

THE MANAGEMENT OF TELECOMMUNICATIONS NETWORK IS AN INTEGRAL PART OF IT GOVERNANCE. HENCE, WHAT SHOULD BE THE ROLE OF THE CIO AND THE ICT UNIT IN IMPLEMENTING IT MANAGEMENT PRACTICES IN LINE WITH THE OVERALL ORGANIZATIONAL IT GOVERNANCE?

Foilagui Maua – Faamau

National University of Samoa

P.O. Box 1622

Apia

SAMOA

e-mail: f.maua-faamau@nus.edu.ws or missupemasis@gmail.com

ABSTRACT

This paper will focus mainly on the role of the CIO and the ICT unit in the management of telecommunications network as part of the overall responsibility of the ICT unit in aligning IT strategies with the organizational policies and strategic plan. And in doing so, this paper will discuss the issues involved in the management of telecommunications network within the context of IT investments as part of effective IT governance practices. These issues can become potential problems which must be addressed as the CIO and the ICT unit move to manage and develop new and existing IT investments as part of IT management. And according to the IT governance framework, the influence of other business managers with IT backgrounds outside the ICT unit of an organization can be quite overwhelming. Hence, this can lead to the overpowering of the CIO and the ICT unit in terms of implementation of IT decisions made which requires the participation and guidance from technical people within the ICT unit especially the CIO.

The overall role of the ICT department within any organization is to supply the necessary IS and IT services as required by the organization. And whatever the case, the CIO should work collaboratively with the CEO and top management in identifying new IT initiatives which should benefit the organization. On top of this, the CIO in collaboration with the unit managers concerned should together agree on the allocation of resources required for the different IT projects. This role of the CIO and the ICT unit itself can be overlooked if there is no firm support from top management in recognizing the professional abilities of people in charge of the ICT unit.

In all, the management of telecommunications network as part of IT governance requires the support and collaboration of other managers from other units of an organization. This in turn can be sustained by the understanding and support from the top executives of an organization. More importantly, this support can be shown in a balanced contribution towards decisions which affect the IT supply side and the corporation demand side of an organization's IT governance equation. For example, if there is a need for an intranet, or a new information system, these requirements for these new IT initiatives should be proposed through the ICT unit,

and the technical staff within the ICT unit should provide a leading role in developing and implementing such proposals.

However, other managers or executives with IT backgrounds outside the ICT unit can become too involved in the design and implementation of these proposals, thus creating confusion in the real responsibilities of the CIO and the ICT unit as a whole. That is, the IT governance framework implies that other managers can be allocated decision rights concerning IT initiatives particularly in terms of the effective ‘use’ of IT. But, this is not always the practical application of the decision rights of some of the ‘other’ managers. That is, not only these managers are assigned their decision rights in terms of utilizing IT services but are also using the opportunity to be involved in the actual management of telecommunications within the ICT unit.

Therefore as Carr and Snyder (2003) stated, the ‘management of telecommunications is a two sided process: one side is managing the technology, the other is managing the organization. In both cases, the objective is to have an organization and equipment in place that will support IT needs of the parent organization’. The questions which arise here are: Who exactly should be responsible in this management process of technology and the organization in terms of IT governance? Where do the CIO and the IT unit fit in this management process? Managing the technology or the organization or both?

IT governance has certainly influenced the overall perspective of how IT and telecommunications network should be managed within an organization. The main emphasis of the IT governance framework is to involve top management in the IT decision making process. This is a perspective which arises as a result of seeing many failed IT initiatives while most of these initiatives require huge amount of funding from the organization. In this way, the contribution from other unit managers towards IT decisions is encouraged to allow for the holistic reach of IT strategies within the organization. But, it is this involvement of other unit managers in the IT decision making process that has certainly created some uncertainties on the part of the CIO and IT technical staff in the execution of their professional duties in the management of the technical side of IT. Although it is important to align IT strategies with the overall organizational objectives pertaining IT governance, but at the same time it has caused some issues of concern in terms of the practical impact of IT governance in an effort to encourage a collaborative connection between the ICT unit and the organization.

1. INTRODUCTION

IT governance is ‘the assignment of decision rights and the accountability framework to encourage desirable behavior in the use of IT’ (Weill and Woodham in McNurlin and Sprague, 2004). Governance in IT has become very important in terms of accountability and transparency of decisions concerning IT initiatives and the overall control of IT usage within an organization.

‘The importance of IT governance has grown as companies and organizations have come to realize that their IT assets (for example their IT systems and customer data) are crucial to their continuing operation’ (Musson and Jordan, 2005). This view clearly represents the overall perspective of any organizational

management team on the returns of investment on their IT expenditures. On the same note, it is also arguable that IT governance is another step in the realization of the cost-consciousness of companies and corporations towards their IT investment. This in turn can lead to another viewpoint of IT governance from an accounting and financial perspective about an effort to encourage controlled spending on IT initiatives, due to the high number of failed IT projects within corporate organizations.

The good part about IT governance is that it encourages the participation of other 'non IT staff members' in the decision - making process within an organization concerning its IT expenditures. The involvement of other members outside the ICT unit in making IT decisions is good so that for any IT initiative proposed, the CIO and IT staff involved in particular IT projects will be able to receive a holistic view of the organization about these IT initiatives. This is a very crucial requirement in terms of IT development especially in the area of application development. In addition, the participation of other members in making decisions regarding IT initiatives as part of IT governance is helpful in a way that it encourages further collaboration between the ICT unit and the organization but most importantly, the allocation of decision rights among other members outside the ICT unit encourages accountability and transparent decision making concerning IT initiatives. In all, most organizations have come to realize that the real value of IT expenditures is achieved by bringing in the ICT unit as an integral part of the organization. Thus, the main objective of IT governance is to encourage outside members to participate in making decisions concerning IT initiatives as well as promoting accountability and responsibility for various IT developments which might be required within an organization.

But, the practical implementation of IT governance is not fully realized in most organizations as implicated by its objectives. The impact of IT governance and the involvement of other members outside the ICT unit have caused further problems in the overall management of IT in organizations. These problems can be looked at from two sides: the business or organization, and the other from the ICT side.

2. PROBLEMS

Most of the problems pertaining to IT management arise as a result of the high number of failed IT initiatives. There have been quite a lot of literatures on the reasons as to why IT initiatives fail. The main emphasis is to discuss these reasons as there seems to be a variety of crucial sources and viewpoints about this problem of failed IT initiatives. As from an organizational point of view, failed IT initiatives have a great effect on the overall organizational expenditures and returns of investment. The questions then are: What are the causes of failed IT initiatives and who or what section of the organization should be accountable for unsuccessful IT developments?

2.1 The organization perspective

IT is considered a very important corporate asset that needs effective control. Hence, the emergence of IT governance as many organizations have come to realize that the values of their investments in IT

developments such as telecommunications network, information systems, or even their corporate data are vital to achieve a competitive edge within this technological age.

Once, the general organizational perspective on managing the ICT unit is that it is effectively controlled as a separate function of the organization. Now, most of IT developments span to affect organizational and business functions especially to connect organizations to their business partners and customers. Therefore, organizations that aim to obtain full value of their IT investments must consider to integrate its IT functions with the overall organizational processes. In addition, the support and understanding of top organizational management in how to leverage IT to encourage improvements and competitive advantage is equally important.

Most organizations have supported this idea and promote the implementation of the IT governance framework within their organizational structures. This is seen in a lot of companies and organizations worldwide adopting the IT governance framework which encourages the involvement of top executives and ‘other business managers’ in the decision making process pertaining to IT initiatives. For example, in countries like the United Kingdom, America and Australia, these countries have set out IT governance standards as part of corporate governance in an effort to meet the concerns of not only the CIO and ICT managers but also the other business managers. In Australia for example, as reported by Dr Lewis E in (<http://www.sai-global.com/NEWSROOM/TGS/2005-03/ICT/ICT.HTM>, March 2005). ‘the new Australian Information and Communication Technology (ICT) Governance Standard is the first to be developed to meet the concerns of the ICT and business managers... Directors and other senior executives must realize that it is they who are responsible for the proper *use* of information and communication technology. It is they who should set the direction for the ICT specialists. They allocate the resources that are needed for ICT; they check to see if ICT is providing what the organization needs and they provide the leadership that is so necessary for the successful introduction of changes to business practices brought about by the ICT initiatives. If senior business officers do not do their job then the ICT specialists cannot do theirs’.

Several other IT specialists like Gilles (2005) has observed that ‘the emergence of IT governance standards has been driven by IT, bottom up’. This perspective stresses the importance of top management involvement in IT governance. It is seen that the bottom up approach which has been the existing standard in IT governance should be changed to divert the IT decision rights to include other stakeholders within the organization ‘that together encourage desirable behaviors in the deployment and use of information technology’ Gilles (2005). A standard which is theoretically effective but when it is not fully understood by all parties involved in IT governance it can lead to further distancing of the ICT unit from the organization.

As mentioned before, the practical impact of IT governance is carried out by selecting a variety of people from other units of the organization to form various ICT committees to look into the developments initiated by the ICT unit. These committee members may not necessarily have any IT background. The main significance in appointing other members in ICT committees is to provide an overall viewpoint about any IT

initiative which may be required for the organization. This holistic perspective is important for IT specialists when designing and developing any IT initiative which can provide the most necessary IT service according to the requirements provided by the members for whom the IT initiative is designed.

But, on the other hand, the involvement of other committee members in deciding what is best for the ICT unit as indicated by the IT governance framework can cause a number of problems between the ICT unit and the organization. This has been the reality in the practical application of IT governance. The assignment of decision rights to other members outside the ICT unit is seen to be a solution to the problem of high failure rate in IT developments. As from the organization's point of view, IT governance promotes the participation of other managers outside the ICT unit in making decisions regarding IT investments within an organization. This will encourage other managers to accept their responsibilities for their contribution in the development of any IT initiative. This idea is certainly a good motive of IT governance to improve relationships between the ICT unit and the organization in an effort to reduce the number of failed IT initiatives. However, there are several problems which arise at this point:

2.1.1 Overpowering nature of some members of ICT committees.

Due to the involvement of committee members outside the ICT unit in deciding for IT developments, some committee members especially those with IT backgrounds may take this responsibility beyond governance level, and try to be involved in the actual implementation of IT decisions by the ICT unit. As pointed out by McNurlin and Sprague (2004), 'governance differs from management in that governance is about deciding who makes the decisions, whereas management is about making decisions once decision rights have been assigned'. It has been a problem especially in organizations where there is no solid ICT organizational structure. From experience, it is very frustrating to see the role of a CIO or a senior ICT manager being taken over by someone else (a member of the ICT committee with an IT background) who is not officially a member of the ICT unit. A real example in this case is when an organization (named Organization Ed) decided to change its existing registration system as part of its IT strategy to improve technology services for its clients. The CEO of this organization appointed another unit manager with an IT background as project manager for Registration Project. The CIO at the time was part of the project team but was very vaguely informed of the processes involved in the execution of the project. The requirements analysis and preliminary investigation of the previous system was done individually prior to the start of Registration Project by a different member also with an IT background. The actual selection of the new system was allocated to another committee member with an IT background and the decision to select the new system was made solely by this member and was supported by the project manager. The point here is that, there were other members of the committee especially the ICT unit representatives in the committee who did not agree with the decision let alone the assignment of decision rights in the selection of the new system. However, the system was selected and the ICT technical people have been assigned to the department for whom the system is selected without the consent of the CIO. The project manager together with this other committee member have been responsible in making decisions regarding the new system

thus creating friction within the ICT unit itself. The CIO at the time finally resigned as a result of misunderstanding between the two parties and the lack of communication between the committee members. In the mean time, the new system continues to run into problems after a year since it has been installed.

2.1.2 The perspective about IT being an expensive commodity

The main concern of IT governance is to maintain a balance between governing the demand side (organization) and the supply side (IT) of ICT.

In many organizations today, the IT risk monitoring is tangled up with the overall risk outline of the organization. ‘Risk review falls to the audit and risk committee and audit committees are staffed with finance, accounting and audit experts who often do not possess the necessary depth of IT know – how to understand the risk’ (Gilles R 2005, ‘Information Technology: Impacts and Implications for Accounting’, *Australian Accounting Review*, vol. 15, no. 3, p. 10). Another real example from Organization Ed has been the proposal from the Acting CIO (since the CIO has resigned) to purchase a new firewall software for the organization’s network. There have been a lot of problems lately with the organization’s network system due to the high number of viruses filtered through because of the absence of a firewall. The delay in purchasing this software has been because of

- the reluctance of finance people to buy the software because of its high cost.
- the insistence of particular ICT committee members (with IT backgrounds) to download a free firewall version from the Internet under the open source framework.
- the lack of understanding of top executives in supporting the proposal and realizing the importance of purchasing a ‘new’ firewall (rather than a downloaded version from the Internet) as this is crucial to the protection of IT resources especially the data.

2.1.3 The lack of project management skills in developing and implementing IT projects

‘A good project manager is crucial to a project’s success. Project managers work with the project sponsors, the project team, and the other people involved in a project to meet project goals’ (Swalbe, K 2006, p. 6). The project manager can either be someone from the ICT unit or from the section for whom the IT initiative is developed. As for Organization Ed, the manager of the section for whom the system was designed was selected as project manager for the Registration Project. This is a good intention of the ICT Committee since the project budget was allocated to the section concerned. However, there has been a lapse in communication between the project committee and the CIO in terms of allocating human resources from the ICT unit to the project. In reality, technical IT staff allocated to a project must temporarily be responsible to the project manager during the project duration through the CIO. In this way, the CIO will be able to delegate the responsibilities of these staff to the project with his or knowledge. All of the project committee members must be awarded with some form of benefit in recognition of their participation and contribution to the project. If the

benefit is in the form of monetary value, this must be funded by the project budget. However, for Organization Ed, the technical person allocated to the Registration Project, was given a raise in his salary for his participation in the project. This was decided by again some members of the ICT Committee who are involved in the project, while the CIO was not aware of such decision. The problem then is the confusion as to which section's budget will be used to fund this person's salary increase. Some of the implications of this decision are that:

- it caused confusion as to who is accountable for the implementation of such a decision to upgrade the salary of one member of the project team.
- it caused dissatisfaction among other members of the project team since only particular people's efforts are recognized.
- it caused a mix-up and misunderstanding on the part of the project team member concerned as to who exactly should he report.
- it caused total dependence of the project team on this one technical person thus overlooking the authority of his immediate ICT supervisor or the CIO. In addition, the responsibility was totally carried by this technical person and the ICT unit including the CIO when something goes wrong with the implementation of the new system.
- it caused further increase in the gap between the ICT unit and the organization thus leading to the reluctance of ICT staff to perform some of their technical duties when a new system or any new IT initiative is installed such as change management.

In all, the project team members from the ICT unit should have been selected with consultation of the CIO. This will enable the smooth running of the project (since it was managed outside of the ICT unit) and gaining the support of the CIO is equally important as gaining the support of other executives in achieving any project goal. The project manager should first analyze these situations even before actually committing to the project.

In all, the involvement of these committee members in the decision making process of IT initiatives perhaps has provided them with the idea that they can also interfere with the actual management of the ICT unit in terms of implementing IT decisions already made. This can be a real impact of IT governance on the CIO and the ICT unit in terms of assigned responsibilities pertaining to IT initiatives. The roles of the CIO and other senior ICT managers can be confused with the responsibilities of ICT committee members hence the further widening of the gap between the ICT unit and the organization.

2.2 The IT perspective

One of the most crucial roles of a CIO is to work in collaboration with the CEO and other business managers in promoting IT strategies in line with the goals outlined in the organization's overall strategic plan. On the same note, the CIO is also required to possess good managerial and leadership skills to manage the ICT

unit in providing efficient IT and IS services as required by the organization. According to McNurlin and Sprague (2004, p. 61), 'the four aspects of the CIO role these days include:

1. Leading: Creating a vision of the future of IT and selling it to the organization
2. Governing: Establishing an IS and IT governance structure
3. Investing: Shaping the IT portfolio
4. Managing: Fostering change imposed on the organization as a result of new IT developments'.

It is arguable that an effective CIO is one with the drive to implement most if not all of the four aspects as outlined above. However, in reality, some CIOs have problems in collaborative work, leading the ICT unit with a vision, pushing for IT investments or even managing change. Therefore, as IT governance promotes collaborative decision making the ICT people have problems as well.

2.2.1 Behavior

As the intention of IT governance is to get other unit executives together with the CIO or other ICT managers to participate in IT decision making, the main goal is to create improved working relationships and understanding between the organization and the ICT unit. Equally important in this good workmanship is to get both sides to be responsible and accountable for any IT initiative. However, nothing much can be done if the CIO for one is unwilling to participate in collaborative decision making and accept feedback from other managers or members of ICT committees. As for Organization Ed, the CIO at the time was having difficulties in working together with other managers in making IT decisions and also was lacking the leadership skills to manage the ICT unit in a more effective manner. The impact of this type of adversarial behavior was evident in:

- sluggish communication between the organization and the ICT resulting in the slow implementation of IT initiatives as proposed by other sections.
- the absence of motivation among the ICT staff in terms of effectiveness and efficiency.
- low morale among ICT staff since all the IT system accessibility authorities were held by just this person. This creates an atmosphere of mistrust among the ICT staff and the CIO.
- the CIO's lack of drive to lead the ICT unit with a vision of the future as indicated by the sloppy ICT organizational structure. As of this moment, there still have been no senior managers officially appointed to lead the various sections within the ICT unit. Most of the current ICT staff consists of young inexperienced technicians who need formal training and assistance from senior IT staff. As a result of this, there have not been any innovations on the part of ICT expertise to improve the current state of the ICT infrastructure and architecture.

2.2.2 Too many junior managers

As pointed out by Lohmeyer B, Pogreb, S and Robinson, S in

(http://www.mckinseyquarterly.com/article_page.aspx?ar=1251&L2=13&L3=13,2002), that ‘even with the right processes, companies can make the mistake of staffing committees with junior people who have neither a broad view of corporate strategy nor the authority to make decisions on the spot and with IT managers who lack an adequate grasp of what their companies do’. These deficiencies can also be applied to the CIO in terms of appointing junior people to senior positions in ICT unit. The appointment of junior people with less experience in positions which demand high strategic knowledge and decision making skills can:

- slow down the decision making process.
- be overlooked or empowered by more experienced members
- create friction among the more senior staff who become subordinates to these junior managers.

2.2.3 Inadequate communication practices

A lack of understanding of all parties and stakeholders involved in IT governance can also contribute in the increase of the gap between the ICT and the organization. This problem arises when ICT Committee members and ICT unit members lack the understanding of the scope of IT governance practices and why these standards exist.

2.2.4 Imbalance in ICT focus

Most of the ICT projects are triggered when there is a problem with the IT services already existing. This will become the main focus of the CIO and the ICT unit rather than driving innovation and a vision of the future to spearhead strategic IT activities within the ICT unit. This will have an impact on the ICT unit in a way that the ICT unit will never improve on its current activities and a bleak image of its future.

3. Recommendations

In an effort to create better relationships between the organization and its ICT unit, the practices of IT governance must be broadly accepted by all parties involved in making IT decisions. Thus the principles of a good IT governance framework should:

- Include key players in IT governance particularly ranging from the CEO to other business managers and especially the CIO and other ICT managers.
- Encourage the rights of other business managers outside the ICT unit in making IT decisions and at the same time be made responsible and accountable for such decisions rather than depending totally on the ICT unit to implement decisions and moving away when an investment is not successful.
- Improve communications among all parties involved in IT governance and to promote and encourage behavior which are considered necessary in the use and management of ICT initiatives.
- Provide a balanced focus of the organization on ICT activities which not only provide the required ICT services but also improve the strategic outlook of the ICT unit.

International Conference on Computing, Communication System and Informatics
Management (ICCCSIM)

Venue : Hotel RAMADA , Bur Dubai, UAE

Date : 29 – 30 July, 2012

- Utilize the technical expertise of ICT people who are actually employed under the ICT unit including the CIO rather than fully depending on the technical advice provided by committee members who may possess IT backgrounds.

4. Conclusion

The IT functions of any organization should be treated as an integral part of organizational management. And through the establishment of standards provided by IT governance, they seem theoretically effective in an effort to bridge the gap between the ICT unit and the organization. That is, to bring together all business units to participate in decision making pertaining to IT initiatives.

The problems which exist as a result of a misreading and miscalculating the scope of IT governance as well as the roles of the CIO and the ICT unit can be enhanced by improving communication between all parties involved in decision making. Thus, the key players of a good IT management framework should be the CEO, the CIO and the ICT unit staff. In terms of IT governance, the involvement of other members (together with the ICT members) is encouraged mainly to encourage a holistic viewpoint on IT decision making but this should be restricted at governance level not IT management level.

5. List of References

1. Carr, HH & Snyder, CA 2003, *Management of Telecommunications – Business Solutions to Business Problems Enabled by Voice and Data Communications*, 2nd edn, McGraw – Hill, USA.
2. Gilles, R 2005, 'IT Governance – Are Boards and Business Executives Interested Onlookers or Committed Participants?', *Australian Accounting Review*, vol. 15, no. 3.
3. Lewis, E 2005, Australian world – first ICT governance Standard, viewed 18 November 2005, <http://www.sai-global.com/NEWSROOM/TGS/2005-03/ICT/ICT.HTM>.
4. Lohmeyer, D, Pogreb, S and Robinson, S 2002, *Who's accountable for IT?*, viewed 22 November 2005, http://www.mckinseyquarterly.com/article_page.aspx?ar=1251&L2=13&L3=13.
5. McNurlin, BC & Sprague, RH Jr 2004, *Information Systems Management in Practice*, 6th edn, Pearson Education Inc, New Jersey.
6. Swalbe, K 2006, *Information Technology Project Management*, 4th edn, Thomson Course Technology, Canada.