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MAPPING IMPROVEMENTS ACHIEVABLE THROUGH THE ADOPTION OF IT GOVERNANCE

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Abstract

Various companies have implemented IT governance frameworks to improve their management and governance of IT. The benefits and areas of focus of IT governance have been only explored in theory. In this research an international survey of 113 firms using CobiT was conducted to understand the impact on the IT governance focus areas as companies increase their adoption of CobiT. Results indicate that companies which have achieved higher implementation levels experienced high positive impacts on all of the areas of IT governance, particularly in the later stages of implementation. Furthermore, the research maps out the IT governance areas which are most likely to display improvements at different levels of maturity.

Keywords: IT Governance, CobiT, Business-IT alignment, IT Governance areas
1 INTRODUCTION

Information Technology (IT) has become the backbone of businesses and for many companies it is now impossible to function without a solid IT basis. As a result of its increasingly central role in the enterprise, the IT function is changing, morphing from a technology provider into a strategic partner (Venkatraman 1999). The new role of IT has to be managed and governed according to the principles of efficient management which apply to all areas of organizations. This shift in the focus and reliance on IT has generated attention towards the processes of IT governance.

It has been proposed that IT governance can be a critical success factor in achieving corporate success by providing information through the application of technology (Korac-Kakabadse and Kakabadse 2001). Patel (2002) considers that IT governance will enhance organizational accountability, improving IT’s return on investment. Moreover, Weill (2004) suggests that an effective IT governance structure is the most important predictor of receiving value from IT.

Some authors (Van Grembergen et al. 2003; Ridley et al. 2004) have argued that IT governance’s high acceptance is due to it being considered an appropriate control framework to help an organization ensure its Business-IT alignment. Research conducted by Weill and Ross (2005) projected that organizations with high levels of IT governance could achieve more than 20% greater profits than organizations with low implementation of IT governance practices.

However, Koch (2002) argues that IT governance is often more theoretical than practical, which may hamper the benefits provided. Korac-Kakabadse et al. (2001) added that the benefits realized would highly vary from implementation to implementation.

While many organizations across the world are adopting IT governance little academic based empirical research has been conducted (Liu and Ridley 2005). The existing research focuses mainly on case studies and literature reviews and is often limited to specific geographic regions. Ridley et al. (2004) point out that there is a need for quantitative studies in IT governance frameworks such as the Control Objectives for Information and Related Technology or CobiT.

The research described in this paper uses empirical data gathered from a survey of major companies from across various industry sectors and geographic regions. It seeks to understand the following:

- How does the perception of realized benefits develop as the maturity of the CobiT implementation increases for individual focus areas of IT governance?

- How does the perception of realized benefits develop as the maturity of the CobiT implementation increases for all areas of IT governance?

The central question of this research is the consideration of how the different phases of the implementation influence the success of CobiT adoption, specifically with regards to benefits brought forward due to implementation.

This article begins with a literature review on IT governance, IT governance focus areas and CobiT. This is followed by a description of the methodological approach followed by a discussion of the results and the outcomes of the survey. Subsequently, limitations and future research are explored and conclusions are drawn.

2 RELATED RESEARCH

The definitions of IT governance are broad and can often be considered ambiguous. Researchers have also understood that there is a difference between the terms stated in literature and the terms used in practice by consultants or IT executives (Cumps et al. 2006; Dahlberg & Kivijarvi 2006).

The field of IT governance is defined differently in the numerous articles and books written on the topic. Some of the prevailing definitions are:
• “IT governance is the responsibility of executives and the board of directors, and consists of the leadership, organizational structures and processes that ensure that the enterprise’s IT sustains and extends the organization’s strategies and objectives” (IT Governance Institute 2007, p.5).

• “IT governance is the organizational capacity exercised by the Board, executive management, and IT management to control the formulation and implementation of IT strategy and in this way ensure the fusion of business and IT” (Van Grembergen 2004, p.5).

• “IT governance is specifying the framework for decision rights and accountabilities to encourage desirable behavior in the use of IT” (Weill 2004, p.3).

• “IT Governance is the strategic alignment of IT with the business such that maximum business value is achieved through the development and maintenance of effective IT control and accountability, performance management and risk management” (Webb et al. 2006, p.7).

The definition suggested by Van Grembergen (2004) addresses mainly the aspect of Business-IT alignment. Other definitions address other topics that include, beyond alignment, performance management, resource management, risk management as well as IT’s value delivery. Therefore, IT government encompasses a broad spectrum of tasks, ranging from aligning IT with strategy and business goals to steering and guiding of the system’s operation, including provisions for adapting the operational and organizational structure changes needed to fulfil the tasks.

These topics are known to be the IT governance focus areas. The IT governance focus areas as suggested by ITGI (2007) are:

• **Strategic Alignment**, which is concerned with the alignment of IT and business.

• **Value Delivery** encompasses how IT adds value to the business and how the expenses and the return on investment are optimized.

• **Risk Management** assures a continuous operation of IT and deals with operational IT risks, mostly technological risks.

• **Performance Measurement** monitors and controls the performance of IT towards the business goals.

• **Capability (Resource) Management** manages all resources including people, data and technology.

Webb et al. (2006) adds to these the area of **Control and Accountability**. Control and Accountability implies leadership, control and accountability from personnel within the organization who have authority to govern.

These areas have been widely used in theory. Dahlberg and Kivijärvi (2006) create an assessment tool to measure the effectiveness of the implementation of IT governance based on these areas. Research by Gellings (2007) using these five areas of IT governance looked at three German banks to understand how outsourcing relationships were improved due to IT governance.

These focus areas are also a focal point of IT governance frameworks. The de-facto IT governance framework is CobiT. CobiT helps develop IT governance by managing and understanding the risks and benefits associated with information and related technology.

It was originally developed by the Information Systems Audit and Control Foundation (ISACF), which is the research institute for the Information Systems Audit and Control Association (ISACA). The development of CobiT started in 1994, a first version was published in 1996 and subsequent versions followed in 1998 and 2000. In 2003 ISACF changed its name to IT Governance Institute (ITGI). While the first and second version of CobiT focused on auditing and controlling IT, the third version added management guidelines. In 2007 CobiT version four was released.
CobiT version four describes 34 IT processes with their associated tasks, divided across four domains: 1) Planning and Organization, 2) Acquisition and Implementation, 3) Delivery and Support and 4) Monitoring and Evaluation.

The Planning and Organization domain contains 11 control objectives dealing primarily with IT strategy and how IT supports the business objectives. In addition, it plans, communicates and manages the realization of the strategic vision from different perspectives. Typical management topics for this domain are the successful IT and business alignment, the optimal use of IT resources and an appropriate quality of IT for business needs (IT Governance Institute 2007; Olbrich 2008).

The focus of Acquisition and Implementation is on identifying, developing and acquiring the IT solutions needed, as well as implementing and integrating them into the business process to realize the IT strategy. Furthermore, in order to make sure that the life cycle is continued for these systems, changes in and maintenance of existing systems are covered by this domain (IT Governance Institute 2007). Typical management topics for this domain are the successful implementation of new systems or the delivery of new projects on time, within budget and with desired solutions that meet business needs (IT Governance Institute 2007; Olbrich 2008).

The Delivery and Support domain deals with acquired and properly running IT systems. It includes service delivery, management of security and continuity, service support for users, and management of data and operational facilities. The control objectives of this domain address the management of IT systems including change, incident, and problem management (Kairab 2004). Typical management topics for this domain are optimized IT costs, IT service delivery in line with business priorities as well as valuable and safe use of the IT systems (Olbrich 2008).

Lastly, the Monitoring and Evaluation domain deals with the assessment of the required quality and compliance of IT processes. From a control perspective, the functionality of IT systems has to be verified to ensure that the systems are functioning as intended. In addition, it addresses management’s supervision of the organization’s control process and independent assurance provided by internal and external audit. Typical management topics for this domain are the link of the performance to business goals, effective and efficient internal control by understanding IT’s performance to detect problems (IT Governance Institute 2007; Olbrich 2008).

The 34 processes work jointly to help provide IT governance. How the increase of maturity of these processes impacts the IT governance focus areas has yet not been studied. However, few authors have concentrated on the benefits provided by the adoption of IT governance frameworks. Gomes and Ribeiro (2009) completed a case study on a high education institution which implemented CobiT. Due to the implementation of CobiT the institution improved their quality of services, reduced their execution time of tasks, reduced the number of incidents and reduced the number of reopened incidents. A study by De Haes and Van Grembergen (2009) explored six Belgium financial organizations and the impact on Business-IT alignment through IT governance. The study concludes that the IT governance maturity may have an impact on the maturity of Business-IT alignment.

This study builds on and contributes to the work on IT governance’s impact on the IT organization and the business. Although studies in IT governance have examined some of the IT governance focus areas through case studies, there has not been an extended study of all of the focus areas of IT governance as the maturity of the implementation increases. Therefore, the related research leads into the following research hypotheses.

3 RESEARCH DESIGN

For the two research questions listed in the introduction, two hypotheses were developed and are described in the section below. A description of the maturity levels used to understand the level of implementation of CobiT is explained prior to the hypotheses studied.
3.1 Maturity Levels

The maturity model is a description of the level of ‘adoption, adherence or maturity’ of a company as it relates to the adoption of the CobiT framework. The CobiT maturity model is outlined in the IT governance guidelines (IT Governance Institute 2007). Van Grembergen et al. (2003) argue that this tool offers an easy-to-understand method to determine the current state of maturity by benchmarking the current state and the best practices and standard guideline. Table 1 covers a brief description of each level of the maturity model.

<table>
<thead>
<tr>
<th>Level</th>
<th>Level Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Non-existent</td>
<td>Management of processes is not applied at all</td>
</tr>
<tr>
<td>1</td>
<td>Initial / Ad Hoc</td>
<td>Processes are ad hoc and disorganized</td>
</tr>
<tr>
<td>2</td>
<td>Repeatable</td>
<td>Processes follow a standard, are documented and understood</td>
</tr>
<tr>
<td>3</td>
<td>Defined</td>
<td>Processes are documented and monitored for compliance</td>
</tr>
<tr>
<td>4</td>
<td>Managed</td>
<td>Management monitors and measures according to metrics established in the previous level</td>
</tr>
<tr>
<td>5</td>
<td>Optimized</td>
<td>Good practices are followed and automated</td>
</tr>
</tbody>
</table>

Table 1. Maturity Model Levels with Descriptions

3.2 Realization of Benefits and Maturity

Our research focuses on understanding the impact of CobiT on the six focus areas of IT governance which were discussed in the related research section above. The focus on the benefits is dual. On one side the research focuses on the individual areas of IT governance and the positive impact perceived as organizations adopt CobiT. We propose the following hypothesis:

H1: There is a positive relationship between maturity levels of the CobiT implementation and perceived realized benefits for individual areas of IT governance.

On the other hand, the research also focuses on understanding the progression of the ‘total impact of realized benefits’ to the companies. Consequently, for each company, the benefit’s impact of CobiT is averaged across the different areas of IT governance. The following hypothesis is suggested:

H2: There is a positive relationship between maturity levels of the CobiT implementation and the overall perceived realized benefit for all areas of IT governance.

4 METHODOLOGY

4.1 Design

An online questionnaire was made available during the months of October and November 2009. This survey was announced in various CobiT dedicated internet groups and forums. One hundred and ninety one (191) IT executives completed and submitted the survey. Only those using CobiT version four were considered in order to strengthen the reliability of the results. Out of the total number of respondents, 125 stated that they have implemented CobiT version 4, 19 had adopted version 3, and 2 were following version 2 or older. Forty five (45) respondents said that they have not adopted CobiT. From the 125 responses, 12 responses were identified as not valid and were excluded from the statistical analysis. Therefore, the total sample size was of 113.

The following two questions were used for the study:

- Rate the perception of the maturity of each of the 34 CobiT processes (using a scale based on the Maturity Model.)
- Express the magnitude of the realized positive impact in each of the areas of IT governance due to the use of CobiT (using a five point scale where 1 meant no benefits realized and 5 meant benefits realized to a great extent)
4.2 Respondents’ Profile

Respondents were asked about their companies’ industry, number of sites supported by IT, number of IT employees in the company as well as their title and their location. This is shown on Table 2.

![Table 2.](https://example.com/table2.png)

5 RESULTS

An exploratory analysis was conducted for each variable to test for normality. Both the Kolmogorov-Smirnov and the Shapiro-Wilk showed significance for the individual benefits realized (p<0.001) and for the sum of the realized benefits of CobiT (p<0.001). As the data was non-normal, the Spearman’s rho was used to test for correlations. Additionally, Kruskal-Wallis, a non-parametric one way analysis of variance was used to study the data. If the data using the Kruskal-Wallis showed significant differences between the groups, the Mann-Whitney U test was applied to understand if groups were statistically different.

A cluster analysis was used to group the companies based on the maturity of each of the 34 CobiT processes. For this analysis, the hierarchical clustering was used because of its high acceptance in practice. Research has shown that the Ward method is an appropriate algorithm and can be relied upon to assign the cases to the groups correctly (Backhaus et al. 2008). The interval chosen was the Squared Euclidean distance. There were an adequate number of clusters resulting from the elbow method which analyses the error sum of squares for each number of clusters. Based on this method, five clusters were identified, which follow the same attributes as that of the Maturity Model (see Table 1). Cluster one contains the respondents with the lowest maturity and cluster five the ones with the highest maturity. Table 3 shows the five clusters suggested and the number of respondents, maturity mean and median and standard error.

![Table 3.](https://example.com/table3.png)
As the study was concerned with how the nominated variables are impacted as the CobiT implementation increases, caution was taken with the choice of test measures. The Mann-Whitney U tests inflate the Type I error rate, so care was taken in the choice of comparisons made. Therefore the following three comparisons were conducted:

Test 1: Level 1 (Initial) cluster compared to Level 3 (Defined) cluster
Test 2: Level 3 (Defined) cluster compared to Level 5 (Optimized) cluster
Test 3: Level 1 (Initial) cluster compared to Level 5 (Optimized) cluster

As three tests were conducted, a Bonferroni correction is applied. This correction means that instead of using the critical level of significance of 0.05, all effects are reported at 0.0167 level of significance. All reported \( p \) values are using 1-tailed Monte Carlo \( p \) values with a confidence level of 99% and a number of samples of 10,000. This method is used because of the large sample size.

Lastly, \( r \) was used to measure the strengths of a relationship between variables (Rosenthal 1991, p.19). Cohen suggests that the sizes of the effect are small (0.1), medium (0.3) or large (0.5). In the next sections the following abbreviations are used: \( H \) corresponds to the Kruskal-Wallis statistic, \( U \) represents the Mann-Whitney \( U \) statistic, while SE is the Standard Error.

5.1 Individual IT Governance Areas and Maturity (H1)

The Spearman’s rho analysis shows that there is a correlation between the CobiT maturity levels and each of the IT governance areas [Strategic Alignment \( r=.26 \) \( p<.01 \), Delivery of Business Value through IT \( r=.28 \) \( p<.01 \), Performance Management \( r=.32 \) \( p<.001 \), Capability Management \( r=.36 \) \( p<.001 \), Risk Management \( r=.37 \) \( p<.001 \), Control and Accountability \( r=.42 \) \( p<.001 \)]. This shows that as the CobiT implementation increases, there is a positive increase in the impact in the areas of IT governance.

Table 4 presents the means, standard error and medians for the areas of IT governance. Kruskal-Wallis test show that the areas of IT governance are significantly affected by the level of implementation maturity [Strategic Alignment \( H(4)=8.85 \) \( p<.05 \), Delivery of Business Value through IT \( H(4)=9.08 \) \( p<.05 \), Performance Management \( H(4)=11.33 \) \( p<.01 \), Capability Management \( H(4)=16.17 \) \( p<.001 \), Risk Management \( H(4)=16.17 \) \( p<.001 \), Control and Accountability \( H(4)=19.54 \) \( p<.001 \)].

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>N</th>
<th>Strategic Alignment</th>
<th>Delivery of Business Value through IT</th>
<th>Performance Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>M=2.63</td>
<td>M=2.50</td>
<td>M=2.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE=.29</td>
<td>SE=.22</td>
<td>SE=.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn=2</td>
<td>Mdn=2</td>
<td>Mdn=2</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>M=2.25</td>
<td>M=2.30</td>
<td>M=2.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE=.19</td>
<td>SE=.23</td>
<td>SE=.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn=2</td>
<td>Mdn=2.5</td>
<td>Mdn=3</td>
</tr>
<tr>
<td>3</td>
<td>28</td>
<td>M=2.79</td>
<td>M=2.82</td>
<td>M=3.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE=.01</td>
<td>SE=.20</td>
<td>SE=.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn=3</td>
<td>Mdn=3</td>
<td>Mdn=3</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
<td>M=3.19</td>
<td>M=3.15</td>
<td>M=3.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE=.18</td>
<td>SE=.15</td>
<td>SE=.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn=3</td>
<td>Mdn=3</td>
<td>Mdn=3</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>M=3.45</td>
<td>M=3.36</td>
<td>M=3.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE=.19</td>
<td>SE=.20</td>
<td>SE=.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn=3.5</td>
<td>Mdn=4</td>
<td>Mdn=4</td>
</tr>
</tbody>
</table>
As shown in Table 5, results from the Mann-Whitney test demonstrate that there is significance between all areas of IT governance when comparing Level 1 (Initial) with Level 5 (Optimized) [Strategic Alignment (U=98.5, r=-.39), Risk Management (U=78, r=-.49), Performance Management (U=79, r=-.48), Control and Accountability (U=55.5, r=-.59), Delivery of Business Value through IT (U=90.5, r=-.43) and Capability Management (U=64.5, r=-.55)]. Large changes can be observed in the areas of Capability Management and Control and Accountability, while medium to large changes can be identified for all other areas. Respondents of Level 5 (Optimized) had a significantly higher perceived impact than respondents of Level 3 (Defined) with a medium to large change in the areas of Control and Accountability (U=167, r=-.41), Risk Management (U=148, r=-.46), and a medium change in the area of Strategic Alignment (U=185.5, r=-.35). Marginal significance was observed in the areas of Performance Management (U=209, r=-.29) and Delivery of Business Value through IT (U=203, r=-.30). No significance could be observed for Capability Management. Finally, when comparing Level 1 (Initial) with Level 3 (Defined) significance can be determined only for Control and Accountability (U=55.5, r=-.59) with a medium change and Capability Management (U=64.5, r=-.55) with a medium to large change.

### Table 5. Mann-Whitney U Test Results for IT Governance areas at Distinct Maturity Levels (n=113)

<table>
<thead>
<tr>
<th>Area</th>
<th>U</th>
<th>p</th>
<th>r</th>
<th>U</th>
<th>p</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Alignment</td>
<td>204.00</td>
<td>.312</td>
<td>-.08</td>
<td>98.50</td>
<td>.007*</td>
<td>-.39</td>
</tr>
<tr>
<td>Delivery of Business Value Through IT</td>
<td>182.50</td>
<td>.154</td>
<td>-.16</td>
<td>90.50</td>
<td>.003*</td>
<td>-.43</td>
</tr>
<tr>
<td>Performance Management</td>
<td>147.50</td>
<td>.025</td>
<td>-.29</td>
<td>79.00</td>
<td>.001*</td>
<td>-.48</td>
</tr>
<tr>
<td>Capability Management</td>
<td>112.50</td>
<td>.002*</td>
<td>-.43</td>
<td>64.50</td>
<td>.001*</td>
<td>-.55</td>
</tr>
<tr>
<td>Risk Management</td>
<td>175.00</td>
<td>.115</td>
<td>-.19</td>
<td>78.00</td>
<td>.001*</td>
<td>-.49</td>
</tr>
<tr>
<td>Control and Accountability</td>
<td>132.50</td>
<td>.011*</td>
<td>-.35</td>
<td>55.50</td>
<td>.001*</td>
<td>-.59</td>
</tr>
</tbody>
</table>

*p significance at 0.0167
5.2 Overall Realized Benefit and Maturity (H2)

There is a positive and significantly large relationship between the realization of benefits and the maturity levels of CobiT \( (r = .549, p < .001). \) The means, standard error and medians for the perceived realized benefits are shown in Table 8.

From the Kruskal-Wallis test we see that the number of realized benefits is significantly affected by the level of implementation maturity \( (H(4)=34.05, p<.000). \)

<table>
<thead>
<tr>
<th>Maturity Level</th>
<th>Mean</th>
<th>Standard Error</th>
<th>Median</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.375</td>
<td>.203</td>
<td>2.00</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>2.475</td>
<td>.182</td>
<td>2.58</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>2.893</td>
<td>.161</td>
<td>2.83</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>3.241</td>
<td>.095</td>
<td>3.34</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>3.561</td>
<td>.144</td>
<td>3.67</td>
<td>22</td>
</tr>
</tbody>
</table>

**Table 6. Descriptive Statistics of Total Realized Benefits (n=113)**

The results of the Mann-Whitney test, shown in Table 7 demonstrates that between Level 1 (Initial) and Level 3 (Defined) there was significance \( (U=131.5, r=-.34). \) Similarly when examining Level 3 (Defined) compared with Level 5 (Optimized) large significance can also be observed \( (U=137.5, r=-.47). \) Finally, when comparing Level 1 (Initial) with Level 5 (Optimized) significance is also determined \( (U=48.5, r=-.61) \) and a large change can be observed.

<table>
<thead>
<tr>
<th>Overall Positive Impact</th>
<th>U</th>
<th>p</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 compared with Level 3</td>
<td>131.5</td>
<td>0.008*</td>
<td>-0.34</td>
</tr>
<tr>
<td>Level 1 compared with Level 5</td>
<td>48.5</td>
<td>0.000*</td>
<td>-0.61</td>
</tr>
<tr>
<td>Level 3 compared with Level 5</td>
<td>137.5</td>
<td>0.000*</td>
<td>-0.47</td>
</tr>
</tbody>
</table>

*significance at 0.0167

**Table 7. Mann-Whitney U Test Results for Realized Benefits at Distinct Maturity Levels (n=113)**

6 DISCUSSION

In this research we focus on CobiT and the benefits realized though its implementation. Two hypotheses are stated. In general, the results of the current study confirm H1. This hypothesis looks at the individual areas of IT governance and the impact that is perceived by IT executives when implementing CobiT. Based on the literature review, six major areas of IT governance have been revealed and through this survey respondents have been able to rate the degree of benefits received in the six different areas.

Results show that there is a general positive impact in all areas of IT governance as companies adopt and increase their usage of the framework. However, the positive increase in impact in the areas differs. In the initial stages a positive increase in the impact can be seen only in the areas of Control and Accountability and Capability Management. Marginal significance can be seen for Performance Management. In the later stages of implementation, a significant improvement can be seen in the areas of Control and Accountability, Risk Management, and Strategic Alignment. Marginal improvement when comparing these levels can be seen in the IT governance areas of Performance Management and Delivery of Business Value through IT. In this comparison, the only area that showed no significance was Capability Management, nevertheless, a statistical impact could be seen in the earlier stages.

There have been a few researchers who have looked into the impact of the CobiT implementation. Research of Gomes and Ribeiro (2009) showed in their single case study that improvements in the area of Capability Management could be observed. Their research followed an educational institution through their first year of implementation of CobiT. Since they compiled information for the initial
year, we can assume that the organization was in their early stages of implementation. Our results show that the area of Capability Management received a significant impact in the initial stages which is in line with the results shown in the case study research.

The findings of this study in the area of Strategic Alignment confirm the research by De Haes et al. (2009) which proposes that low maturity companies also have a low implementation of CobiT. Our study provides an additional insight into the impact in the area of Strategic Alignment. It demonstrates that an impact is likely to happen in the later stages of CobiT implementation.

As previously stated, research by Weill and Ross (2005) argues that companies with high level of IT governance could achieve more than 20% greater profits than organizations with low implementation of IT governance practices. Our research shows that a significant improvement in the area of Delivery of Business Value through IT can only be seen marginally in the later stages of implementation, which may concur with the results from research conducted by Weill and Ross.

An improvement in the area of Risk Management due to the implementation of CobiT can be seen in the later stages of maturity. This is of interest because IT projects are notorious for their high risks of failure. A Gartner (2009) study shows that 25% of IT projects fail completely and that an additional 40% are not delivered on time, on budget or with lack in functionality. There is a significant risk embedded in IT projects and the importance of Risk Management is therefore vital.

Control and Accountability is the only area of IT governance that shows significance in both early and later stages of CobiT implementation. CobiT is often used to address the requirements of compliance regulations such as the Sarbanes-Oxley Act (SoX) and Basel II (Pinder 2006). It is valuable to know that the implementation of CobiT has a positive effect in this area throughout its implementation.

Overall, the impact of CobiT on the IT governance focus areas is very diverse. Some areas such as Control and Accountability are thoroughly impacted, but areas such as Performance Management are only marginally impacted. Therefore, looking at the overall impact of the CobiT implementation would also be useful.

Hypothesis H2 looks at the general impact of CobiT on the IT governance focus areas. This research shows a strong increase in the realized benefits with increasing maturity levels. Findings suggest that companies which have achieved higher implementation levels were experiencing greater benefits in the areas of IT governance. However, at the initial levels companies recognize less substantial benefits. There are a number of hypotheses of why this might occur.

One hypothesis is that during the initial stages of implementation various organizational and process changes occur and during this time the company may not be able to identify the benefits that the implementation provides. Another hypothesis is that there are companies which adopt CobiT for marketing purposes or to comply with regulations and may not seek to find real benefits. Other companies implement CobiT because there is a genuine interest to improve their IT governance. In these companies there is a greater interest in the outcome of the adoption and greater management support which can drive the companies to a higher maturity level and receive the various benefits. A final interpretation is that there may be a laggard effect of the benefits of CobiT which during the initial stages of implementation cannot be seen.

The impact of different phases of CobiT on the realization of benefits will be extended through future research, specifically by analysing the realization of individual benefits at different levels. This research would enable organizations to identify processes that are crucial for the realization of benefits. Future research would also need to examine the relationship between CobiT and other frameworks, such as ITIL, in organization practice.

The limitations of this study are that it concentrates on CobiT version four and does it mainly from an IT perspective. A further limitation lies in the nature of empirical studies being dependent on the
quality of data provided by the respondents. Also the results are based on the positive impact in the areas of IT governance. They do not measure the effectiveness or efficiencies of IT governance.

7 CONCLUSION

So far there have been few and limited academic studies on the issue of IT governance and there has been no major empirical survey at an international level. This empirical survey provides a strong basis for researchers and practitioners to understand the implications of the impact of the CobiT implementations. The 113 respondents to this study form a representative sample of the companies which have implemented CobiT and provide a global perspective on the issues they face.

Various researchers have proposed the different areas which would be impacted by the adoption of IT governance. This research looks at the six focus areas of IT governance: Strategic Alignment, Risk Management, Performance Management, Control and Accountability, Delivery of Business Value through IT and Capability Management, to understand if a positive impact could be perceived by those companies which have implemented CobiT. Results from this research show that at the initial stages of implementation, between Level 1 (Initial) and Level 3 (Defined), companies are likely to notice improvements in the areas of Capability Management and Control and Accountability. In the later stages of implementation, between Level 3 (Defined) and Level 5 (Optimized), companies are likely to observe an improvement in Strategic Alignment, Risk Management and Control and Accountability.

Overall, findings show that the higher the maturity levels the greater the benefits realized. This is important for organizations to understand and to consider when planning their implementation process. Practitioners need to be aware that benefits might not be ‘visible’ in all areas of IT governance at the early stages of adoption. Organizations should not evaluate the success of CobiT in the first phases but rather in the later stages of implementation. Organizational metrics should be tailored to this process. With the increasing implementation of CobiT within the organization, learning effects are generated and therefore, additional benefits are realized.

This study provides a solid contribution to research as well as practitioners in the field of IT governance. The contribution to research is delivered through insight into the perception of CobiT’s effectiveness, the perception of the progress through the maturity by managers and practitioners in IT. It starts to address a research gap and opens the way for future research. In practice the findings serve as a guideline for IT managers who are considering adoption or who already have adopted CobiT.

8 REFERENCES


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