

Evolving IT Governance Model – Research Study on Croatian Large Companies

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Abstract: In the early days of implementing IT in the business, it was often seen as a technical support function and was typically managed by finance departments. When evolving from technology providers into strategic partners, IT organizations typically follow a three-stage approach: IT infrastructure management, IT service management and IT business value management (IT Governance). As the IT initiatives has become far more than a means of improving efficiency and reducing costs and increasingly account for enabler of business innovation, it still seems that it is less understood business resource. One of reason could be that often there is no systematically way of measuring IT performances and implementing IT Governance practices. In this paper we investigated the practices by which IT can contribute to the business as well as how to measure it. Main objective of this paper is to stress the importance of evolving IT Governance activities. Similarities between corporate governance and IT governance are discussed in further details. On the sample of selected Croatian large companies, the organizational position and the role of IT in the business has been investigated, while specific research interest was to get the clear view of the maturity level of IT usage. We hoped that such approach could be useful when trying to answer the posed research question: what stage of IT maturity level (from technical support to IT Governance) reflects the IT practices in the Croatian large companies?

Key-Words: IT Governance, IT Audit, IT Performance Measurement, Croatia, CobiT, ITIL

1. Introduction

When evolving from technology providers into strategic partners, IT organizations typically follow a three-stage approach. Each evolutionary stage builds upon the others beginning with *IT infrastructure management* (ITIM). During this stage, the IT's role in the organizations focus on improving the management of the enterprise (technological) infrastructure. Effective infrastructure management mainly is associated with maximizing return on computing assets and taking control of the infrastructure, the devices it contains and the data it generates [10]. The next stage, *IT service*

management (ITSM), sees the IT organizations actively identifying the services its customers need and focusing on planning and delivering those services to meet availability, performance, and security requirements. In addition, IT contributes to the businesses by managing service-level agreements, both internally and externally, as well as by meeting agreed-upon quality and cost targets. Ultimately, when IT organizations evolve to *IT business value management* (IT Governance), they are transformed into true business partners enabling new business opportunities [8]. In that stage, IT processes are fully integrated with the complete lifecycle of business processes improving service quality and business agility.

As the organizations are becoming increasingly

dependent upon IT in order to achieve their corporate objectives and meet their business needs, the necessity for implementing widely applicable IT best practices standards and methodologies, offering high quality IT services is evident. IT profession has been in search for solid standards and performance measurement frameworks for decades, but it seems that by the 1990's such efforts had dramatically improved.

One of the reasons for such tendencies may be in changing role of IT performance metrics over years. While in 1980's the focus of IT performance metrics was solely on technical efficiency, in 1990's process efficiency was attached, these efforts nowadays converge to comprehensive concept of value added IT-related business benefits.

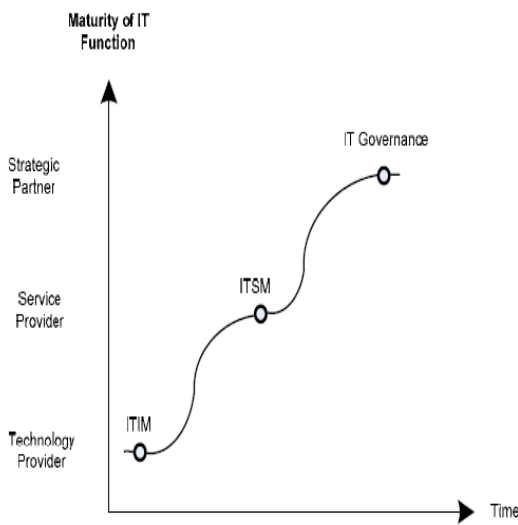


Figure 1: Evolvement of maturity of IT function [9]

IT Governance issues are not only any more marginal or 'technical' problems and become more and more a 'business problem'. Therefore, in this paper emerging issues in IT Governance are discussed and the necessity for IT Audit and Performance Measurement initiatives stressed. Contemporary issues in measuring IT performance are associated with engaging in periodical audits of IT and their contribution to the business.

The concept of IT Audit, as a systematically 'tool' for measuring IT performance, is shown and explained in further details, together with the methodologies used for their implementation (CobiT, ITIL, ISO 27001). Finally, on the sample of selected Croatian large companies, research question about the level of IT maturity used in businesses is answered. Vast majority of IT Governance components and issues are argued in the research.

2. Evolving the IT Governance model

A good theoretical path to IT Governance issues could be found in IT Strategy and IT/Business Alignment literature. Venkatraman [10], for example, illustrates the changes that occur in the perceived contribution of IT by the business during the transformation from Service Provider to Strategic Partner as presented in Table 1.

Table 1: IT as Service provider or as Strategic partner

| Service provider | Strategic partner |
|--|---|
| <ul style="list-style-type: none"> • IT is for efficiency • Budgets are driven by external benchmarks • IT is separable from the business • IT is seen as an expense to control • IT managers are technical experts | <ul style="list-style-type: none"> • IT for business growth • Budgets are driven by business strategy • IT is inseparable from the business • IT is seen as an investment to manage • IT managers are business problem solvers |

Van Grembergen [8], [9] stands on that point, but also emphasizes the strategic potential IT initiatives could have if managed (or rather 'governed') properly. When engaging in those changes, IT becomes not only a success factor for survival and prosperity, but also an opportunity for differentiation and achieving competitive advantage¹. This should undoubtedly be achieved by putting in place a management of IT that is service oriented (ITSM) and by establishing an IT Governance capable of aligning IT with the Enterprise Governance objectives.

3. Core Principles of IT Governance – literature review

In order to understand the concept of IT governance a detailed insight into the principles of corporate governance and its constituents is needed. In their publications on measuring the performance of corporate boards, M.J. Epstein and M.J. Roy state that "governance concerns relate to practices of both corporate boards and senior managers" and "the question being asked is whether the decision-making process and the decisions themselves are made in the interest of shareholders, employees, and other stakeholders or whether they are primarily in the interests of the executives²."

¹ Van Grembergen, W., (2004): *Strategies for Information Technology Governance*, Idea Group, 2004.

² Epstein, M.J., M.J. Roy, (2004): "How Does Your Board

The corporate governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society³.

IT governance relates to IT practices of boards and senior managers. The question is whether IT structures, processes, relational mechanisms and IT decisions are made in the interest of shareholders and other stakeholders, or primarily in the executives' interests. IT governance closely relates to corporate governance, the structure of the IT organization and its objectives and alignment to the business objectives.

ITGI defines IT Governance as the responsibility of the board of directors and executive management [4]. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives. Van Grembergen [9] defines IT Governance as 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.

The primary focus of IT governance is on the responsibility of the board and executive management to control formulation and the implementation of IT strategy, to ensure the alignment of IT and business, to identify metrics for measuring business value of IT and to manage IT risks in an effective way. Nolan and McFarlan [5] recently pointed out that 'a lack of board oversight for IT activities is dangerous; it puts the firm at risk in the same way that failing to audit its books would'.

IT Governance is partly driven by the external regulatory demands like Sarbanes-Oxley act, Basel II, the European 8th Directive and MiFID. Besides that, an increasing number of companies acknowledge that a well defined structure and high level of guidance truly can contribute to the overall cost efficiency and performance of IT. According to Van Grembergen [8], one of the key focuses of IT governance is to align IT to business objectives. As an explanation it could be said that IT governance is the mix between Corporate Governance and IT management.

There are several ways of looking at the similarities between corporate governance and IT governance, as

described in literature ([8],[9],[10]). Van Grembergen et al. use Shleifer and Vishny's work ([6]) and stress three key questions that the management should address to display the connectivity between corporate governance and IT governance (table 2.).

Table 2: Corporate and IT governance questions

| Corporate Governance Questions: | IT Governance Questions: |
|--|--|
| How do suppliers of finance get managers to return some of the profits to them? | How does management get their CIO and IT organization to return some business value to them? |
| How do suppliers of finance make sure that managers do not steal the capital they supply or invest it in bad projects? | How does top management make sure that their CIO and IT organization does not steal the capital they supply or invest in bad projects? |
| How do suppliers of finance control management? | How does top management control their CIO and IT organizations? |

4. Key IT Governance Components

As we previously introduced, one of the IT Governance goals is to align IT initiatives with the business objectives defined by the Corporate Governance. These high-level organizational goals and objectives are used as input to derive goals, objectives and performance metrics needed to manage IT effectively.

At the same time, the IT auditing processes are put in place in order to measure and analyze the performance of the organization. Conceptually, the process can be seen as an IT results flow depicted below.

Rate?," *Strategic Finance*, February, p. 25-31, 2004.

³ Sir Adrian Cadbury (2000): Global Corporate Governance Forum, World Bank, 2000.

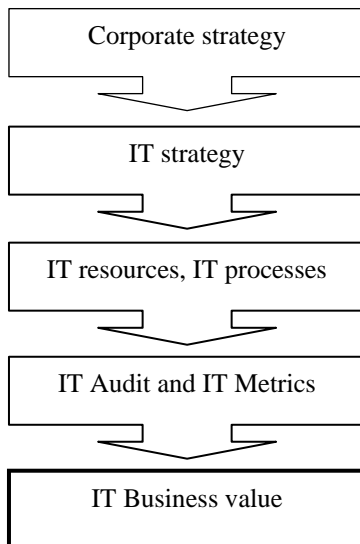


Figure 2: IT Business value from corporate strategy

Having defined IT Governance, it is necessary to understand its most important elements. The IT Governance Institute suggests that fundamentally, IT Governance is concerned about two things [4]:

- IT should deliver value to the business and
- IT risks need to be mitigated.

This leads to the four main focus areas of the IT Governance, all driven by stakeholder value. Two of them are outcomes: value delivery and risk mitigation. Two of them are drivers: strategic alignment and performance measurements. While value delivery is focused on the creation of business value, risk management is focused on the preservation of business value [8].

Gartner stands on that point by proposing that IT Governance should consist of four different components namely [7]:

1. IT value and IT/Business Alignment,
2. IT Control Framework and Management Accountability for IT
3. IT Performance Measurement framework
4. IT Risk Management models.

As shown in Figure 3., IT Governance represent the necessary 'connections' of strategic visions (IT Strategy and IT/Business Alignment initiatives) and the results of their implementation by performing periodic IT Audits with which IT performances could be measured, IT risk identified and IT controls put in place.

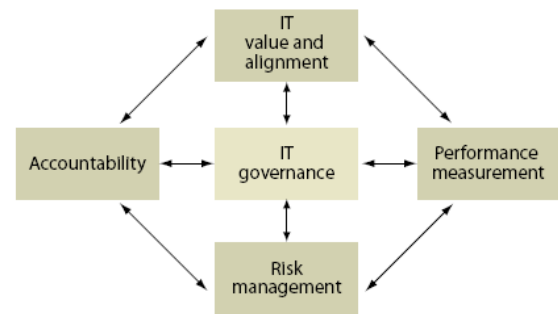


Figure 3: IT Governance Components [7]

4. IT Audit as a framework for Performance Measurement

A good, or rather, inevitable approach for measuring the performance of IT should include thorough audit of all aspects of IS and IT, including hardware, software, data, networks, organization and key business processes. The primary goal of the *information system audit (IT audit)* is to identify the key business processes that depend on IT, to systematically and carefully examine their IT controls efficiency, to identify key risk areas and constantly measure the risk level, to warn about possible failures, as well as to offer suggestions to the executive management how to improve current IT risk management practices⁴. This in particular mean that by engaging in IT auditing process companies can periodically measure the IT performances using the well-proved, world-wide frameworks or methods such as CobiT, ITIL, ISO 27001, etc. Such tendencies are mostly motivated by specific regulatory pressures (for example, Sarbanes-Oxley act, Basel II framework, etc.), rather than by IT value-added initiatives.

In addition to the term of *information systems auditing*, the term such as *information technology auditing (IT Audit)* is often used. Regardless of different terms being used, the goal of the information systems audit is to systematically, thoroughly, and carefully examine the controls within the information system, to measure the IT performance, to warn about possible omissions and risks, and thus examine the quality of the company's information system.

The information systems audit covers numerous areas of development, and application of the information systems in business, among others, development, functioning and maintenance of the system, data integrity, business applications, safety, and privacy,

⁴ Spremic, M. (2005): Managing IT risks by implementing information system audit function, Proceedings of the 3rd International Workshop in Wireless Security Technologies, Westminster University, London, 04-05.04.2005, pp. 58-64

access rights and authentication, plan of restarting the system in emergency situations, feasibility and profitability study of the purchase or preparation of a system, etc.

5. Methodologies and frameworks for IT Governance implementation

In recent years various groups have developed world-wide known IT Governance and IT Audit frameworks and guidelines to assist management and auditors in developing optimal performance and controls systems. Contemporary frameworks are:

- *CobIT* (Control Objectives of Information and related Technology),
- *ISO 27000 'family'* (ISO 27001:2005, ISO 27002:2005), and
- *ITIL* (IT Infrastructure Library).

5.1. Cobit

While ISO 27000 family refers mainly to information security risks issues and surely can't be treated as a comprehensive IT Governance 'tool' (rather as a leading information security norm), CobIT is the widely accepted IT governance framework organized by key IT control objectives, which are broken into detailed IT controls. Current version 4.1 of CobIT divides IT into four domains (Plan and Organise, Acquire and Implement, Deliver and Support, and Monitor and Evaluate), which are broken into 34 key IT processes, and then further divided into more than 300 detailed IT control objectives. For each of the 34 IT processes CobIT defines:

- performance goals and metrics (for example, RPO, RTO, availability time),
- KRI (Key Risk Indicator), KPI (Key Performance Indicator)
- maturity models (0-5 scale) to assist in benchmarking and decision-making for process improvements,
- a RACI chart identifying who is Responsible, Accountable, Consulted, and/or Informed for specific IT process.

5.2. ITIL

While CobIT gives comprehensive approach to all IT Governance activities, some key processes, namely in IT service area may be also found in ITIL recommendation. ITIL (Information Technology Infrastructure Library) developed and published in late 1980s by Central Computer and Telecommunication Agency, now the British Office of Government

Commerce, becomes widely embraced in private and public sectors as a reference framework for IT Service Management. ITIL is a series of books representing a repository of best practices in IT service management and related processes, promoting business driven approach to the management of IT and a performance driven approach in achieving business effectiveness and efficiency in the use of IS and IT. Basic ITIL process' objectives are:

- to define service processes in IT organization,
- to define and improve the quality of IT services,
- to understand and improve IT service provision, as an integral part of an overall business requirement for high quality IS management,
- to determine what service the business requires of the provider in order to provide adequate support to the business users, and
- to ensure that the customer has access to the appropriate services to support the business functions.

Since the 1980s there were 3 major revisions of ITIL best practices. Version 2 described 11 major IT service areas within two broad categories of:

- Service Support – (operational processes, consisted of Service Desk, Incident Management, Problem Management, Configuration Management, Change Management, Release Management) and
- Service Delivery – (tactical processes comprising Service Level Management, IT Financial Management, Capacity Management, IT Service Continuity, Availability Management).

New version 3 of ITIL brings evolutionary improvements to the IT Service Management concept, consisting of 5 key categories (Service Strategy, Service Design, Service Transition, Service Operation, Continual Service Improvement), but the main processes remains the same in its core as in ITIL v2.

Strictly speaking, ITIL itself isn't a 'standard', but the best practice processes promoted in ITIL support and supported by the ISO 20000 from the International Organization for Standardization, which is presently the only standard in IT service management (alongside with equivalent BS 15000 from British Standards Institute). When organizations claim they have adopted ITIL framework, they usually mean that they have implemented 11 processes described in Service Delivery and Service Support categories. This in particular means that, following ITIL best practices, they improve their IT service processes at the

operational (Service Support) and tactical level (Service Delivery) and gain possible strategic benefits such as:

- reduced costs and improved productivity of IT services provision,
- improved quality of IT services through the use of proven best practice processes,
- improved customer satisfaction through a more professional approach to service delivery,
- improved delivery of third party services through the specification of ITIL or ISO 20000 (BS15000) as the standard for service delivery in services procurements.

Therefore, it is quite necessary to set the wide range of key performance indicators (KPIs) to be able to manage the quality of changed or rather improved business processes⁵.

Apart from the certification possibilities or at least ISO 20000 and BS 15000 compliance in IT service management processes, a number of ITIL 'checklists' are available for self-assessment of current practices and benchmarking with best practices⁶. These metrics describe each ITIL process and practice in further details and enable companies to internally audit and assess the maturity of IT service processes (marks are on 1-5 scale for each IT process or activity). Also, a quantitative functional model, applied as a complement to ITIL, can show where implementing ITIL will yield a return, and whether and to what extent ITIL processes have resulted in performance improvements. Therefore, it is quite obvious that a certain activities need to be performed prior to ITIL implementation, which explains why there are a limited number of companies engaged in ITIL implementation projects. Such companies manage IT in better way than their competitors, and they are aware of the fact that IT is not the subject, but the object of their business strategy. Therefore, for such companies there is a growing need for implementing contemporary IT Governance and IT Audit concepts.

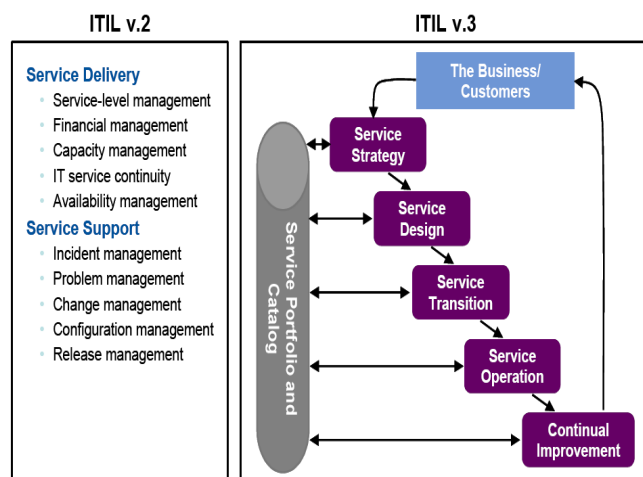


Figure 4. Differences between ITIL v2 and v3⁷

The most visible change in ITIL version 3 is the complete restructuring of Service Management area through entire service lifecycle. Other changes and improvements, in comparison with ITIL version 2, are improvements in the Service strategy book in which is described how to develop a business-driven strategy for IT service management. Service Strategy represents a fundamental rethinking of services, recognizing the need to conceptualize and identify a portfolio of services before dealing with the specifics of levels of service. Processes in Service Strategy stress the importance on creating business value versus simply improving the execution of processes, as was idea in ITIL version 2. In new version of ITIL there is a lot of new ideas and methods which covers organization design of IT department. In details is elaborated how and when to use service sourcing structures, which could be full service outsourcing or selective outsourcing models. Also, consolidation of the library into five (5) books brings 12 new processes and 3 new functions. It would be very interesting how IT community will use this challenge and chance to repositioning your role in current organization of companies who implementing and using ITIL.

5.3. Putting IT Governance frameworks in perspective

As presented in the previous section, IT Governance and IT Service Management serve two different purposes. IT Governance is often perceived as defining the "what" the IT organization should achieve and ITSM as defining the "how" the organization will achieve it. In their presentation to IT service

⁵ For example: Office of Government Commerce (OGC) (2007): Key Element Guide Continual Service Improvement - Pack of 10. TSO (The Stationery Office).

⁶ Ibidem.

⁷ Ibidem.

management framework (itSMF), Carter and Pultorak⁸ suggested that one can categorize IT frameworks following the six dimensions of:

- **Structure and Roles:** The assignment of responsibility for performing specified activities to specific groups or individuals.
- **Metrics:** The assignment of measurements to people, processes, technology and controls to ensure that they comply to what they are intended for.
- **Processes & Practices:** The interrelated series of activities that combine to produce products or services for internal and external clients.
- **Technology:** The technology that is supporting the IT delivery.
- **Controls:** The assignment of controls to IT processes to ensure that they deliver efficiently and effectively in line with clients requirements.
- **People:** The people that support effective and efficient IT service management.

As pointed out in Mingay's and Bittinger's work⁹, ITSM and IT Governance frameworks are not mutually exclusive and could be combined to provide a powerful IT governance, control and best-practice in IT service management.

Indeed, one can map ITIL process onto the perspective of the standard IT Balanced Scorecard (IT BSC) as presented in Table 3.

Table 3: Mapping ITIL processes to the standard IT Balanced Scorecard

| IT BSC Business Contribution | IT BSC User Orientation |
|---|---|
| <ul style="list-style-type: none"> - Financial Management | <ul style="list-style-type: none"> - Service Level Management - Availability Management - Continuity Management - Incident Management - Financial Management |
| IT BSC Operational Excellence | IT BSC Future Orientation |
| <ul style="list-style-type: none"> - Problem Management - Service Level Management - Change Management - Service Level Management | <ul style="list-style-type: none"> - Service Level Management - Capacity Management - Change Management - Financial Management |

A similar mapping exists for the CobiT processes. For instance, in the delivery and support domain such as define and manage service levels, manage performance and capacity, ensure continuous service, etc. maps well onto one or more ITIL processes such as service level, configuration, capacity, availability management etc.

6. Research study on the IT Governance and IT Audit issues on Croatian large companies

6.1. Survey instrument

The key objective of the research has been to examine a number of issues regarding IT Governance, IT Audit and IT Performance Measurement practices. As these terms interfere through the IT Governance concepts, we posed the following research questions: what stage of maturity level (from technical support to IT Governance) reflects the use of IT in the Croatian large companies? To address the research's objectives, a survey questionnaire was considered the most appropriate methodology. Before pilot-tested with five senior IS executives, the questionnaire was pre-tested on postgraduate and doctoral students for content validity and readability.

6.2. Research Sample

The questionnaire was then sent to 100 CIOs (Chief Information Officers) in Croatian large companies selected from the Register of '100 Large' companies, which are more likely to represent the structure of the

⁸ Carter, K., Pultorak, D. (2003): ITIL, COBIT, CMMI, Balanced Scorecard, ISO 9000, Six Sigma: Putting Them All Together, 2003.

⁹ Mingay, S., Bittinger, S., (2002): Combine CobiT and ITIL for Powerful IT Governance, in Research Note, TG-16-1849, Gartner, 2002.

Croatian economy. The survey was performed from March 2007 to April 2007 and was conducted by verbal communication with CIOs.

The survey resulted in 37 responses, representing acceptable response rate, but also limiting the research due to the small scope. The strengths of the methodology used represent the fact that the respondents weren't self-selecting the questions and themes. They were rather interviewed about their IT Governance and IT Audit practice.

6.3. Analyses of research results and the discussion

The analysis of the responded questionnaires reflects that only moderate number (46,7%) of Croatian organizations have implemented an IS strategic plan, as a part of overall strategic plan. Considering relatively low level of IT investment (53,7% of companies allocate less than 2% of total annual revenue for IT), it can be concluded that Croatian companies are just keeping present IS in working conditions on the same level of technology with no initiative for improving or developing new IS. These results imply that Croatian companies underestimate necessity of IT planning and that in Croatian organizations IT is neglected resource. With such a poor IT planning as well as IT budgeting one cannot expect progressive IT Governance and IT audit politics. This contribution is by all means strong where IT strategy is linked with business strategy, thus IT can initiate major changes in organization structure, business processes and overall activities.

Table 4. indicates that 53,7% of surveyed Croatian companies intend to spend less than 2% of their budget for IT issues in general, while further 39,2% of them are planning to spend 2-5% of their operating budget for IT support and related issues. This indicates that remaining 7,1% of respondents are planning considerable investment in IT/IS issues and have a solid IT funding. Majority of them are engaged in so called 'information-intensive' industries (such as telecommunications, banking etc.) and majority of them are using IT standards and frameworks such as ISO 27001, ITIL and CobiT on a regular basis. One of the reason may be that their parent companies (almost all of them are own by foreign companies) are regulatory obliged to do so.

Table 4. IT budget as a portion of total operating budget

| IT budget as a portion of total operating budget | Percentage of surveyed companies |
|--|----------------------------------|
| Less than 2% | 53,7% |
| 2-5% | 39,2% |
| More than 5% | 7,1% |

An information system (IS) which does not serve corporate strategies should be a source of managerial concern and frustration and any misalignment of IS and corporate strategy could have detrimental effect on organizational performance. Therefore, aligning IS with business objectives represent one the most important activities that add value to the business and proper measures for evaluating its contribution to the business is needed. Research results suggest that in 58,7% of companies there is no measure for evaluating the influence of IT on business productivity, although the conscience of having such a metrics is highly appreciated (average mark 3,95 on a 1-5 scale).

This in particular means that there are no periodic IT Audits which can help business measure the performance of IT to the business. Also, there is no management commitment to do so, unless they are regulatory obliged. Furthermore, 89,1% of total number of companies that implement IT strategic planning (46% of companies do have IT strategic plan) have formally defined and well documented IS audit procedures, as well as proper action plan. Also, only moderate number of sampled companies (less than 40%) have implemented some IS security procedures, while 21,7% of them have an information system audit department. In most of the cases, information system audit department is an autonomous organizational unit inside IT department, or inside audit department.

Another issue must be stressed related to IT projects: management and organizational problem. Managers in majority Croatian companies are essentially specialists in their own areas following functional organization structure, while strategic IT benefits are process related and cross-functional. Things are worse when IT is not autonomous organizational department (support type of organizations where IT function is under control of another department, mostly under corporate finance in Croatian business practice). In these circumstances communication between IT department and top management isn't direct with middle or line management as infomediary. So, one cannot expect that, for instance, finance manager would be the initiator of corporate strategic IT thinking or the initiator of IT projects. The higher the position of IT manager in corporate management structure is, the strategic IT planning is of more importance and therefore IT projects are successfully managed and conducted. IT is not the matter of concern for a single department, nor for a single person in the company, but rather related to overall company structure and every company employee.

Table 5.: Barriers for successful IT projects in Croatian organizations

| Barriers for successful IT projects | Number of companies | Valid percent |
|---|---------------------|---------------|
| Lack of resources | 22 | 24% |
| End users not involved in projects | 16 | 18% |
| Lack of top-management support | 12 | 13% |
| Resistance to projects | 9 | 10% |
| Lack of analysis | 7 | 8% |
| Undefined responsibility for project implementation | 7 | 8% |
| Not adjust to environmental changes | 6 | 7% |
| Not adjust to business plans | 6 | 7% |
| Unadequate IT | 3 | 3% |
| Poor presentation of project's results | 3 | 3% |

Therefore, an organizational problem with a source coming from lack of knowledge and interest from top management structures can be observed. Major organizational changes must be done to recognize IT as strategic resource and position it well in the organization structure. The fact is that IT managers should come out from the shadow of the operative or tactical level of management and start dealing with business and strategic problems. Since IT strongly influences all business functions and all levels of management, IT manager is expected not only to possess technical knowledge, but knowledge of business management as well. On the other side, all levels of management, no matter of their affinity, must have proper IT knowledge. On this point appears a new term "hybrid manager", the one that has to have knowledge of business management, but also to be able to recognize possibilities and chances which application of IT can offer to their company.

Only 29% of implemented IT projects in surveyed Croatian organizations were successful. As can be depicted from Table 5., barriers for successful IT project are mainly organizational, not technical.

7. Conclusion

In prior years, information technology (IT) had been viewed only as supporting player within overall company's strategy. Automation was, for example, limited to existing organizational function. But opinions have changed with the successful implementation of IT innovations and massive IT investments. Information

system (IS), as well as IT in general, becomes extremely important asset that can strongly influence company market position, and which must be carefully monitored, controlled and planned. Improving the planning process for information systems is one of the key concerns for corporate management.

In this paper we argued about IT Governance and IT Audit prospects in Croatian large companies. Research conducted emerged with a conclusion that Croatian companies underestimate the role IT can have in increasing productivity. This in particular means that managers are not aware of the fact that there are world-wide frameworks and methodologies (CobiT, ITIL, ISO 27001) used for measuring the performance of IT. Such tendencies, under the IT Audit 'umbrella', may help them to measure the quality of IT Services and the performance of IT Governance initiatives. Therefore, the answer to the posed research question is: Croatian companies use IT as a technological (infrastructure) support, while the small number of them are exploring the IT Governance and IT Audit benefits to the full. They are doing so namely by complying to the regulatory IT Governance and IT Audit frameworks, which often means that they are using IT as a strategic business resource, fully aligned with corporate governance objectives.

But, no matter of methodology used, it is at least equally important who in corporate hierarchy is making decisions about IT investments. We would expect that executive management will be responsible for making decisions on IT investments, especially for strategic IT investments issues. In Croatian companies only in small number of cases executive management is responsible for making IT investment decision. Majority of IT investments decision is the line manager's responsibility, which in Croatian company's case is the CFO (chief financial officer) responsibility, since the IT department is the organizational unit inside the financial department. Methods used for making decision about IT investments primarily include cost-benefit analysis, while there are number of companies that use no metrics for evaluating IT performance. On the other hand, only small number of CIO (IS Executives) have heard of contemporary initiatives in IT Governance and IT Audit such as CobiT and ITIL.

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