performing region did not exhibit good overall fit, three of its factors were well aligned with the objective, whereas this could only be said of two factors for organizations "d", "e", and "f". This result suggests that both overall fit and alignment with the reference objective are important.

Results of the survey on the differences between the performance of farms

The survey was conducted in 34 farms in Region A and in 33 farms in Region B. Although the survey was conducted in a total of 67 farms, 15 farms that did not respond were excluded; thus, the responses of only 52 farms were used for the T-test. The T-test assumes a normal distribution and can be generally assumed to have normality according to the central limit theorem when the sample size is over 30. (Wackerly, Mendenhall, & Scheaffer, 2008). In this study, more than 30 samples were used to satisfy that assumption, and we believe that there were no problems with the T-test. The results of the T-test are shown in Table 2.

<Table 2> Result of satisfaction of farmer in two region

	Question	Average		Ave. Diff.	T-test of the identity of the average	
		Good-performing region	Poor-performing region		t	p-value (one-tailed)
1	How much did the agricultural technology center of cities and counties contribute to improving the level of information exploitation?	4.64	4.37	0.27	1.401	.084*
2	How helpful is cultivation technology to farming?	3.96	3.52	0.44	1.595	.059*
3	How helpful is business management to farming?	3.72	3.19	0.53	1.985	.027**
4	How helpful is produce distribution to farming?	3.64	3.41	0.23	.911	.183
5	Are you satisfied with the role of agricultural technology of cities and counties for managerial improvement consulting?	3.46	3.27	0.19	.722	.237
6	How satisfied are you with the information literacy of the agricultural technology of cities and counties so far?	4.20	4.04	0.16	.866	.145

**p<0.05, *p<0.01

As shown in table 2, the agricultural promotion agencies in Region A (good performance) and those in Region B (poor performance) exhibited significant differences in 95% confidence level with regard to Question 3 ("How helpful is business management in farming?"). And there is significant differences in 90% confidence level with regard to Question 1("How much did the agricultural technology center of cities and counties contribute to improving the level of information exploitation?") and Question 2("How helpful is cultivation technology to farming?"). However, given that the number of samples used for the T-test was low and that the survey was conducted as a pilot test, the average difference between the results for the two regions can be considered meaningful. The results for the organizations in the region that was recommended for its good performance indicated the high overall fit within those organizations, and the farms upon which they focused indicated a high level of satisfaction with them. These findings support our initial assumption that the performance of these agricultural promotion agencies can be measured based on the satisfaction level of the farms that they assist.

CONCLUSION

This study examined the fit of various organizational factors affecting agricultural promotion agencies given their goal of improving IT use in farms. The results of the study revealed that organizations in the region that had been recommended for their good performance exhibited better fit than those in the region noted for its poor performance. Two out of three organizations in the high-performing region possessed five out of six organizational factors located in the same quadrant, indicating a high correlation among the organizational factors. This finding differentiates this study from previous studies that only isolated strategy and knowledge management as important to organization performance. Because each organization has various characteristics, it is better to analyze overall fit than to judge performance based on one or two factors (e.g., strategy and the environment or knowledge management-task etc.) (Burton, et al., 2011). In addition, when the remaining organization in the high-performing region was compared with the organizations in the low-performing region, a difference was observed between Region A and Region B in terms of whether other factors were consistent with the objective, although the overall fit was relatively low. This finding implies that even if the organizational factors are consistent with each other, they may not be consistent with the objective that is being pursued by an organization. This result is also consistent with previous studies that stressed the importance of setting an objective (Earley, Connolly, & Ekegren, 1989; Locke, Shaw, Saari, & Latham, 1981; Weingart, 1992) and structuring the organization in accordance with that objective. The second finding of this study was generated from our survey of farms, which confirmed that there is difference in 95% confidence level between the organizations in the two regions in terms of their performance. Although the two regions were only uniformly different in their answers to one question, one can safely conclude that differences exist between two regions given the clear average differences between their answers to the other questions (and given their the sample size and that the survey was conducted as a pilot study).

This study has a few limitations. First, because this study was based on interviews of individuals employed at agricultural promotion agencies, it is possible that the individual opinions of the interviewees colored their representation of the actual situation at their respective organizations. Although various questions were asked whenever one axis was judged to prevent such issues, it is possible that they were not completely prevented. In addition, because we conducted the survey in the form of a pilot test, the sample size was fairly small, and the questions were not sufficiently subdivided.

Despite these limitations, we expect the findings of this study to be useful in research that evaluates the performance of other organizations. Although our study focused on IT-supporting agricultural promotion agencies, the multifaceted method of analysis used in this study proved to offer different insights than conventional tools that determine factor-factor fit among organizations. It will also be possible to conduct a structured survey via multiple interviews in future research.

REFERENCES

1. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management, 17*(1), 99-120.
2. Burton, R. M., Obel, B., & DeSanctis, G. (2011). *Organizational design: A step-by-step approach*: Cambridge Univ Pr.
3. Choo, C. W. (2005). . THE KNOWING ORGANIZATION. *The Knowing Organization, 1*(7), 1-29.
4. Cooper, R. B., & Zmud, R. W. (1990). Information technology implementation research: a technological diffusion approach. *Management science*, 123-139.
5. Cox, S. (2002). Information technology: the global key to precision agriculture and sustainability. *Computers and electronics in agriculture, 36*(2-3), 93-111.
6. Davidow, W. H., & Malone, M. S. (1992). *The virtual corporation*: Harper Collins New York.
7. Drazin, R., & Van de Ven, A. H. (1985). Alternative forms of fit in contingency theory. *Administrative science quarterly*, 514-539.
8. Earl, M. (2001). Knowledge management strategies: Toward a taxonomy. *Journal of management information systems, 18*(1), 215-233.
9. Earley, P. C., Connolly, T., & Ekegren, G. (1989). Goals, strategy development, and task performance: Some limits on the efficacy of goal setting. *Journal of Applied Psychology, 74*(1), 24.
10. Gelb, E. (1999). *Adoption of IT by farmers-Does reality reflect the potential benefit*.
11. Hickson, D. J., Hinings, C. R., Lee, C. A., Schneck, R. E., & Pennings, J. M. (1971). A strategic contingencies' theory of intraorganizational power. *Administrative science quarterly*, 216-229.
12. King, J. L., Gurbaxani, V., Kraemer, K. L., McFarlan, F. W., Raman, K., & Yap, C. S. (1994). Institutional factors in information technology innovation. *Information systems research, 5*(2), 139-169.
13. King, W. R. (1978). Strategic planning for management information systems. *MIS quarterly*, 27-37.
14. Kwon, T. H., & Zmud, R. W. (1987). Unifying the fragmented models of information systems implementation. *Critical issues in information systems research*, 227-251.

15. Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969?"1980. *Psychological bulletin, 90*(1), 125.
16. March, J. G. (1991). Simon. HA (1958). Organizations: New York: Wiley.
17. Miller, D. (1988). Relating Porter's business strategies to environment and structure: Analysis and performance implications. *Academy of Management Journal*, 280-308.
18. Miller, D. (1991). Stale in the saddle: CEO tenure and the match between organization and environment. *Management science*, 34-52.
19. Parker, C. (1999). Decision support systems: lessons from past failures. *Farm Management, 10*.
20. Polanyi, M., & Sen, A. (1983). *The tacit dimension*: Peter Smith Gloucester, MA.
21. Rathnam, R., Johnsen, J., & Wen, H. J. (2005). Alignment of business strategy and IT strategy: a case study of a fortune 50 financial services company. *Fortune, 45*(2), 1-8.
22. Sabherwal, R., & Chan, Y. E. (2001). Alignment between business and IS strategies: A study of prospectors, analyzers, and defenders. *Information systems research, 12*(1), 11-33.
23. Sorenson, O., Rivkin, J. W., & Fleming, L. (2006). Complexity, networks and knowledge flow. *Research Policy, 35*(7), 994-1017.
24. Stiroh, K. (2001). Information technology and the US productivity revival: what do the industry data say? *FRB of New York Staff Report No. 115*.
25. Thysen, I. (2000). Agriculture in the information society. *Journal of agricultural engineering research, 76*(3), 297-303.
26. Tiwana, A. (2000). The knowledge management toolkit: practical techniques for building a knowledge management system.
27. Wackerly, D. D., Mendenhall, W., & Scheaffer, R. L. (2008). *Mathematical statistics with applications*: Cengage Learning.
28. Weingart, L. R. (1992). Impact of group goals, task component complexity, effort, and planning on group performance. *Journal of Applied Psychology, 77*(5), 682.
29. Whitehead, D., & Yin, R. (2003). Case study research design and methods, 3rd edition. *Journal of Advanced Nursing, 44*(1), 108-108.
30. Yin, R. K. (2008). Case study research: Design and methods (applied social research methods). *Case study research design and methods*.
31. Zack, M. H. (2002). Developing a knowledge strategy. *The strategic management of intellectual capital and organizational knowledge*, 255-276.