Analysing Business-IT Alignment in the IT Outsourcing Context
A Case Study Approach

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Abstract: Information technology plays an increasingly important role in developing business strategies. Consequently, it is vital for organizations to ensure an alignment between IT and business strategies and goals. Usually business-IT alignment (BIA) is understood at the organizational level between business and IT teams, whereas IT outsourcing (ITO) extends organizational boundaries and implies inclusion of service providers. In the case of ITO, BIA is harder to achieve and manage. In this paper it is proposed to measure ITO maturity through a set of factors that influence the success of ITO activities, while a selected BIA maturity framework has been extended with two additional dimensions. The combined BIA-ITO model has been applied in a case study, with the purpose to empirically validate the model as well as to gain valuable insights on the BIA-ITO relationship in practice. The results indicate that IT outsourcing can have a positive impact on business-IT alignment.

1 INTRODUCTION

Over the last decades the role of information technologies (IT) has changed significantly from a business support function to a vital component of organizational strategy. Many companies realize that the alignment of IT and business is a managerial priority for solving organizational and business challenges (Tallon & Kraemer, 2011).

In the highly competitive market environment companies need to determine their core competencies and focus on delivering their primary services to customers. As such, non-core activities are outsourced to external vendors. In the research project pursued and presented in this article, outsourcing is scoped to IT outsourcing (ITO), defined as the practice of transferring internal IT services to an external provider. Being specialized in this area, external providers can offer services with lower cost and higher quality.

Although bringing advantages (e.g., (Ang & Straub, 1998; Craig & Willmott, 2005)), outsourcing of the internal IT services to an external supplier influences the complexity of the business-IT alignment (BIA). Traditionally, business-IT alignment is seen at the organizational level as the collaboration of two parties within one company – IT and business teams, while IT outsourcing expands the boundaries and implies inclusion of a third party, namely the IT service provider. Consequently, BIA is affected by the business processes, management practices and characteristics of a service provider. As a result, alignment becomes more challenging to achieve and manage.

The review of previous studies revealed that the combination of BIA and ITO is not extensively explored and, in general, insufficiently understood (e.g., (Pollalis, 2003; Derksen, 2013)). The research project presented in this article aims at advancing the research in the area of business-IT alignment in an IT outsourcing context. The goal of the research project pursued is to analyze and assess the business-IT alignment in organizations outsourcing IT resources. In order to achieve this goal we need to design a model which helps to evaluate, what we will call, the BIA maturity in an IT outsourcing situation. The proposed model was subsequently validated with four case studies. The collected information allowed the elaboration of a set of recommendations for further development of a questionnaire for a broader research using a survey method.

This paper is structured as follows. The next section contains a summarized review of relevant

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concepts. Section 3 briefly presents the methodology followed in this paper. Section 4 introduces the approach used to select ITO factors that influence the maturity of IT outsourcing activities and justify the selection of the most appropriate BIA reference model, considering the aim of the current research project. In Section 5 the combined BIA-ITO model is presented. The findings of the case study, where the BIA-ITO model has been applied, are presented in Section 6. Section 7 addresses a discusion of the results, reflects on related work and the added value of the proposed BIA-ITO model. The paper concludes with a section summarising the results and addressing the needs for future research.

2 BACKGROUND

An in-depth literature review was pursued to identify and analyse the most relevant approaches on BIA and ITO, ITO reference models and BIA frameworks and measurement models.

Topics of BIA and ITO are studied broadly by scientists and practitioners. However, the review of previous studies revealed that the combination of BIA and ITO has not been addressed in a conceptual and systematc way, in spite of the fact that IT outsourcing can significantly affect the stable relationship between business and IT. This research gap is a focal point in this paper.

2.1 BIA and ITO

Dutta (1996) performed a study focusing on two banks with diametrically opposite strategies of aligning IT with business: one bank manages IT in-house, while the second bank completely outsourced all of its IT functions. This study describes the approach used by each bank to ensure BIA, and presents as one of its main conclusions, drawn from a comparative analysis, that physically IT can be outsourced, but it is not possible to outsource the management of IT.

Similarly, Cumps et al. (2006) conducted a comparative theoretical study with two imaginary scenarios in order to examine the likely impact of outsourcing on BIA. The result of this study is a theoretical proposition stating that in organizations where IT is of high strategic importance, outsourcing will determine both more formal and informal alignment structures and processes between the organization outsourcing IT services and the supplier organization. Although this study provides a valuable theoretical reflection on IT outsourcing and BIA, it is not supported by empirical evidence. Additionally, both topics of BIA and ITO are closely related to practice, so they have to be analyzed not only from a theoretical perspective but also linked to practical data.

Pollalis (2003) derived data from 127 global commercial banks. The results show that outsourcing affects performance positively as long as the implementation of IT is consistent with the needs of business. This study appears to be related to the goal of the research in this paper. However, the major drawback is that the author described neither the methodology of the research nor the undertaken survey, therefore it is impossible to repeat his experiment and justify the derived results.

The study of (van Lier & Dohmen, 2007) addresses the influence of strategic alignment and cost/ benefit management on ITO success. Luftman's alignment maturity model (Luftman, 2000) is used to evaluate the maturity of the alignment, though the authors slightly modified the approach: Luftman's approach stresses that company's executives should determine the level of strategic alignment, while van Lier and Dohmen (2007) asked an external observer to define this level saying that an external observer has fresh and clear vision of the situation. However, in order to determine the level of strategic alignment the observer should have an in-depth knowledge and clear understanding of the situation in the company and its processes (Luftman & Brier, 1999). Therefore, the results of this study can be considered as subject of much controversy.

A qualitative study performed to analyze the relationship between ITO and BIA is described in (Silvius et al., 2013). The authors concluded that a higher level of motivation for outsourcing paired with a higher level of the relationship between outsourcer and service provider, and with a higher level of alignment maturity of the outsourcer. This study also revealed that the ITO relationship is influenced by organizational turbulence on one or either side of the relationship and the service providers lean towards assessing the relationship on a higher level than outsourcers.

The analysis of the available studies shows the need for a more in-depth exploration of the relationship between BIA and IT outsourcing. This work aims to explore this relationship, with a rigouros scientific method.

2.2 BIA Frameworks and Measurement Models

In this section the most frequently cited business-IT alignment frameworks are shortly introduced.

The strategic alignment model proposed by Henderson and Venkatraman (1993) is a foundation model for a vast number of studies, and several authors take it as a basis for constructing their own frameworks, e.g., the Integrated Architecture Framework of (Goedvolk et al., 1997) and Unified Framework of (Maes et al., 2000). These models provide abstract views on alignment but do not suggest operational guidelines or best practices to assess strategic alignment.

Luftman (2000) proposed a model to evaluate the company's alignment maturity level. The model advances 38 attributes grouped in six dimensions to support the assessment of the maturity level of BIA: communications, value measurements, governance, partnership, technology scope and skills. For each dimenstion there are clearly defined maturity levels. All areas should be given attention to mature the alignment between business and IT. A practical instrument which uses five levels of BIA maturity is also provided.

Reich and Benbasat (2000) view alignment as the linkage of intellectual and social aspects of an organization. A measurement method was developed for the social dimension. Although it represents an important advancement in this area, this model does not completely cover the full concept of BIA. It considers alignment within only two dimensions (social and intellectual). However, these two dimensions do not fully capture the complexity of the relationships in companies, especially in the context of BIA. Additionally, no evidence of applying this model in practice was found in the literature.

Sabherwal and Chan (2001) elaborated a model of fit between business strategies and IT strategies. Authors study the relationship between business strategy and IT strategy using Miles and Snow's (1978) classification of defender, analyzer, and prospector business strategies.

The state-of-the-art review performed on topics related to the impact of IT outsourcing to strategic alignment allowed us to identify shortcomings of existing works and the need to further explore these topics. Research on assessing the influence of IT outsourcing on BIA is scarce, and no generally accepted model for evaluating the effects of IT outsourcing on BIA was found in the literature. Hence, this paper aims to advance a model and validate it empirically with the data from four case studies.

3 METHODOLOGY

The research approach is illustrated in Figure 1. The literature review stage is based on an extensive literature analysis where ITO factors have been selected and BIA frameworks have been evaluated on the basis of a set of pre-defined criteria.

In line with the undertaken analysis, a hypothetical combined model for evaluating BIA maturity in an IT outsourcing situation has been developed, based on the concepts adapted. The ITO maturity was measured on the basis of a set of factors which are identified through literature review and field experts' opinions. The selected BIA framework was then complemented with two dimensions. Subsequently the combined model has been empirically tested by using a case study method. The empirical investigation served to validate the combined model, as well as to gain practical insights with respect to the interrelations between BIA and ITO. The last part of the research addresses the analysis of the results. During this step, the collected information has been analysed and the findings are presented.

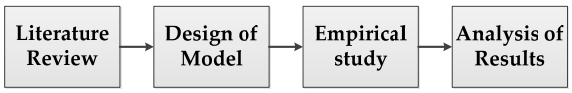

Figure 1: Research methodology.

4 REFERENCE MODEL SELECTION AND ASSESSMENT

This section seeks to find the proper mechanisms to measure ITO and BIA maturity levels. These mechanisms will be further used to design a model for measuring business-IT alignment in an IT outsourcing situation.

4.1 IT Outsourcing Factors

The objective of this section is to elicit factors that are important to be managed within the organization in order to reach high maturity in IT outsourcing activities. This part of the research work was based on the literature research and discussion with experts. There is an abundant discussion among

computer scientists and business managers about critical success factors which underpin effective management of IT outsourcing (Alborz, Seddon & Scheepers, 2003). Many research studies have addressed success factors in IT outsourcing, e.g., (Beaumont & Sohal, 2004); (Gonzalez, Gasco & Llopis, 2005); (Ishizaka & Blakiston, 2012); (Smuts et al., 2010); (Cullen & Willcocks, 2003); (Oza et al., 2004); (Tan, 2009).

These studies have passed a thorough examination. Firstly, the factors identified in each scientific paper were selected. At the second step the complete list of factors had been sent to the managers of companies with ongoing IT outsourcing activities. Three managers of companies that had on-going ITO activities reviewed a predefined set of ITO factors retrieved from the literature research (ten, in total), and provided their opinion, indicating which factors are important in practical conditions. During the third and final step, the factors with the same or similar meaning were grouped. For instance, factors related to communication, client-provider contacts, understanding each other were grouped under *Relationship management* category.

This revision led to the elicitation of seven factors which can be considered to influence the success of ITO activities. These factors are: contract management, performance management, preparation step, outsourcing strategy, governance, relationship management, and knowledge management. Three other factors identified in literature (change management, risk management and internal readiness) received low importance from the practitioners and where discarded.

4.2 Business-IT Alignment Model Selection

After choosing the tool for IT outsourcing, an appropriate mechanism for measuring the business-IT alignment maturity level needs to be defined.

Four business-IT alignment maturity frameworks have been presented in Section 2.2. In the context of this research the most important aspect is the measurability of business-IT alignment. The comparative analysis result of the frameworks is presented in Table 1. The following aspects were considered when analysing the BIA maturity frameworks: weather the framework is derived from theory or practice, the size of the organization, dimensions of the framework, measurement tool used, and the complexity to use and apply the maturity framework.

In (Reich & Benbasat, 2000) alignment is seen as a linkage of two dimensions – intellectual and social aspects. A measurement tool is proposed for the social dimension, which is based on the interviews with experts and review of documentation. Therefore, it does not reqire any specific knowledge, and is simple to use and apply in the organizational context. However, this model does not completely cover the full concept of business-IT alignment and has a too narrow scope for assessing BIA in companies (Mekawy, Rusu & Ahmed, 2009). Another reason of exclusion is that no evidence of applying this model in practice is found in the literature.

The model advanced by (Sabherwal & Chan, 2001) studies alignment as a cooperation between business and IT dimensions, and does not suggest any measurement tool. This view of alignment can be considered too generic for the purposes of the current research, since it does not allow to evaluate BIA maturity within a company. According to (Mekawy, Rusu & Ahmed, 2009) this model is applicable only to small and medium size organizations. Additionally, with respect to the complexity criterion, this model applies the Miles and Snow's (1978) typology of business strategies, which is a complex concept to understand and apply. Consequently, the model of Sabherwal and Chan (2001) is not suitable as a reference framework in this research project.

The strategic alignment model of (Henderson & Venkatraman, 1993) provides an abstract view on alignment based on the four dimensional model. This model has an extensive theoretical evidence and is also applied in practice for understanding the BIA concept. The description of the model is extensive, therefore the complexity of usage is medium. However, this model does not provide a measurement tool and can not be used for further empirical research.

Luftman's model (2000) represents a practical measurement instrument based on six dimensions and 38 attributes. BIA assessment uses five levels of BIA maturity. The attributes have extended descriptions and the measurability of the five levels is clearly defined. Luftman elaborated a questionnaire which provides the opportunity to define the level of BIA maturity in a company. The model is not too complex and all experts are able to gain insights into it. Scientists vastly use this model for their research (e.g., (Khanfar & Zualkernan, 2010), (Ekstedt et al., 2005)). These considerations make Luftman's framework the most suitable approach for the present research.

Table 1: Evaluation of BIA maturity frameworks.

	Henderson and Venkatraman (1993)	Luftman (2000)	Reich and Benbasat (2000)	Sabherwal and Chan (2001)
Theoretical / practical evidence	Theory, Practice	Practice	Theory	Theory
Organizational size	Small / Medium / Large	Small / Medium / Large	Small / Medium	Small / Medium
Dimensions	4 dimensions 12 components	6 dimensions 38 attributes	2 dimensions	2 dimensions
Measurement tool	Not provided	Quantitative questionnaire	Interviews and documentation	
Complexity of use and apply	Medium	Medium	Simple	Complex

Based on a comparative analysis, Luftman's framework has been selected as the most valid one for this research and will be used to evaluate the maturity level of BIA in organizations. However, it needs to be enhanced in order to reflect the complexity of the relationships in an organization and support the assessment of the BIA maturity level in an organization, in the ITO context.

5 THE DESIGNED MODEL

The extensive literature review showed that Luftman's alignment maturity assessment model (2000) is directly applied in the other studies without attempts to refine it. Most of the available studies focus on the alignment of business and IT strategies, plans, and goals (so called *intellectual alignment*). However, nowadays the employees are the most important asset in organizations (Gabcanova, 2011). Alignment is a continuous process and an alignment model needs to keep up with the dynamic pace of business changes. Luftman's model does not consider the employee engagement as an important aspect of BIA, while we propose to include it in the model and evaluate alongside other six dimensions.

Information systems have evolved from an operational tool to a competitive and strategy element. Technological advances, such as business intelligence, product lifecycle management, and knowledge management systems, are also changing the way organisations conduct their business. Therefore it is important to gain insights into alignment of the information systems and business goals.

Though Luftman's model provides strong coverage of a considerable number of dimensions, it does not tackle important aspects of alignment, such as *Employee engagement* and *Technology scope*, and therefore an extension of the model could be elaborated, addressing these aspects.

5.1 Employee Engagement Dimension

(Reich & Benbasat, 2000) consider the business-IT alignment concept as the linkage of intellectual and social dimensions. The social dimension of alignment addresses such aspects as a mutual understanding and the quality of communication between business and IT teams, and awareness of regular employees about the strategic goals and plans.

Literature analysis revealed that the importance of social alignment is rarely addressed in scientific studies. In (Preston & Karahanna, 2009) it is argued that often the tension between IT and business is a result of ineffective collaboration and communication, rather than technological constraints. The authors conclude that solving the problem of social alignment will contribute to the technological alignment, increase the value of IT in business and improve BIA in general.

Social alignment is a complex construct which should be addressed at both strategic and non-strategic levels. Luftman's model covers social dimension at the strategic level, while social alignment should be realized at all levels from owners to regular employees. When regular employees understand strategic goals and plans then they know how they can contribute to those objectives (Boswell, Bingham & Colvin, 2006). Lower-level employees' awareness of company's strategy increases the possibility that the strategy will be executed correctly. At the same time, communication of the strategy to the regular employees can improve their trust and commitment to the company, which in turn can produce more positive work-related outcomes (Boswell & Boudreau, 2001).

The proposition is that *Employee engagement* dimension should be considered along with the six dimensions of Luftman's model in order to reflect

the complexity of the relationships of business-IT alignment.

5.2 Technology Scope Dimension

Belfo and Sousa (2012) undertook a critical review of Luftman's model. The main critique point is that technology dimension is not addressed in the full extent though it is partially covered in the *Scope and Architecture* criterion. Luftman considers the technology factor by measuring the degree to which IT is able to provide a flexible and transparent infrastructure, apply emerging technologies, and drive business processes and strategies. However, this view does not fully capture the complexity of the BIA relationships especially in the context of ITO. Additionally, it does not address how IT projects impact the achievement of specific business goals.

Organizations implement new information technologies with the purpose of accomplishing specific needs and goals. For example, financial institutions use process mining tools and technologies in order to identify the most profitable clients and target them with specialized services. Such tools and information systems need to be aligned with the organization's specific business goals and plans. By extending Luftman's model with the *Technology scope* dimension, the novel model elaborated within the scope of this research project would benefit from evaluating the contribution of domain-specific information systems to the business objectives.

In this section the instrument for measuring business-IT alignment maturity is completed by adding two dimensions: *Employee engagement* and *Technology scope*. It was justified that both of them have strong impact on aligning business and IT strategies and goals. The advanced model captures the complexity of the BIA relationships in the context of ITO, providing a holistic view. Figure 2 illustrates the proposed model.

6 CASE STUDY VALIDATION

6.1 Set up of the Empirical Study

A case study approach was conducted in four companies. (Note! For privacy reasons, the names of the companies are not provided. However, a brief description of each company is available in Section 6.2). Characteristics of the companies and respondents can be found in Table 2, reflecting the following aspects: industry sector, number of employees, position of the respondent within the company, and the role of IT. The data collection strategy was based on semi-structured interviews and an on-line questionnaire.

The questionnaire was used to derive scores of BIA and ITO in companies. The alignment maturity level is evaluated based on eight dimensions, reflected in the model developed, illustrated in Figure 2. The six dimensions of the Luftman's model are converted to questions using the explanations provided by (Luftman & Kempaiah, 2007). *Employee engagement* and *Technology scope* dimensions consist of a number of statements taken directly from the works of (Chong et al., 2011) and (Sabherwal & Chan, 2001) respectively. The maturity of the ITO is measured through a set of factors, which - for the purpose of validation - are converted to statements. In the questionnaire, each short statement reflects the whole meaning of the factor. It should be noted that the questionnaire development is at the preliminary stage. Therefore, one of the objectives of the empirical study is to validate the quality of the questionnaire, and receive recommendations for improvements. Afterwards, the improved questionnaire can be used in the survey method. In the survey method, the questionnaire is the main source of data collection, and a properly constructed questionnaire is crucial for the success of the research.

The reliability of the case study is assured by applying the same procedure on every case. All the interviews were conducted in the same manner based on the beforehand designed guidelines. In order to increase the reliability of responses, respondents were assured that their answers and provided information will be treated strictly confidentially. Internal validity of the empirical evaluation is assured by the fact that data was collected from managers and executives, who area actually the most familiar with the situation within the company and most knowledgeable in providing the correct answers for the interview questions and questionnaire.

6.2 Case Descriptions

Company A is a Dutch based company which provides logistic support for information flows between client companies and Dutch sea ports. The company's main product is an efficient information exchange service between multiple involved parties, both public and private. Therefore, the company is highly IT focused, and the IT function is the central

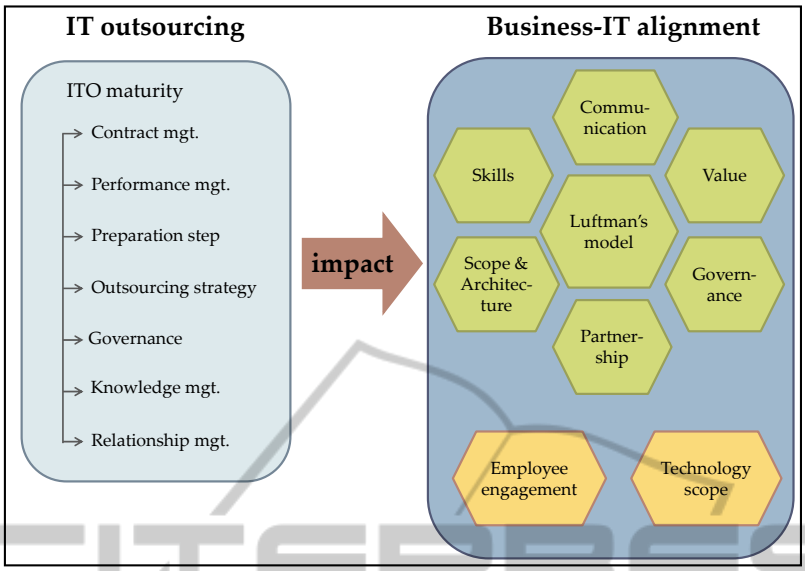

Figure 2: Designed model (Source: (Sabelnikova, 2014)).

Table 2: Case study characterictics.

Criterion \ Company	Company A	Company B	Company C	Company D
Industry	Logistics	Finance	Consultancy	Technology
# of employees	50-200	2000+	2000+	500-2000
Function of the respondent	Enterprise architect	IT	IT	Business
Role of IT	Critical	Critical	Very important	Very important

core of the uninterruptible operations running.

Company B is a Dutch multinational financial corporation. The company provides the range of financial services, such as banking operations, investment banking, loans and mortgages, insurance services. The information technologies are the core of the business operation. All daily operations are dependent on smoothly running IT. *Company B* is currently in transformation from a bank to an IT company which delivers financial services.

Company C is a French multinational consultancy company. It mainly focuses on the IT consulting services. Information technologies are reported to be very important since without their availability it would be impossible to conduct business processes in place and provide customer services at the high level. IT performs supportive functions and does not have significant impact on strategic business planning.

Company D is a Japanese imaging and electronics company with a worldwide presence, with subsidiaries in The Netherlands. The company now is in the process of transferring governance of the IT department to the European headquarter. The local IT department is responsible for first-line support issues, while critical disruptions are handled from Europe.

6.3 Analysis of the Case Study Results

This section analyses the data with the goal of finding the correlation between ITO and BIA scores. This analysis is built upon the data received during the interviews and data from questionnaires. The structure of the interview and examples of questions in each category are provided in Appendix A, as well as one sample page of the on-line questionnaire (Figure 3). Table 3 outlines the scores of BIA and ITO for each company derived from the questionnaire. It could be seen that *Company D* has a high maturity of ITO, but the alignment level is the lowest among the four companies.

Company B shows the highest score of alignment and ITO maturity. The interview displayed that the company is aligned across eight dimensions as well as ITO factors are elaborated thoroughly. The respondent emphasized that for large companies the preparation step of ITO is crucial because later it will take more time and money to change a provider. Therefore, the process of provider selection was

Table 3: Scores of ITO and BIA.

Score \ Company	Company A	Company B	Company C	Company D
ITO maturity score	2,58	3,92	2,36	3,25
BIA maturity score	2,83	3,79	2,46	2,33
The score level ranges from 1 to 5. The maximum score level is 5				

done thoroughly and carefully. The contract is very detailed and describes formal procedures in the case of violations.

Performance of service provider and quality of services are measured upon several tollgates. The provider might pass them all to ensure appropriate level of delivered quality. Relationships with outsourcer are mainly based on the contract, personal connections are not supported

With respect to BIA, *Company B* is the only company where IT fosters discussions about the added value, the reasons behind the requests, how they can increase customer satisfaction. The projects, which worth of investments, are chosen in virtue of best value for business and best feasibility for customers. For example, if the customer has problems with on-line banking, this project is prioritized over others. *Company's B* strategies are formulated with the equal participation of IT and business teams. IT outsourcing had a significant effect on the Skills dimension. Engagement in ITO activities provided a possibility to redirect the staff from the IT department to areas they are more skilled in. *Employee engagement* alignment is assessed at the highest score. The respondent has high satisfaction with his work and pride in his employer, the employee has the perception that the company values what (s)he brings to the table.

Company A has lower level of alignment and the level of ITO is less mature. The interview revealed several reasons of not yet fully mature ITO activities. Contract management factor is ranked very low, at the level 1. The company reports that it is nearly impossible to capture all scenarios from the beginning; otherwise they would formulate the contract requirements much sharper. As a part of the Governance factor, the company especially emphasizes the importance of monitoring and adjusting the requirements in the contract. The Relationship management factor is on the high level of maturity and evolving to the partnership stage. The company developed relationship with the provider in the way that the former exhibits a proactive behaviour suggesting improvements for IT-related issues. In the ideal situation, the vendor should provide feedback for business-related matters. The level of internal alignment is lower than in *Company B*; likely it could be explained by the supply-demand nature of relationships between business and IT. This style implies the directive communication when IT responds to business' requests without taking part in discussion of the value of the project and whether it contributes to the goals of the IT department itself. In *Company A,* the IT department is focused on the routine functional issues such as maintenance and support of the existing services. The result is that the IT team loses the broad perspective and does not contribute to the continuous improvement of the whole organization. Within *Employee engagement* dimension, the mismatch can be seen in the fact that employees are informed about business-IT strategies in a complete and timely manner, even if they do not fully understand it.

The results of *Company C* also are in line with this tendency: it has less mature ITO and lower score of BIA. In general, ITO is not managed appropriately, all factors are ranked neutrally meaning that no success is achieved in any of them. More actions should be taken to align business and IT as well. IT is perceived as the cost centre rather than investment and profit centre. IT management does not have impact on business strategic planning. Communication style is formalized and directive. The *Employee engagement* has the highest score out of all the dimensions. It shows that employees are committed to the company and associate their own success with the company's achievements. However, based on the results of the interview, senior management should deliver information about occurring changes and customer satisfaction in an unambiguous way. It is important for regular employees to know that the clients are satisfied with the quality of the services and products.

Company D has a high maturity of ITO, but the alignment level is the lowest among the four companies. The reasons were explained during the interview. Locally only IT staffing and the document collaboration cloud services are outsourced, while other IT services are outsourced to the European vendors and governed by European headquarter. The company has a long history of ITO relationships, consequently it has a proper experience of drafting a contract and managing ITO activities. The company

defines quantifiable performance metrics and formulates them in the form of service level agreements. The accomplishment of these levels by vendor is monitored in accordance with the contract. The knowledge and expertise are shared with the vendor, which can impact positively the relationship factor. Partnership and communication are almost absent which makes the process of achieving alignment even harder. *Employee engagement* alignment is assessed at the highest level. This means that this company managed to build loyal and solid relationships with the employees, and to communicate strategic plans and goals to the lower hierarchy level. Additionally, regular meetings of employees to discuss trends and developments should be encouraged. Diversity of educational backgrounds and perspectives foster creativity and result in new innovative ideas. Currently existing information systems do not contribute to the achievement of business goals. For instance, the ERP system does not support execution of business strategies while it should create a value through providing information for timely decision making. The management should better align capabilities and functionality of existing information systems with the purposes of their implementation.

Analysis of the data shows that companies with more mature IT outsourcing activities have higher alignment between business and IT. The scores calculated from the questionnaires show consistency with the interviews' results. Taking into account the explorative nature of the research and the limited number of cases, the received data form the basis to formulating one hypothesis about the effect of ITO on BIA: *ITO has, in principle, a positive impact on the level of BIA*.

It should be emphasized that these results should be considered with care. The sample set of four subjects is too small to draw statistically valid conclusions. The goal was to formulate hypotheses that can be further tested with the larger sample of companies.

7 DISCUSSION AND FUTURE WORK

The present research applied a case study method. The results clearly demonstrate that this method allows a comprehensive investigation of the situation and understanding the essence of the relationship between BIA and ITO. Interviews revealed a great number of interesting points that could not be captured only with the questionnaire and literature review. From this point of view, the interviews appear to be an invaluable source of information.

The current research is a subject of several limitations. The main limitation of the empirical findings is the fact that a small sample has been studied which limits the statistical generalizability of the research. Another limitation is that the questionnaire was sent to only one person in each company, whereas responses from several people could provide more objective picture and increase the credibility and transparency of the research. The realized limitation is that the *Employee engagement* dimension was evaluated by the person of managerial role. It would be more valuable, for example, to gain insights of the regular employee.

The research work pursued allowed to outline several recommendations for future research. Firstly, further research should target more companies. The survey method should be used, built on the revised questionnaire.

Most certainly the companies that participated in the current research study would like to investigate the relative development of the alignment and see whether they improve over time. The identical research can be conducted over some period of time in order to identify what actions give results or which ones are not productive.

One of the goals of the empirical study was to collect recommendations for a questionnaire revision. The present research can be considered as a preliminary investigation that exposed shortcomings of the composed questionnaire. Being improved, the questionnaire can serve as a foundation for a scientifically based survey research.

As a direction for future research, the mechanism of measuring ITO success should be further extended by inclusion of additional factors. A respondent proposed the inclusion of the *Incident management* factor. In the case of the incident occurrence the primary goal is to restore normal service operation as quickly as possible and to minimize the impact on business operations. For this, direct contact with service vendor should be established.

Issues related to BIA assessment in organizations outsourcing IT resources will continue to influence the design, management and planning of organizations. As such, although an approach to model BIA and ITO was advanced in this article, further research on this topic will be pursued following the above-mentioned research directions, to extend the capabilities of the present model,

including validation by real industry cases. Future work will also focus on analyzing the influence of semantic technologies/ ontology based appraoches on BIA in an ITO context, e.g., following the approach proposed in (Veres, Sampson, Bleistein, Cox and Verner, 2009) that would allow to map the system requirements against strategic business objectives. It is also intended to further test the proposed model targeting other industry sectors.

8 CONCLUSIONS

In the line with the formulated objectives, the main contribution of this research is the proposition of a model which helps to gain a comprehensive understanding of the influence of IT outsourcing activities on the business-IT alignment maturity level. We propose to measure the IT outsourcing maturity through a set of factors that influence the success of ITO activities. For measuring business-IT alignment, Luftman's model (2000) was extended with two additional dimensions: *Employee engagement* and *Technology scope*.

The proposed model was empirically evaluated with four case studies. From the results of the investigation it is possible to formulate the hypothesis that *IT outsourcing has, in principle, a positive impact on the level of business-IT alignment*. However, this correlation most likely depends on the situational characteristics such as: industry sector, the size of the organization, role and experience of respondent, etc. and should be explored thoroughly. Therefore hypothesis should be further verified with a larger sample of companies. This research paper also contributes to creating the basis for future research by building a theoretical model and potential hypothesis to be tested with repect to the interrelations between ITO and BIA.

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APPENDIX A

Company

1. In what industry does your company operate?
2. Could you describe the organizational structure?
3. If the company is transnational then who defines IT policy? Centralized / decentralized?

Business-IT alignment

4. Is there a notion of business-IT alignment in the company?
5. Is there a revision of actions for alignment policy?

Communication

6. Do you have examples of communication problems between business and IT (e.g. escalation, situations, sharing of information)

Performance

7. Do you think that the company gets maximum value from IT?
8. Do you use service level agreements?

Governance

9. How does the company choose the most valuable IT investments?

Partnership

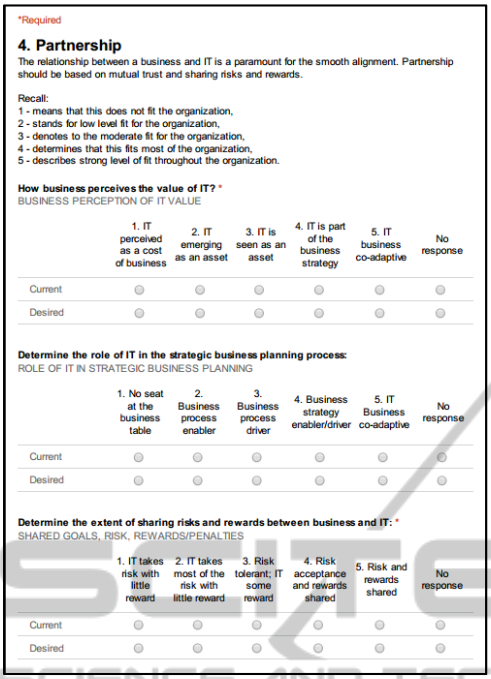
10. Does IT fulfil its role in achieving strategic business goals?

Outsourcing

11. Does business processes / strategy of the vendor impact strategy within the company?
12. Do you monitor and audit service provider's performance on a regular basis?

Model

13. Was it easy to apply the model? Too many questions? Any recommendations to improve?
14. Do you think that maturity of ITO can be identified through the derived factors?



*Required

4. Partnership

The relationship between a business and IT is a paramount for the smooth alignment. Partnership should be based on mutual trust and sharing risks and rewards.

Recall:
1 - means that this does not fit the organization,
2 - stands for low level fit for the organization,
3 - denotes to the moderate fit for the organization,
4 - determines that this fits most of the organization,
5 - describes strong level of fit throughout the organization.

How business perceives the value of IT? *
BUSINESS PERCEPTION OF IT VALUE

	1. IT perceived as a cost of business	2. IT emerging as an asset	3. IT is seen as an asset	4. IT is part of the business strategy	5. IT business co-adaptive	No response
Current						
Desired						

Determine the role of IT in the strategic business planning process:
ROLE OF IT IN STRATEGIC BUSINESS PLANNING

	1. No seat at the business table	2. Business process enabler	3. Business process driver	4. Business strategy enabler/driver	5. IT Business co-adaptive	No response
Current						
Desired						

Determine the extent of sharing risks and rewards between business and IT: *
SHARED GOALS, RISK, REWARDS/PENALTIES

	1. IT takes risk with little reward	2. IT takes most of the risk with little reward	3. Risk tolerant; IT some reward	4. Risk acceptance and rewards shared	5. Risk and rewards shared	No response
Current						
Desired						

Figure 3: Extract from on-line questionnaire.