6.4 CONCLUSION

The study revealed that there is a serious lacking in the complete knowledge of the IT governance in Sri Lanka. Even IT professionals are yet to receive the complete knowledge illustrating the need for aggressive IT governance awareness drive. This could not be achieved through isolated efforts by the institutions. As per the awareness strategies discussed in chapter five, a collective effort has to be made under an identified leader ship. The author would like to suggest the ICTA or a new institution for IT governance to lead the ITG awareness drive. Apart from the leadership role, other institutions can play vital roles promoting different aspects of governance which comes under their particular discipline of interest[4].

Despite the lack of adequate efforts made on IT governance implementation, Sri Lankan organizations have some arrangement for IT governance. According to the discussions and analysis chapter, the organizations with high governance scores have followed tightly controlled decision rights while having broad based inputs for IT decisions. As Weil and Ross cited, this behavior has been influenced by the accepted guidelines for corporate governance (Weill P. & Ross J. W. 2004b). Therefore the study emphasized the importance of following sound corporate governance principles to have a IT governance frame work even an organization does not possess the expertise and knowledge in designing IT governance.

As the Sri Lankan IT executives claim, it is not practical to redesign the decision structures of the organizations from the scratch for the sake of IT governance implementation. Also if someone attempts to do so, there would be much resistance from the businesses. Therefore, the author recommends to compile proposals to corporate governance to fine tune existing decision structures as corporate governance initiative. Also organizations can redesign decision input arrangements according to the desirable behaviors un-touching highly political decision rights.

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[4] The Accounting and Auditing institutions can promote the IT risk mitigation aspect while IT institutes promoting the IT value delivery aspect of the IT governance

Although satisfactory decision structures are there, alignment processes and communication arrangements are at a very immature stage in organizations. With the same decision making structures, if organization can improve the alignment processes and communicate them organization wide, greater benefits can be derived with a little effort.

The author does not see same IT governance implementation potential across all the sectors. Organizations which heavily rely on IT to deliver business values and who use IT heavily for their business processes, have a greater potential in IT governance implementation. As discussed, banking sector would be influenced by upcoming compliance standards. The highly competitive telecommunication sector has put enormous trust on the IT systems to reshape their business processes to achieve growth and market leadership. The diversified organizations would have varying enthusiasm on IT governance depending on their organization cultures and leader ship behaviors.

Sri Lankan organizations are in the eve of IT governance implementation even though the initiatives taken by the organizations have not been branded under the term "IT governance". Let's fuel these initiatives with thorough research efforts enabling the Sri Lankan corporate sector to reap the benefits of the IT governance.

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APPENDICES

APPENDIX 1: QUICK ASSESSMENT OF IT GOVERNANCE

Weill and Ross (2004b) suggested to ask following two question from managers to have quick assessment of their governance performance.

(1) How important are the following out comes of your IT governance from scale 1(not important) from 5 (very important)

(2) What is the influence of IT governance in your business on the following measures of success on a scale from 1(not successful) to 5 (very successful)

	Question (1)		Question (2)		
a) Cost effective use of IT	☐	X	☐	=	☐
b) Effective use of IT for asset utilization	☐	X	☐	=	☐
c) Effective use of IT for Growth	☐	X	☐	=	☐
d) Effective use of IT for Business Flexibility	☐	X	☐	=	☐
Importance Total	☐		**Total**		☐

IT governance performance = (**Total** X 100) / (5 X **Importance total**)

Figure 13. Quick Assessment of IT governance

(Source: IT Governance on One Page)

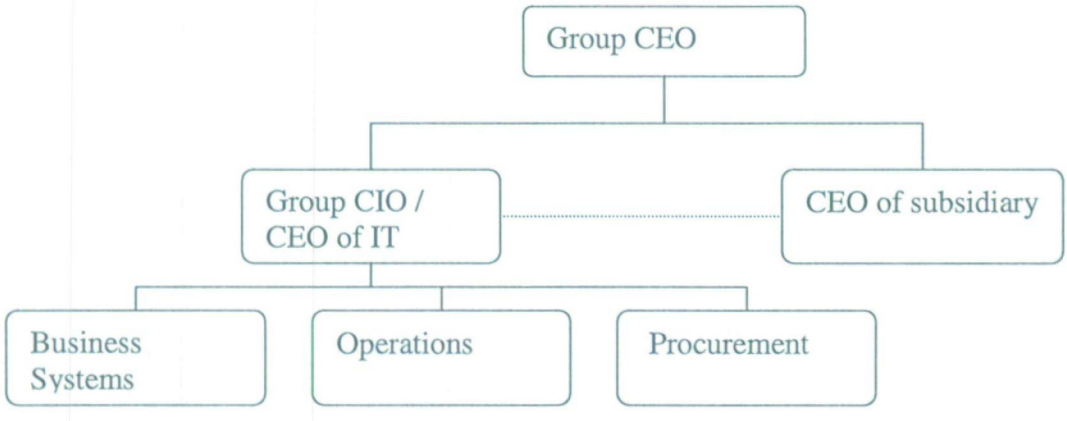
APPENDIX 2 IT GOVERNANCE CASE EXAMPLES

Case Example 1: The bank with highest governance performance score

Corporate Background: The bank has been operating in Sri Lanka for more than 50 years and has obtained good reputation on their corporate governance among the other banks. This bank had been ranked as one of the top corporate with sustained profits consistent growth and presently operates a group of companies with in Sri Lankan financial sector. Management has clearly identified operational risk arises from the information systems. Segregation of duties, demarcation of formal delegation of authority limits and Internal and external audit have been identified as operational risk mitigation mechanisms.

The group has identified the importance of the governing IT activities properly and has formed a separate IT company to cater group IT needs. The group CIO is the CEO of the IT organization and having dotted line reporting to each subsidiary's CEO.

IT Organization: The IT company comprises of 3 subunits namely, Business Systems, Operations and Procurement. Since the key systems are procured from external software companies, until the local development team takes over the systems, procurement division holds the ownership in the system. The IT organization is planning to get external projects in order to maximize the profit.



Project Teams (PT): Apart from the IT organization structure, company is having projectized cross functional project teams. Opinion leaders from functional groups will take more participate role in project teams. Noticeably number of staff has become IT professionals after long years of serving in other functions.

IT Steering Committee (ITSC): IT steering committee is chaired by the group CIO and all the stake holders along with all subsidiary CEOs participate in that. At least one project team member represent the IT steering committee from each team.

IT Governance Map

	IT Principals		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investments	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy		CEO's and Gr CIO						ITSC		**ITSC**
IT Monarchy				Gr CIO		Gr CIO				
Federal			**PT**		**PT**		**PT**		**PT**	
IT Duopoly										
Feudal										

ITSC is identified as business monarchy since ITSC comprises of all CEO's and chaired by group CIO and high level project representations. Since project teams comprised of representatives from all divisions, project teams represent federal type of governance arrangement

Decisions on IT Principles: Each company's IT role is decided by the CEO of that company along with the Group CIO. Therefore IT Principles decision archetypes have been identified as business monarchies.

IT Architecture: Group IT organization and Project teams propose suggestions for integration capabilities and decisions are taken at the ITSC which is chaired by CIO.

IT Infrastructure Strategies: Project teams forward input for different infrastructure requirements and CIO has decision rights on them.

Business Application Needs: Project teams evaluate business application needs and forward input to ITSC for business application related decisions.

IT Investment Prioritization: IT Investment prioritization decisions are taken at ITSC level.

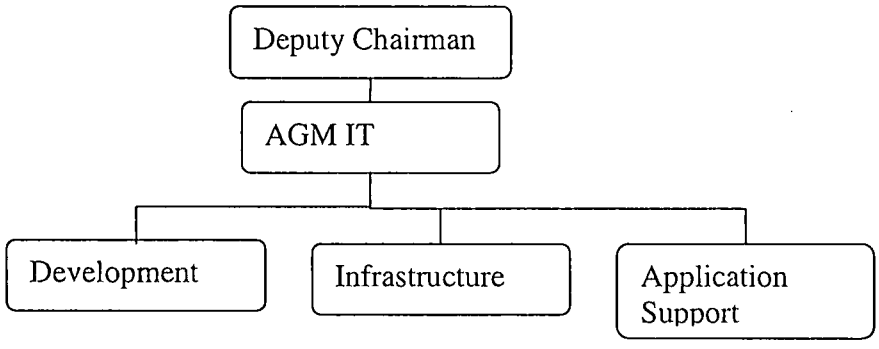
Level of ITG Implementation: Above IT decision rights are mapped with corporate governance policies and financial authority limits. The Group IT organization provides 24x7 service and cost of the service apportioned based on the individual company's budget. CIO is currently working on implementing service level agreements and charge back mechanisms. Divisional objectives are aligned with corporate plan and spitted with the IT staff members.

Level of ITG Maintenance: The governance arrangements were actively operational in the bank and there were no deviations or overriding situations reported during the recent past. Project team representation at ITSC enabled quick and effective communication mechanism for IT related decisions.

Case Example 2: The Bank with the lowest governance performance score

Corporate governance background: The bank is having short history about 15 years in the Sri Lankan corporate sector. The deputy chairman holds key decision rights in the organization and IT division is headed by Assistant General Manager. Key decisions are taken at monthly group management meetings.

IT Organization:



There are number of key projects assigned to the IT division for a year. Members are assigned for the each project and yearly appraisals are done based on the performance and completion of the project.

	IT Principals		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investments	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy		DCH		DCH		DCH	DCH	DCH		DCH
IT Monarchy			HIT		HIT		HIT		HIT	
Federal										
IT Duopoly							HIT + BUH			
Feudal										

DCH – Deputy Chairman, HIT- Head of IT, BUH – Business unit head

Decisions on IT Principles: Deputy Chairman decides on the business role of IT. For some companies IT is a supporting activity while some others, IT drives the business.

IT Architecture: Head of IT forwards the recommendations for IT architecture for Deputy Chairman's approval.

IT Infrastructure Strategies: Head of IT forward the recommendations for IT infrastructure for Deputy Chairman's approval.

Business Application Needs: Decision inputs are situational. Head of IT with other Business unit heads or HIT alone would recommend for decision and DCH holds the final decision.

IT Investment Prioritization: Deputy Chairman takes investment prioritization decisions based on other managers' inputs at the monthly management meeting.

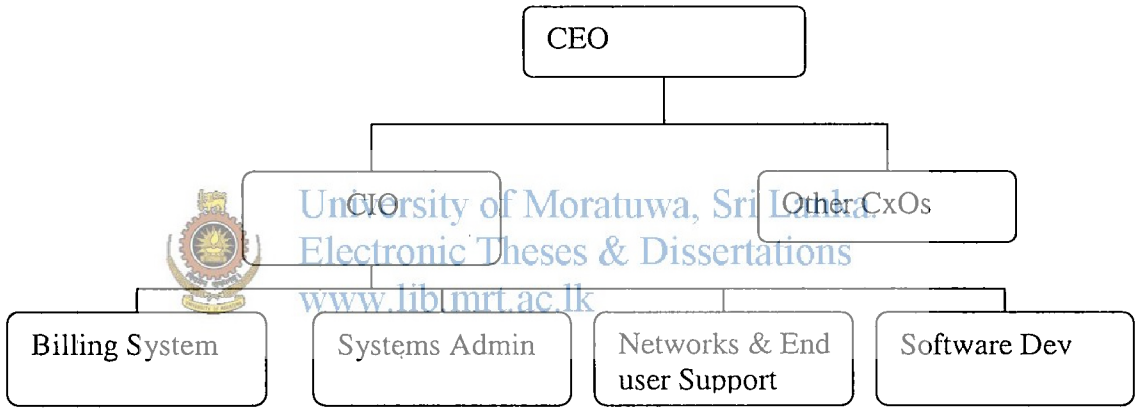
Level of ITG Implementation: The IT decision structure is not defined properly and lot of ad-hoc decisions are taken at informal meetings. IT division operates as a cost center and IT staff members' salaries are apportioned among business units based on number of PCs each business unit own. Head of IT decides where to allocate his salary at the end of each month. The researcher observed that the IT division is having more autonomy. This autonomy was influenced by the business knowledge of them. Most of them have started their career as bankers and have become IT professionals. There are no strategic initiatives for alignment processes and performance appraisals. But the IT division's and staff members' objectives are aligned to business strategy.

Level of ITG Maintenance: Since the decision structure is not clearly defined, the senior board member involved in number of tactical and operational decisions frequently. Some authorities are given verbally and no communication mechanism to inform others about the new authority levels.

Case Example 3 Fixed Line Telecom Operator

Corporate Background: This is a well established organization and operating in Sri Lanka for many long years. Organization went through a major restructuring process with foreign management ownership. Organization has identified IT dependability in the organization and chief executives have taken special attention on IT decisions. Since IT infrastructure expands beyond the perimeters of the organization, the CIO is working on establishing common infrastructure platform in order to govern IT systems effectively.

IT Organization



IT executives' responsibilities are defined with the formal job description and divisional structure demarcating boundaries of responsibility. Approvals and information flow follows the hierarchical structure due to the organization's setup.

IT Governance Map for Telecom1

	IT Principals		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investments	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy		**CEO**		**CEO**		**CEO**	**CEO**	**MC, CEO**	**CCO, Budget**	**CEO at MC**
IT Monarchy			**ABP**	**CITO**	**ABP**	**CITO**				
Federal							**ABP**			
IT Duopoly							**ABP**			
Feudal										

Annual Business Plan (ABP) is the key mechanism in generating IT proposals. All layers of the staff can forward proposals to Annual business plan. ABP proposals cover budgets, time plans, objectives, business inputs and Return on Investments (ROI)

Management Committee: All CxOs represent the management committee chaired by CEO

Decisions on IT Principles: CEO sets the business role of IT in the organization and CEO is very IT literate.

IT Architecture: CIO provides input for IT architecture and CEO approves the decision. ABP proposals also provide inputs to IT architecture decisions in some instances.

IT Infrastructure Strategies: CEO approves the decision inputs forwarded by CIO

Business Application Needs: Business Application decisions are situational. All divisions contribute to business application decisions in different ways. There were

instances where CEO himself forward business application decision input with new billing systems proposals.

IT Investment Prioritization: Corporate Planning division headed by CCO (Chief Corporate Officer) work on investment prioritization and approvals take place at Management Committee chaired by CEO.

Level of ITG Implementation : Although there is no clearly defined IT decision structure, the organization structure, individual job descriptions and management committees have formed decision structure which is embedded in to the organization culture. The ABP provides foundation for IT decision proposals and addresses business alignment of them. The organization has not implemented service level agreement or charge back systems. The CIO is attempting to implement proper infrastructure and tools for IT governance by introducing new enterprise architecture. Further IT division has planned for comprehensive objective alignment process for the next year setting divisional goals and splitting them with all divisional members.

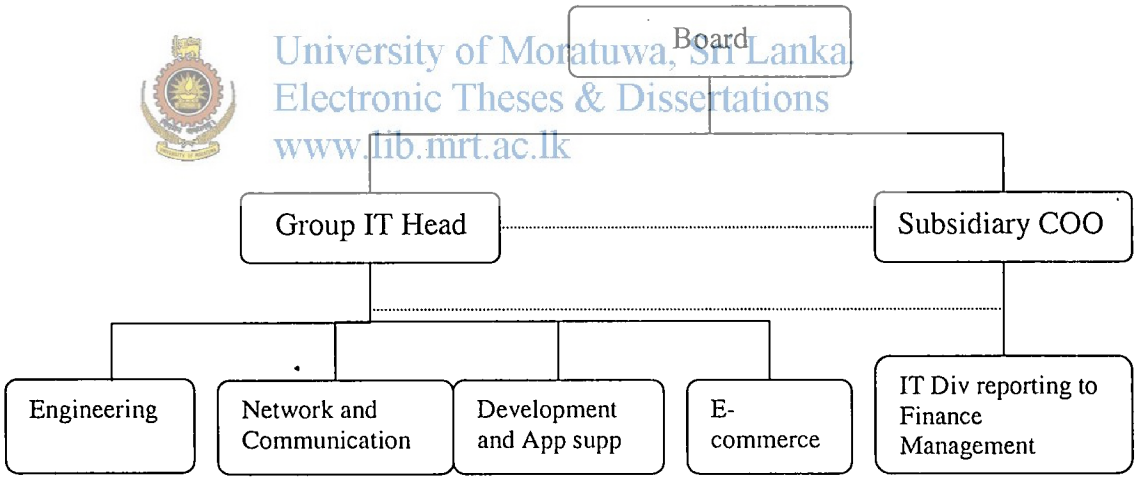
Level of ITG Maintenance

Strong corporate structure and the culture of the organization maintained the decision frameworks, although they are not drafted or communicated. There were some situations where CEO overrides the decision inputs

Case Example 4: Diversified Organization

Corporate Background: Privately owned group of company having a large number of subsidiaries in different sectors. Most of the industries do not heavily rely on IT to run their business process. Organization is having its own inherent culture and the governing foundation is set by the culture.

IT Organization : The group IT unit mainly responsible for Group IT infrastructure and IT procurements of the group. Subsidiaries get strategic guidance and recommendation on IT matters. The group IT head directly reports to the finance director and have peer level communication with subsidiary COO's. The subsidiary IT organization is having dotted line reporting to the group IT.



2. IT Governance MAP

	IT Principals		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investments	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy		**CEO's**		**GFD**		**GFD**		**CEO's, GFD**		**Board**
IT Monarchy			**GITH**		**GITH**		**GITH**		**GIT**	
Federal										
IT Duopoly							**GIT , BU**			
Feudal										

Decisions on IT Principles: Primarily IT is considered as a supporting role in the group. The IT role of the organization is evolved with the industry's IT dependency and the culture of the organization.

IT Architecture: GITH provides input to the group wise infrastructure strategies and Group finance director holds the decision rights on them.

IT Infrastructure Strategies: The company is having undocumented policies on infrastructure standards used in the group infrastructure decisions. But decision inputs are mainly compiled by the group IT Head.

Business Application Needs: Business Application decisions are situational. Business process owners contribute to the application decisions inputs with group IT recommendations.

IT Investment Prioritization: Prioritization decisions are taken at board level based on group IT and business units inputs.

Level of ITG Implementation: Decision making structures are not defined and company expect that undocumented structure is embedded in to the organizations culture

and the organizations structure gives rough demarcation of the decision rights and accountability levels. IT Policy gives some guidance on do and don't in the systems. The Group IT division operates as a profit center and percentage revenue is earned by IT procurements. Service level agreements have been established for PC and printer maintenance. Business units are charged for shared services based on the budget levels. The IT organization does not have a clear cut objective alignment process and rule of thumb measurements are taken for performance measurements.

Level of ITG Maintenance:

The unwritten policies and structures are alive due to the cultural influence. There had been some incidence where business unit heads deviate from policies and guidelines but senior management has involved in such instances to rectify issues in strategic level. Since no formal communications mechanism exists it will take longer duration for a new manager to settle in to the organizations' environment.

APPENDIX 3 :CobiT Maturity Model

Maturity Model Source: Derived from CobiT Management Guidelines (ITGI 2000a, p. 121)	
Category	**Detailed Description**
0 Non-Existent	There is a complete lack of any recognizable process.
1 Initial / Ad hoc	No Standardized processes, but there are ad-hoc approaches. The entity recognizes that issues exist and need to be addressed. Management is reactive in addressing any issues.
2 Repeatable but Intuitive	There is a global awareness of issues. Processes are developed where they are repeatable and some of them begin to be monitored. There is no formal training and the communication on standard procedures and responsibilities are left to be individual. There is a high reliance on individuals and errors are therefore likely.
3 Defined Processes	Systems and procedures have been standardized, documented, communicated and implemented. Training and application of standards is up to the individual. The need to act is understood and accepted. Most processes are monitored against some metrics and deviations are acted upon mostly through individual initiative.
4 Managed and Measurable	There is a full understanding of the issues at all levels. Responsibilities are clear and process ownership is established. A completed set of policies, procedures and standards have been developed, maintained and communicated and is a composite of internal best practices.
5 Optimized	There is an advanced and forward-looking understanding of issues and solutions. Processes have been refined to a level of external best practice, based on results of continuous improvements and maturity modeling with other organizations.

APPENDIX 4 :SEMI STRUCTURED QUESTIONNAIRE

Semi Structured Questionnaire

Research Study: Information Technology Governance In Sri Lankan Corporate Sector

Introduction: *I am Prasad Peiris, a postgraduate student of the University of Moratuwa. As a part of MBA in information Technology curriculum, currently I am working on a Research Study in* ***Information Technology Governance.*** *Scope of study is to assess the existing governance frameworks of the main corporate sectors in Sri Lanka.*

Therefore, I shall be much obliged if you would provide me with an opportunity to have a discussion with you, which would enable me to gather necessary information.

Section A: Top of mind perceptions

1. Awareness on IT Governance

a. According to your personal opinion how important it is to have a properly defined IT governance structure for a company?

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b. To what extent, your organization places importance in the IT governance?

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Section B : Detailed Knowledge

2. IT Governance Mapping (to fill the governance matrix)

a. Who sets the business role of the IT in the organization? .....

b. Who decides on IT Architecture(explain.....) .....

c. How do you take infrastructure related decisions? .....

d. Who decides on business application needs? .....

e. Who decides how much and where to invest in IT? .....

3. Level of Implementation

a. Do you have a defined IT related decision making structure? .....

b. What are the alignment processes (SLA, Chargeback etc.) you have? .....

c. Do you have an objective alignment process? .....

d. What are the available performance measurement mechanisms? .....

4. Level of maintenance

a. Up to what level your decision making structures are active? .....

b. To what extent your alignment processes are alive? .....

c. How effectively has it been communicated? .....

5. Effectiveness of Governance ?

How important are the following outcomes from your business?

Outcomes	1(not important) to 5 (very important)
Cost effective use of IT	
Effective use of IT for growth	
Effective use of IT for Asset utilization	
Effective use of IT for Business flexibility	

What is the influence of IT governance for your organization on following measures of success?

Outcomes	1(not successful) to 5 (very successful)
Cost effective use of IT	
Effective use of IT for growth	
Effective use of IT for Asset utilization	
Effective use of IT for Business flexibility	

Section C

6) Challenges and Recommendations

a. How can we improve the awareness on IT governance?

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b. What are your recommendations for good IT governance?

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c. What would be the barriers for implementing it?

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d. What are the challenges in maintaining an implemented governance framework?

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Respondent : .....

Position: .....

Organization :.....

Sector : .....