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## KNOWLEDGE SPECIALIZATION AS A BARRIER FOR SOCIAL BUSINESS/IT ALIGNMENT

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### **Abstract**

*The article use exploratory approach to identify the potential areas of disagreement between business and IT students, by measuring commonality in their interpretation when they are confronted with the same problem. The main idea behind this article is that lack of holism in education or education in isolation between disciplines is responsible for potential conflicts in management practice. Knowledge specialization in certain fields has strong influence on the individual cognitive structure and his interpretation and perception of the world. Through pre-experimental design authors tested the perception of business and IT students who were treated as surrogates of business and IT professionals in the real world. The results confirmed different interpretation between the two groups of students on six dimensions. At the end of the paper the results are presented and discussed and propositions for future improvements are suggested.*

**Keywords:** knowledge specialization, common interpretation, social alignment, cognitive dimension, mutual understanding.

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### **1. Introduction**

Business/IT alignment remains one of the key IT management challenges and concerns. Almost three decades, IT alignment has been constantly appointed as key IT management concern from IT executives and academic researchers. Since 1980, the Society for Information Management (SIM) has conducted an annual survey of the key issues facing IT executives in United States and globally. A close look of the results published in reports of Society for Information Management in period 2003-2012 shows that business/IT alignment was ranked six times as number one concern, three times as number two concern and once as number three concern (Luftman and Derksen, 2012). Another article from the same institute published very

recently in December 2014 conducted survey on 717 organizations in USA and confirmed again alignment as number one IT management concern (Kappelman et al., 2014). Similar study based on a survey conducted in Europe and compares the results to the global results, again confirmed that business/IT alignment is one of the perennial concerns. The survey was conducted in summer 2013 and for that year business/IT alignment was ranked as number one concern from IT executives in most of the countries in Europe and worldwide (Derksen and Luftman, 2012).

Business IT alignment was hot topic in the past in academics. Many questions still remain unanswered and authors often argue that alignment literature fails to capture important phenomena. The research field of IT alignment faces with challenges in both areas: literature and practice. Some of the arguments of many scholars are that alignment is mechanistic, not desirable and that it should often challenge business and instead of following (Chan and Reich, 2007). Ciborra (1998, 1997) pointed out that models developed in alignment literature are mainly conceptual and does not correspond to the real world and difficult to implement in business practice.

Several different dimensions of business/IT alignment were studied in the literature including strategic, structural, operational, intellectual, social, cultural and cognitive dimension. Most of the papers in the past were considering alignment on strategic level and only some at the functional level (Aversano et al., 2012). Authors in recent study propose clear distinction between organizational level and content of business/IT alignment. For the later they categorize the dimensions of alignment in three distinctive groups 1) human dimension, 2) social dimension and 3) intellectual dimension. By human dimension they refer to distinct attributes of individual persons, meaning skills, knowledge, leadership and behavior (Schlosser et al., 2012). Intellectual alignment as term was introduced by Reich and Benbasat (1996) referring to the consistency and external validity of business and information technology plans. Vast number of studies (Floyd and Wooldridge, 1990; Reich and Benbasat, 1996) done in the past were focused on intellectual alignment.

Only recently social capital theory and its three dimensions structural, cognitive and relational were used in exploring social dimension of business/IT alignment at strategic and operational level (Karahana and Preston, 2013; Wagner et al., 2014). The social dimension as discussed in the literature is about relationships and cognitive linkages. It encompasses relationships, mutual understanding, cultural issues and informal structure (Schlosser et al., 2012). Reich and Benbasat (Reich and Benbasat, 2000) define social alignment as state in which business and IT executives understand and are committed to the business and IT mission, objectives and plans. This is generally accepted definition of social alignment. Researchers have acknowledged that shared understanding between business and IT is a crucial factor to achieve higher level of alignment and business value of IT (Jentsch and Beimbom, 2014; Zhao et al., 2009).

Many arguments can be found in the literature about antagonism and lack of understanding between business and IT professionals. Scholars argue that there is profound difference in how business and IT professionals understand the social environment. Often in academic articles various terms were used as symbols of the antagonism between business and IT professionals. Some of the words referring to this lack of mutual understanding mentioned in papers and conferences are: 1) disconnect of mindsets (Brennan, 2008) 2) tango with a robot (Dedene, 2010) 3) strangers on the train (Day, 2007) 4) troubled marriage (Ward and Peppard, 2007) 5) mind the gap (Peppard and Ward, 1999) 6) sound off (Jahnke, 2004) and others. This has inspired many scholars to explore and to go deeply into the very nature of mutual understanding between these two groups of professionals.

Several important studies have been done in past related to potential conflicts between these two groups of professionals. Rao and Ramachandran build on research of Guzman (2008, 2009) and others and conducted a research about occupational culture of information systems and managerial personal. One of the goals of their study was to identify the potential points of conflict between these two groups of professionals on two groups of dimensions (Rao and Ramachandran, 2011). The theoretical framework of grid and group dimensions used in their study was previously suggested by Trice (1993). The group dimension serves to assess the cohesiveness of the overall group while the grid dimension focuses on group member beliefs about the

hierarchy and division of labor. In the results of the study they found source of potential conflict in five out of seven group dimensions and in all three grid dimensions. Data were collected by interview of ten IS professionals and eleven managers in North American organizations. The goal of this paper is similar to the goals of previously mentioned studies. This study is trying to identify the potential areas of different interpretation between business and IT students as a result of knowledge specialization created through the process of education. The identified areas could be a source for future cognitive conditioning and impede mutual understanding and agreement between these two groups. If we succeed to identify the potential areas of different interpretation we might get closer to the source of the problem in social business/ICT alignment.

## 2. Knowledge Specialization and Mutual Understanding

Knowledge specialization is mainly result of division of labor and the intention to increase work efficiency and productivity. We could also accept the notion that another reason for knowledge specialization is the limited potential of humans to absorb large amount of knowledge, explicit and tacit in a limited time frame. Demestz (1988) argue that specialists exist because some items of knowledge are cheaper to learn together than others. This cost of learning is related to the prior related knowledge which can increase our ability to absorb new knowledge. This means that it is easier for people to expend their knowledge base in certain domain if their prior knowledge base is somehow related with the new incoming knowledge. Postrel (2002) indicates that the fundamental tension in the division of knowledge is between superior learning efficiency of specialization and its inferior integration properties.

Jacobson (2008) developed knowledge sharing model based on work of Shannon and Weaver (1948), and their classical model of communication. According to the knowledge sharing model the absorptive capacity of knowledge receiver is related to his prior knowledge. This supports the assumption that two persons, sender and receiver, can better exchange knowledge if both are similar in terms of education and background. Also if that is the case it is more likely that receiver would change his attitude or behavior as result of absorbing new knowledge. In most cases in the real business world business and IT professionals have different background and previous knowledge which limits their absorptive capacity and impedes knowledge sharing. This is very important in achieving mutual understanding between business and IT professionals because scholars have indicated that communication is important but not sufficient enough for achieving alignment. Cognitive dimension which captures shared codes, language, and perspectives, and refers to the extent to which IT and business staff knows each other's interpretations of reality is also very important (Wagner et al., 2014). According to knowledge sharing model of Jacobson prior knowledge plays important role in absorptive capacity of new knowledge in the process of knowledge sharing. The knowledge base of both professionals group is created in large portion through the process of education. This paper is an attempt to identify potential areas of division in the knowledge base mainly created through professional education.

Postrel indicates that studies of product development show that greater knowledge commonality is associated with better firm performance. Although situation where it makes sense to maintain positive amounts of understanding across specialties are relatively rare in the economy as a whole they are relatively common in the areas where management is necessary (Postrel, 2002). Business IT alignment is a proper area of management which requires mutual understanding across specialties. Number of authors confirmed that higher level business/IT alignment is positively related with better business performance. Preston and Karahana empirically supported that shared language, shared domain knowledge and structural and social systems of knowing have the role of antecedents in achieving better shared understanding between CIO and top management team. Thus success of achieving higher levels of business/IT alignment depends critically on developing superior trans-specialist understanding (Preston and Karahanna, 2009).

This was another driver for authors of this article to conduct research about commonality of attitudes and perceptions between business and IT students on a real business/IT case example. The core idea behind the theoretical elaboration above is that business and IT students would have different opinions and percep-

tions as a result of highly specialized knowledge which they obtain through the process of their education. The extra effort required to obtain knowledge from another discipline reduce student's motivation for such endeavor. Building interdisciplinary study programs, conducting cross-disciplinary research and obtaining cross domain knowledge is recent activity even in highly developed countries. Most of the educational programs especially in developing countries remain strongly isolated and highly specialized in one area and only offering few optional courses to students from other disciplines. The processes of employee orientation in the business world are not very much focused on crossing barriers in knowledge specialization. The null hypothesis tested in this article is: Business and IT students have common interpretation and similar perception of all aspects of the IT replatforming case story.

Several authors (Armstrong and Sambamurthy, 1999; Nahapiet and Ghoshal, 1998; Preston and Karahanna, 2009; Tan and Gallupe, 2006) confirmed that shared knowledge is antecedent of shared or mutual understanding. Preston and Karahanna (2009) advocate sharp discrimination between shared knowledge and shared understanding. In their model of antecedents of shared understanding they make clear distinction between these two constructs. Shared knowledge is consisted of CIO business knowledge and TMT – top management team IS knowledge. The term shared understanding in the same model according to authors refers to the shared understanding between CIO and the TMT about the role of IS in the organization (Preston and Karahanna, 2009). Other authors (Nelson and Coopride, 1996; Ray et al., 2005; Ajan, 2009) use the term knowledge and understanding interchangeably. Jenetch and Beinborn (2014) based on a previous work on other scholars accept the approach that shared understanding in terms of agreement and shared knowledge as justified true belief within a social group are the same. Both approaches to understanding mentioned above whether as antecedent to shared understanding or as exactly as the same concepts supports the key assumption of this paper that strong knowledge specialization can restrain mutual understanding. Knowledge similarity of the two groups of specialists is a key factor to mutual understanding.

Based on the work of Cannon-Bowers and Salas (2001) through the experimental design in this paper we are measuring whether business and IT students share common interpretation based on their level of knowledge similarity. In their paper they have identified four categories of shared knowledge: overlapping knowledge, similar/identical knowledge, complementary or compatible knowledge and distributed knowledge. In this paper first two categories have been used as theoretical assumptions for conducting this experimental research. The first category overlapping knowledge refers to the need that team members need to have some common knowledge. It does not mean that team members need fully redundant knowledge but some portions of knowledge need to be shared (Cannon-Bowers and Salas, 2001). This argument is exactly the opposite what is usually done through the process of professional education and creating strong knowledge specialization.

Second category is related with the need of holding similar or identical knowledge by team members in order to achieve shared cognition. According to the same authors this category applies most directly to shared attitudes and beliefs. Team members must hold similar attitudes and beliefs in order to draw common interpretations. When such attitudes are not shared, resulting confusion and failed expectations can have an obvious negative impact on performance (Cannon-Bowers and Salas, 2001).

In this paper first two categories named as overlapping and similar knowledge have been used as explanation of the term “shared”. The key assumption is that if students have more similar and overlapping knowledge they are more likely to create common interpretation to a same situation. The Case of Co-operative Bank's Core Banking System Migration was the situation with which students from both groups were confronted through survey questions. Creation of division in knowledge through process of specialization result in cognitive conditioning that impedes mutual understanding.

### 3. Research methodology

In order to test commonality in interpretation between the two groups of business and IT students a case study was developed. The case study was based on the Report of the independent review into the events leading to the Co-operative Bank's capital shortfall<sup>26</sup>. The report was published on 30th of April 2014. Mainly the section of IT replatforming was used for developing the case but also other sections have been used when additional information were needed to better represent the events. An excerpt from the IT replatforming case is presented in the appendices A1 and A2 of this article with the list of subheadings. The whole version of the case story cannot be presented taking into the account the limited space for the article and it can be delivered upon request from the author. The case study was adjusted to the needs of the research purpose of this study. Also a survey with 25 questions on seven point Likert scale was developed based on a theory about business/ICT alignment and the context of the IT replatforming case. All survey items are presented in the appendices B1.

The whole version of the case study and the survey questions were pretested with five business, three IT students and one person from academic staff. Useful comments and suggestions from pretesting helped to improve the text of the case, make it clearer and closer to the students' knowledge. The questions from the survey have also been modified in accordance with the feedback provided by students participating in the pretesting. Two groups of business and IT students have been randomly selected from Ss. Cyril and Methodius University on voluntary basis to read the case and answer the questions from the survey. The business students were studying management and marketing at the Faculty of Economics - Skopje while IT students were studying informatics and computer engineering and network technologies at the Faculty of Computer Science and Engineering. Both faculties are part of Ss. Cyril and Methodius University. Both groups were students from fourth year and similar age which means that age was not contributory factor to potential difference in perception.

Data collection has been done in two days spent on two faculties. Business and IT students from both faculties have been asked to read the case and fill the survey after the class. Four main instructions have been given to the students: First carefully to read the case and understand what the story is about and what has happened; second based on their personal opinion to answer the questions from the survey; third to try to answer to all of the questions and if they do not understand some question to leave it blank; and fourth participating in the experiment is on voluntary basis and there is no punishment or reward for participating in the experiment. No other instructions were given to the students in order to avoid any influence on their point of view. One and half hour was given to students to read the case and fill the survey.

The total number of students responded on survey was 110 but two respondents were removed from the sample because there were too many missing values and the data were not useful for analysis. The number of business students who answered the survey was 73 while the number of IT students who answered the survey was 35. The difference in the total number of received responses from both groups does not affect final results because independent sample Mann-Whitney U test was used to analyze collected data.

### 4. Data analysis and discussion of results

Data analysis was performed on a sample of 108 usable questioners. The data were analyzed regarding missing values, normality and equality of variances. All 108 questioners did not have missing values and the quality of the data was analyzed in terms of normality. Normality of the data was tested by performing Kolmogorov-Smirnov and Shapiro-Wilk test. The results showed that data were not normally distributed which was expected from the researcher to a certain extent. Next Levin test that assess the equality of variances for two or more groups was performed on all data and the results were significant which was indica-

26) The report was downloaded from internet link

<http://www.cooperative.coop/PageFiles/989442031/kelly-review.pdf>

tor for switching to non-parametric tests free from homoscedasticity assumptions. A Mann–Whitney U test for comparing medians was used to analyze the data because the dependent variables are continuous variables and the data have not been normally distributed. In the survey a seven point Lickert scale was used as interval scale and it was expected differences between the two groups in the answers to fall on one side of the continuum. Thus a single-tail versus two-tail statistics was used to identify potential differences between the answers of the two groups.

The statistics did not show any significant difference in the median results in 19 survey questions for both groups IT and business students. According to the results we could not reject the null hypothesis for all 19 questions which lead to the conclusion that in most aspects and dilemmas posed to the students through question items resulted in very similar interpretations and perceptions of the IT replatforming story. This means that we fail to reject the null hypothesis for 19 out of 25 survey items.

A significant difference in the median score was identified in 6 out of 25 survey indicators numerated as questions 3,5,7,10,12 and 13 in the questionnaire used in the survey. For these six items we can reject the null hypothesis that there is no difference between business and IT students in their perception and interpretation of the banking case for replatforming. Below in table 1 are presented only results for the six items from the survey where statistical significance has confirmed the difference in the median between IT and business students.

**Table 1.** Dimensions of significantly different interpretation

	Q 3	Q 5	Q 7	Q 10	Q 12	Q 13
Mann-Whitney U	950.000	1006.500	891.000	898.500	1001.000	962.000
Z	-2.193	-1.812	-2.572	-2.661	-1.844	-2.204
p - value	.028	.070	.010	.008	.065	.028
Grouping variable: educational profile						

Q3 as indicator was measuring the justifiability of frequent and inconsistent change in the IT strategy of the bank. Since  $p\text{-value} = .28/2 = 0.014 < 0.05 = \alpha$  there is enough evidence to conclude that there is a difference in the median perceptions between the two groups. Q5 was measuring the role of rigidity of information technology as barrier for strategic business/ICT alignment. The  $p\text{-value} = .07/2 = 0.035 < 0.05 = \alpha$  again confirms the conclusion that there is significant difference in the perceptions of both groups. Q7 was used as measure of banking decision to go for replatforming in situation when there is no too many previous positive experiences. The question should impose dilemma in front of the two groups of students to test their attitude related to risk taking. The social business/ICT alignment is very often reflected in IT project management regarding the potential risk and priority of the project for the company. The  $p\text{-value} = .01/2 = 0.005 < 0.05 = \alpha$  confirms the conclusion that there is significant difference in the perceptions of both groups regarding the risk taking for replatforming. Q10 is an indicator measuring responsibility of the IT manager in relation to the board of directors. The reason for this question was to identify potential differences in interpretations of two groups of students regarding IT manager responsibility in the project of migration. The table 1 shows that  $p\text{-value} = .08/2 = 0.004 < 0.05 = \alpha$  confirm the conclusion that there is significant difference in the perceptions of both groups regarding IT manager responsibility.

Very interesting significant difference appeared in the Q12 which was measuring the level of technical knowledge that CEO and the board of directors should have. Two groups business and IT students significantly differently rated the level of technical knowledge that top management of the bank must had. This difference in perception whether business people should know more about IT or IT people should know more about business is often discussed in the literature and mentioned in business practice from both groups of professionals as problem. Again the  $p\text{-value}$  was significant with  $p = .065/2 = 0.0325 < 0.05 = \alpha$  confirm the significance



in the different perception of the two groups. Q13 was measuring again responsibility of IT manager but this time in the project management activities for IT replatforming. On test was the decision to leave the project and the two groups should judge the appropriateness of the decision that was taken. The results in table 1 show that p-value was significant also for this indicator with a value of  $p=0.028/2=0.014<0.05=\alpha$ . The analysis of the results showed that in most of dimensions related to the case of IT project failure students of both groups did not show significant difference in their perceptions.

The goal of this paper was to identify some potential areas of different views through pre-experimental design. The potential areas of different interpretation and perceptions between the two groups of students with specialized knowledge identified through this study were: 1) approval of frequent change in IT strategy, 2) rigidity of information technology as argument for time lag in IT/business strategy tuning, 3) level of risk orientation, 4) IT manager responsibility regarding IT project and risk management, 5) required level of technical knowledge of board of directors, 6) IT manager responsibility regarding IT project and risk management. The analysis of the results from testing the perceptions of two groups of students on a single case is a useful way to identify potential areas of future research. The significance shown on six dimensions can be potential areas where in future the author could delve more deeply into the potential factors that contribute to different perceptions on those dimensions. Also future research can propose methods and best practices that can help to bridge those differences and overcome the areas of mismatch between the two groups of professionals.

## 5. Research limitations and future improvements

The attempt of this research study to identify potential difference in interpretation and perception of the reality between two professional groups has some limitations. Although this paper has contributions, it has inherent limitations that warrant caution in interpretation of the results. A first, important limitation is the sample size. Increasing the sample size would probably yield more valid and reliable results. Second important limitation was the level of engagement of the students in deep understanding of the case example and trustworthiness in filling the survey. Third, this is more pre-experimental design which means that there were no more scenarios given to the students; also there was no pretesting and post-testing, control and treatment group. Fourth, subjective interpretation of the results can also be strong limitation of the study. Fifth, the students as objects of research who were participating in the experiment were from one country and single educational system. Making the same experiment in other countries would increase the validity and reliability of the study. Sixth, using students as surrogates to relate the results with business and IT practitioners in real world has some disadvantages.

The study also has some limitations regarding the methodology. The pre-experimental design can be improved and transformed into true experiment by including control and treatment group. Some more advanced techniques like multidimensional scaling can be used to measure the similarity between the interpretations of the groups. Interesting approach for improving the study would be if third group of students who are studying information systems management or information management program is involved in the study to compare the results between all three groups: business students, IT students and information systems students. The research can be expended in the real business world involving real business and IT professionals apart from students and compare the results. It would be interesting to compare the results from both datasets the one with students and the one with real business and IT professionals. If the comparison of the results not give any significant difference it would mean that the potential areas of disagreement or different perception have not been changed as a result of working experience. The number of dimensions in which differences would be identified could also be interesting for comparison. If the number of dimensions where null hypothesis is rejected is higher in the experiment involving business and IT practitioners, than we could argue that through process of working experience and stronger involvement in real business and IT problems the antagonism between these two groups has increased compared to students. The potential improvements mentioned above are the future research activities that the author of this paper is intending to

do in order to improve the validity and reliability of the results of this paper. This pre-experiment was very useful in order to test the potential and space for future research regarding the null hypothesis tested in this paper.

## 6. Conclusion

This study has contribution to existing theory in several ways. First this pre-experiment was response to the call of many authors for more research in social dimension of business/ICT alignment with more focus on cognitive dimension. Although there is growing number of studies that use cognitive perspective in IS research, not many can be found in the field of business/ICT alignment. The research done in this paper is an attempt to identify potential dimensions that constitutes different cognitive structures in two groups of students, business and IT students. The key assumption in the study is that differences in cognitive structures are greatly resulting from knowledge specialization in education. Therefore, in certain way this study explores both the commonalities (similarities) and individualities (differences) in the cognition of two groups of professionals when they are confronted with same problem.

Business and IT students have shown more sensitivity to only two dimensions related to strategic alignment. The responsibility of IT manager was measured through five indicators where significant difference was found on only two. The rest of the two dimensions where null hypothesis was rejected are related to the dimension of knowledge overlapping and risk orientation. Knowledge overlapping was measured through three dimensions whereas risk orientation was measured through four questions. In both situations significant difference was found on only one dimension. Although on most dimensions for different interpretation and perception of reality between business and IT students was not found, the six dimensions where such difference was confirmed opens the window of opportunity for research in those subareas as additional testing for greater validity. There are several useful conclusions that can be derived from the results in this research study. Most of the survey indicators which have been used for measuring some dimensions of students' perception did not show significant difference. Considering research limitations of the study we may conclude that there is greater commonality in cognitive structure between these two groups of students than differences. Only on several dimensions the research results confirmed significant difference between the groups. The identified dimensions can be valuable source for focusing educational effort in bridging the gap between the two groups of specialists. The research in future can be more focused to test the validity of the dimensions identified as areas of division in interpretation and perception.



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## **Appendix A. Excerpt from IT replatforming case and all subheadings**

### ***A1. Excerpt from the IT replatforming***

Cooperative Bank is a full-service retail bank, also serving small and medium-sized enterprises. In 2007 needed a technological platform disproportionately complex for its size. It had originally built its core banking system in the 1970s, as had many other UK banks. An array of new components had been added over the subsequent decades as products evolved and new services were developed. The age and complexity of the system, and the many interfaces between its components, meant that the Bank's technology platform was unstable, expensive to maintain, complex to adapt and ill-equipped to support its business requirements. There were particularly severe problems with the functionality of the online business banking platform. These weaknesses resulted in high running costs. Upgrading to comply with new regulatory requirements ate up considerable resource. Having decided that it had to take action, the Bank evaluated the different options. It had two broad choices if it was to continue to run its IT systems in-house. It could attempt to improve its existing systems (remediation). Or, much more ambitiously, it could replace its core banking system completely, and simultaneously upgrade a large number of other applications – business process management tools, data management systems, internet banking applications and so on. The Bank decided to pursue the ambitious option. Core banking system replacement is therefore often discussed. But it has rarely been pursued. It is recognised to be both complex and very risky, sometimes compared to “changing engines on an airliner at 30,000 feet.”

### ***A2. Case subheadings***

1. Credit Bank description and working environment
2. Bank business and IT strategy
3. The development of core IT banking system before decision for migration
4. Causes for It system changes in 2007/2008
5. Decision and realization of IT migration
6. Description of new banking solution
7. IBM collaboration with the bank
8. IT manager leaves the project
9. IBM excluded from the migration project
10. Britania merger
11. Project management of IT migration
12. Rise of complexity after migration
13. Project migration costs
14. Dropping the migration project
15. Consequences for the bank from project migration failure

## **Appendix B. Measuring business and IT students common interpretation**

### ***B1. Survey items***

Likert scale (ranging from 1 = strongly disagree to 7 = strongly agree)

1. I would not change business strategy very often like Cooperative Bank.
2. It was necessary for the bank to change business strategy dramatically as a result of increased requirements from the regulator and dynamic nature of the business.
3. I think that the bank was changing very often IT strategy without good reason.
4. I think that IT strategy has failed to follow the changes in the business strategy.
5. Information technology is very rigid in its nature and therefore it cannot follow frequent changes in business strategy.
6. I think that IT strategy should have stronger influence on business strategy and not the opposite.
7. The bank did not suppose to go for full migration of its core banking system without any other positive business practices.
8. The bank did not supposed to increase the migration requirements from core banking to full platform migration.
9. It was necessary for the bank to increase the migration requirements in order to support new business strategy.
10. It was IT manager's responsibility to present the potential risks and threats of the new product in front of the CEO and board of directors.
11. I think that IT manager had to compensate the lack of technical knowledge of the CEO and board of directors.
12. I think that general manager and board of directors had to have more technical knowledge.
13. If I was IT manager I would never leave the migration project during its implementation.
14. The bank should not left the collaboration with IBM because it was left with no expertise.
15. I think that bank made the right choice breaking the collaboration with IBM because the outsourcing contract was too expensive.
16. Starting the merger with Britania was wrong decision when IT migration was not still over.
17. Management should never decide to go for migration of two core IT systems from two organizations in process of merger on totally new, third IT platform.
18. I think that it was responsibility of whole IT department to create effective management of IT migration project.
19. I think that it was responsibility of IT manager to create effective management of IT migration.
20. I think that IT manager was responsible to coordinate different projects and teams in the IT migration project.
21. The increased change requests created by business people were not justifiable.
22. The new IT platform had to be adjusted to new business requirements.
23. The most responsible person for IT migration budget overrun was IT manager.
24. CEO and the board of directors are the most responsible for cost and time overrun.
25. I think that most responsible for project failure is IT manager and IT department.