RAMIS to revolutionize tax culture in Sri Lanka: The importance of change management

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ABSTRACT:

Inland Revenue Department of Sri Lanka along with the Ministry of Finance commenced the project of implementing Revenue Administration Management Information System (RAMIS) to provide a better service to the nation and tax payers. The focus of the study is to analyze the evolution of Phase I of RAMIS in order to identify the stages of progression, key players of the project and their influence on implementation and also to recognize the challenges and weaknesses of the project. Thus, the study is significant as it contributes to the extant knowledge by adding new knowledge as limited research has been conducted relating RAMIS in both global and local context. Further, it acts as a post assessment study which will help to analyze the effectiveness of the processes and initiatives. The data was mainly sourced through the interviews with the top level employees of Inland Revenue Department who were directly involved or exposed at the initiation and Phase I of the RAMIS project and important documents (internal & external organizational documents, namely internal reports, Annual Performance reports & operational and strategic plans) involved in the project. Interviews were duly transcribed and analyzed to arrive at the conclusion. Findings of the study revealed that the process of RAMIS implementation is in line with the stages of diffusion of innovation, with key stakeholders such as Ministry of Finance, ADB, IRD and IDA Singapore. The study also identified weaknesses such as inadequate training provided to staff, time overrun and issues with RAMIS external interface. It was concluded that though the diffusion of RAMIS is in line with the stages put forward by Rogers (1983), it has not been executed effectively owing to political interference and due to lack of buy-in from the staff. Finally, as a direction for future research, an in-depth study of both phase I and II of the RAMIS project while taking in to account the tax payer perspective as well.

Keywords: Revenue Administration Management Information System (RAMIS), Inland Revenue Department, Sri Lanka, Diffusion of Innovation

Introduction

The Inland Revenue Act No. 24 of 2017, which came into effect from 01 April 2018, supported the revenue mobilization effort of the government by simplifying and rationalizing the existing income tax structure, broadening the direct tax base and strengthening the administrative powers, while introducing international best practices to the Sri Lankan tax system (Central Bank of Sri Lanka, Annual Report 2018). The Revenue Administration Management Information System (RAMIS) was initiated to improve tax administration with a view to strengthening the revenue mobilization. RAMIS, which is being set up at the Inland Revenue Department (IRD), is being upgraded in order to incorporate the provisions of the Inland Revenue Act No. 24 of 2017. There is a general claim among the public against that the Inland Revenue Department (IRD) has the low capacity to raise adequate funds through taxes on behalf the government. Inland Revenue Department (IRD) is the entity responsible to collect and administer taxes imposed by the Government of Sri Lanka. IT transformation or adoptions by the department has been limited in scope as it is mainly reliant on the manual tax administration system. This manual system has been identified as the main drawback in hindering the revenue collection potential of the department (CBSL, 2014).

Asian Development Bank (ADB) identified several loopholes in a manual tax administration system which is also evident in the present tax administration system of Sri Lanka (ADB 2014, pp. 3-4). The main drawback is that the actual tax payer base will be minimized due to unequally distributed and unrevealed income sources in the public sector. Further, evaluating every individual based on received and available manual records is a hard task to engage. It is difficult to monitor the full potential of revenue realization due to the complexity of the taxation system and the large volume of records with manual operations. It is also difficult and time consuming to track incomplete and inaccurate records of the taxpayers. Since majority of the tax payers and tax administrators have prioritised the processing tax returns and claims in the first place, low concern has been placed on monitoring the inaccurate and delayed records of revenue. ADB (2014) also identifies that manual operations limit the possibility to monitor and ensure full compliance of tax liability of taxpayers and heading to delays and inefficient service delivery to taxpayers, and executing assessments and recovering collections.

Revenue Administration and Management Information System (RAMIS) was implemented in IRD with the vision 'to be a taxpayer friendly tax administrator delivering excellent service to the tax paying public with well trained and dedicated staff' (Department of Inland Revenue of Sri Lanka 2013, pp.46-47). Implementation of RAMIS was aimed at supporting the Department of Inland Revenue (IRD) in simplifying the tax administration and tax compliance for taxpayers. RAMIS is also envisioned to support in increasing the revenue collection and tax compliance enabling IRD to reach taxpayers in more effective and efficient means. The benefits of RMIS would be from three perspectives: taxpayer; less hassle to pay tax or handle tax matters, ability to access tax information, IRD; increase tax compliance, increase revenue collection, end to end tax system to serve taxpayer, and employees of IRD; reduce the complexity during tax audits, ability to access taxpayer's information.

The main purpose of this study is to analyze the evolution of RAMIS Phase I within the IRD of Sri Lanka. During the pilot study it was identified that the project officially commenced in July 2014 and it was planned to be rolled over in two phases. However, the Phase I of the project was only implemented in March 2016 and Phase 2 was implemented in October 2016.Hence evolution of this project was identified as the research area so that it could be evaluat d in depth using diffusion of innovation. Accordingly, the research questions of the study is how Revenue Administration Management Information System (RAMIS) Phase I diffused within the Inland Revenue Department (IRD) of Sri Lanka? Who are the main parties involved and what are the challenges hindering the successful implementation of RAMIS?. Implementation of Revenue Administration and Management Information System (RAMIS) is aimed at supporting the IRD in simplifying the tax administration and tax compliance for taxpayers. RAMIS is also envisioned to support in increasing the revenue collection and tax compliance by enabling IRD to reach out to taxpayers in a more efficient and effective way. It is expected to increase the number of registered taxpayers and improve compliance, enhancing the efficiency of the revenue collection process, increasing the quality of work environment to generate higher productivity, and provide better service to taxpayers with a view to increasing voluntary compliance
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The next sections review the background of the project, the literature, methodology and finally analysis and findings, Conclusions, Limitations and Direction for future research are presented.
Background of the RAMIS program
RAMIS has been widely adopted by emerging nations with an intention to streamline its processes. Under the assistance of Asian development bank, several countries like Maldives, Kyrgyz Republic, some Indian provinces, Tajikistan and Vietnam are in the process of developing new systems (ADB 2014). Malaysia, Singapore, Tanzania, Egypt, Georgia, Costa Rica, El Salvador, Bosnia and Herzegovina are some other examples of Tax MIS implementations (USAID 2013).

Prior to conducting the research study, a pilot study was conducted in order to better understand the context of RAMIS implementation in Sri Lanka. Through preliminary interviews with the Top level IRD staff, following details on RAMIS were collected. The pioneering efforts for the implementation were undertaken in 2013 under the supervision of Ministry of Finance and Planning. On the 29th of November 2012 Cabinet of Ministers approved to commence discussions with the Ministry of Finance of Singapore, seeking assistance to implement RAMIS on a Government to Government basis (G2G).

On the 05th June 2013, a Memorandum of Understanding was signed between Ministry of Finance and Planning and Infocomm Development Authority of Singapore. Asia Development Bank acts as the Funding agent of this project. The project officially started in July 2014 and was targeted to be implemented under 2 Phases. However, implementation of Phase I delayed till March 2016 and Phase II was planned to be implemented in the latter end of 2016. The total project period will be 28 months followed by 4 years warranty period up to year 2020.

Objectives of Computerization of Tax System

Many governments in the world are now in the phase of adapting electronic communication devices including internet to better provide services through their institutions. This is popularly known as e-government. Siau and Long (2005) identifies four main models of eGovernment, namely the digital interactions between a citizen and the government (C2G), between governments and other government agencies (G2G), between government and citizens (G2C), between government and employees (G2E), and between government and businesses (G2B). Computerized tax system at government tax collection departments can be identified as one of the aspects coming under this e-Government concept.

Many countries have been tending implement computerized systems in order to accomplish various objectives. As per Asian Development Bank (ADB 2014), minimizing cost for tax payers & tax agencies by reducing cost of tax compliance & tax administration respectively has been identified as one of the main objectives. Apart from that, creation of centralized tax payer database & a unique identification system for all categories of taxpayers. More over establishment of integrated systems facilitate information exchange between the tax agencies & other key stakeholders such as the Ministry of Finance.
Ernest et al. (2015) indicated that computerization of tax system enables tackling tax avoidance & tax evasion. Through enhancing the effectiveness of tax payment & make the tax process easy, tax avoidance might decline to a lower level. Moreover, in accordance with USAID's Leadership in Public Finance Management (2013), facilitating voluntary compliance is another objective where the modern computerized tax administration achieves it through simplifying processes, providing information, education & support.

According to a recent study (Ernest et al. 2015, p.54) the objectives considered during the development of the e-taxation system in Nigeria include: Creation and management an effective and efficient database to provide tax payers records, information/bio-data for easy referencing. The provision of an alternative payment routes for tax payers so as to encourage immediate tax payment and provide relief to those who find it an easier and more efficient payment route.

Benefits of Tax System Computerization

Benefits of computerizing of Tax system could be split into two main categories as benefits to tax agency & benefits to tax payer. As per the study conducted by the Asian Development Bank (ADB 2014) significant amount of benefits of Tax MIS implementation for tax agency have been identified. Firstly, this enhances perception of overall tax administration performance. Faster processing of information can be achieved by a well-planned system which assists the processing of returns and payment data more quickly.

Moreover USAID's Leadership in Public Finance Management (2013) states management information for tax administration facilitate smooth operation by ensuring staff & management obtain appropriate reports at appropriate time. This ultimately aid to identify risk & internal problems in advance further increasing the efficiency and effectiveness in the tax administration. Under the assistance of Asian Development Bank, countries like Maldives, Kyrgyz Republic, some Indian provinces, Tajikistan and Vietnam are in the process of developing new systems (ADB 2014).

Monitoring and Evaluation of a computerized tax system

Purpose of a monitoring and evaluation system is to determine whether the outputs and deliverables have been achieved as planned so that necessary action can be taken to rectify the deficiencies as quickly as possible. It was indicated that the evaluation mainly focuses on the performance indicators selected during the initial stage of implementation, including the ease of paying taxes, reduced processing time for tax returns and identifying the reasons behind non-satisfactory performance in any particular area (ADB 2014, p. 68).

At present many countries have gained the benefit of computerized tax systems into their traditional tax system. 'Globally, tax authorities are being challenged to harness the power of information and communication technology (ICT) to achieve greater tax compliance efficiency' (Ling & Muhammad 2006, p.147). According to Chatama (2013, p.93) with the introduction of ICT, Tanzania Revenue Authority (TRA) remarked significant achievements. Integrated Tax Administration System (ITAX) contributed to improve taxation by speeding up the administrative processes, timely monitoring of taxpayers, their penalties and its interests, and increase of revenue. Hence ITAX contributed to a fair, effective and efficient taxation and increase on revenue, as well as supporting TRA's vision of becoming a modern tax administration mechanism (Shekidele 2007, cited in Chatama 2013).

Based on the findings from the study (Lukwata 2011) it is evident that the electronic tax filing system implemented in Uganda has improved tax compliance as it is easy for tax payers to assess their tax obligation accurately and enable them file their returns on time. On other hand, the new system has helped ease the work of the Uganda Revenue Authority (URA) staff and to an extent led to an increase in tax collection in URA.

As mentioned above, most of the developed countries have adopted a computerized tax system. Jimenez, Sionnaigh, and Kamenov (2013, pp 44-49) concluded in their study that there were issues during implementation, including a delay of over a year and modules with ongoing quality control problems in the Integrated Tax Management and Administration System (ITMAS) in Egypt. It was also indicated in their research that with the Georgia Business Climate Reform (GBCR), the tax administration have seen a 121% increase in number of registered taxpayers from 2005 to 2008 and an increase 133% in the number of returns filed between 2005 and 2009. As per their study, the computerized tax system implemented in Costa Rica provided considerable benefits including reduction in administration and compliance costs, a reduction in errors, streamlining of internal business processes, and a reduction in the time to collect information from tax returns from days to hours.

Further as per Victor – Nyambo's tests done in Tanzania regarding the usage of Information Communication Technology (ICT) at Large Taxpayers Department (LTD) in 2009 (cited in Chatama 2013, pp. 95-96) revealed that, 88.8% of staff agreed that introduction of ICT at the LTD have shortened the lengthy cumbersome manual procedures and that, ICT usage has minimized errors in return processing and in assessment. Further 100% of large taxpayers agreed that processing time and responding to taxpayers queries have been reasonably shortened due to this ICT.

Concepts and Theories

This study of diffusion of RAMIS in IRD is based on the diffusion of innovation theory. The diffusion of innovation theory into the public sector studies has attracted the attention of many researchers (Ezzamel et al. 2014; Adhikari, Kuruppu, Wynne & Ambalangodage 2015; Rogers 1983). Most studies note that the pressure to adopt or diffuse innovative accounting technologies in the public sector have arisen mainly from the need to provide cost-effective and efficient service and help improve overall financial performance and accountability.

Rogers (1983, p.5) defined the diffusion of innovation as 'the process by which an innovation is adopted by members of a social system'. Innovation and time can be identified as the key concepts in the diffusion of innovation. Innovation is an idea or practice that is perceived as new by an individual who adopts it (Rogers 1983). It is communicated through certain channels over time among the members of a social system, where the communication channel is the means of transmitting information from one individual to another, and social system is a set of several units involved in joint problem solving with a common goal.

Gallivan (2001) discusses two stages of diffusion of innovation, which is the process by which new ideas are spread (cited in Mellett, Marriot & Macniven 2009). The initial stage is when management decides to make changes to the existing systems. This will be followed by the secondary stage where the individual adoption by users takes place.

Rogers (1983) identified some of the fundamental requirements for a diffusion to be taken place. Firstly the thing to be diffused, in this case it is the newly introduced tax administration management information system. Subsequently a group of potential adopters throughout which diffusion is taken place, in this case the IRD within the wider setting of the public sector and the tax payers. For the completion of the process, communication must be in place so that the idea can be moved from the location where it presents to where it is absent: the government, through the Treasury and the Department of Inland Revenue, provide this channel of communication. Thus, the spread of computerized tax management system in Sri Lanka is an excellent fit for consideration in the context of diffusion.

The diffusion of innovations is a process, rather than an act (Lapsley & Wright 2004). Boundary spanning activity may be necessary by actors to bring inventions to the point of diffusion. This process may be shaped by internal and external, formal and informal channels of communication (Swan & Newell 1995 cited in Ezzamel et al. 2014) and can take different forms. The implementation of RAMIS can also be identified as a clearly defined process in several stages, with time frames being assigned. Feltham in 1972 (cited in Malmi 1999) indicated that if a proposed system leads to better decisions than the existing system, and the expected benefits from the proposed system exceed the cost of its implementation, the new system is adopted.

Since diffusion contains change, an individual needs to be there to convince others that the change is desirable and who has the capability to promote it (Sangster 1996). An aspect of analysis (Abrahamson 1991 cited in Mellett, Marriot & Macniven 2009) indicates that, an outside institute can influence a particular new technology where decisions not being made by internally. In this case the government or the Ministry of Finance may have been influenced by the worldwide trend towards the adoption of RAMIS which was adopted from Singapore tax system.

According to findings of Crum et al. (1996) three critical antecedents that are required to be present as pioneers to diffusion: these are technical compatibility, technical complexity and relative advantage (cited
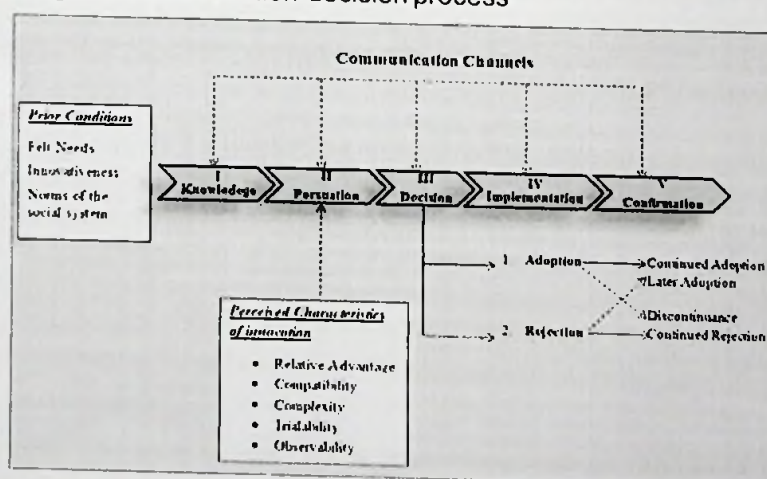
in Mellett, Marriot & Macniven 2009). Rogers (1983) highlighted that the degree of adoption is positively affected by relative advantage and compatibility, while observability though complexity can create a negative influence. He further studies the time span of innovation in detail by identifying five separate stages: knowledge; persuasion; decision; implementation; and confirmation. This has been further elaborated in the study conducted by Ezzamel et al. (2014) on the use of resource accounting and budgeting (RAB) in the UK central government.

At the inception of the diffusion process prior conditions are recognized such as the recognition of defects within the prevailing practices, as well as the willingness to adopt modern practices. Ezzamel et al. (2014) found that as the next stage of the diffusion process, policy and decision makers should have the required knowledge of the innovation process. Without prior knowledge the diffusion of innovations will not be able to move forward to the next stage. At the next stage of the diffusion process is persuasion which includes encouraging the major stakeholders to embrace innovation, including the possible costs and benefits. The persuasion stage is followed by the decision on innovation, which can range from approval to rejection.

The next stage of diffusion is implementation of the innovation. At this stage, innovation can be reinvented, altered and modified as the requirement arises. Confirmation is last stage of the Rogers' diffusion theory, which can have two opposite effects on the diffusion process. Either the wider adopters may begin to understand the benefits of the innovations and institutionalize them, or they reject the utilization of such innovations, as the desired paybacks are not actually gained in practical situation.

Fact that was highly emphasized from the beginning is that there has to be something to diffuse, a process containing various stages, a group of potential adopters, a way to communicate the novel process and a driver to adopt the change. This study is aimed at finding whether these conditions have been fulfilled with the adoption of RAMIS. These literature support the research problem since diffusion of innovation theory involves a change consisting of stages of evolution.

Figure 1- A model of stages in the innovation-decision process

Source: Rogers (1983)

Challenges to diffusion

Tax authorities around the world have faced many obstacles in their quest to automate tax systems. Asian Development bank has also identified key challenges a tax agency would face when implementing Tax Management Information System. As per ADB (2014, pp. 71-72), challenges a tax authority could face when implementing Management Information System are as follows;

Resistance to change

Employees may resist to change for new ICT systems mainly due to lack of management buy-in before implementation, lack of involvement of staff in early trial runs, and a multilayered decision making structure leading to a lack of clear vision on the goals of the ICT program.

Lack of standard process

Maximum benefits from an ICT system can only be achieved if the standard processes are followed. Lack of standard processes can lead to problems such as: inability to choose an effective IT system, high possibility of duplicate, inaccurate data being fed into the system and misalignment of chosen ICT systems.

Lack of Trained ICT Personnel

Most tax agencies hire firms from outside to implement their ICT systems but the lack of a strong ICT team within the tax agency's would seriously hampers the ability to extract maximum value from an ICT partnership.

Demographics of Staff

The standard argument is that an older workforce will not see the benefits of computerization as much as a younger workforce. This results in lack of staff buy-in at the initial stages of a project.

Population and Study Sample

Since the research was based on a project pursued inside the IRD, the population of the study was designed to be the IRD employees. Due to the practical difficulty in covering all IRD staff members with the given time and due to the political sensitivity of the project, the study had to limit its sample to the top level personnel of the IRD. Data had to be gathered on a snow balling basis until the theoretical saturation point was reached. Accordingly, following were the sample on which the study was based.

Table 1: Profile of Respondents

Position	Code	Method used	Duration
Commissioner- RAMIS Project Director	Interviewee I	Face to face Interview	45 minutes
Head of Central Processing unit	Interviewee II	Face to face Interview	30 minutes
Central Processing unit-Executive Staff	Interviewee III	Face to face Interview	30 minutes
Senior Commissioner	Interviewee IV	Telephone Interview	30 minutes
Asst. Commissioner - User Accepting Testing (UAT)	Interviewee V	Telephone Interview	30 minutes
Commissioner- Human Resource Management Unit	Interviewee VI	Telephone Interview	30 minutes
Commissioner Policy and Legislation Unit	Interviewee VII	Telephone Interview	30 minutes
Commissioner- Change Management Unit	Interviewee VIII	Face to face Interview	45 minutes
Commissioner- Customer Supporting and Promotion Unit	Interviewee IX	Face to face Interview	30 minutes
Commissioner- Investigation Unit	Interviewee X	Telephone Interview	30 minutes

Sources of Data

Data for this study was sourced through interviews and documents. Top level personnel of IRD, who were involved in the Phase I of the RAMIS project, were interviewed. Further, important documents such as relevant project documents, reports issued by Inland Revenue Department, other documents which discusses various aspects of RAMIS were reviewed in order to gather relevant data. Internal organizational documents inclusive of internal reports, Annual Performance reports and external organizational documents inclusive of the documents by Asian Development Bank on supporting the Fiscal Management Efficiency Project and documents of MOF have been used. Published data were obtained from Department websites (IRD & MOF), annual reports and government departments' websites.

Collection of Data

In collecting data initially documents were gathered which also proved to be valuable in identifying and selecting relevant key officials for the interviews. Initial interviews were held on unstructured basis to allow participants to respond in an unconstrained manner. Based on the initial interview findings, an interview guide was prepared for subsequent interviews. The interview guide was prepared in manner that it could be completed within approximately one hour and contained open ended questions. Interviewees were only capable of yielding qualitative data since no statistics are available to obtain as quantitative data as the IRD has not yet initiated evaluations of the system.

Data Analysis Strategies

The data gathered through interviews were transcribed and extracted to identify common responses. This study hence used narrative analysis to analyze data. Further the study was engaged in documentary analysis based on the documents gathered to extract findings and also to support claims put forward in interviews.

Ethics and Human Subjects Issues

This study was ensured to obtain voluntary informed consent from the interviewees involved, by clearly informing the nature and objective of the research to the interviewees. Further, there was no unfair inclusion and exclusion from the sample of the study. The study ensured to assure confidentiality over interviewee responses and identities and also confirm secrecy of the documents received, so they were being used only for the intended purpose. In maintaining anonymity, codes have been used in attribute quotations in subsequent chapters.

Analysis and Discussion

A process of innovation passes through a series of stages before the reform becomes accepted practice (Rogers, 1983). Hence, the first objective of the study is to identify the way the RAMIS has been adopted and implemented within the IRD and analyze whether it is in line with the Rogers (1983) stages of diffusion of innovation theory, and to identify whether there is any deviation in execution from the initial implementation.

As per Rogers (1983, p.5), diffusion of innovation theory is comprised of five separate stages namely Prior conditions, Knowledge, Persuasion, Decision, Implementation & Confirmation.

Prior Conditions

As stated by Rogers (1983), prior conditions accompanying a degree of receptivity to the RAMIS in the IRD has been identified. First, there had been a realization of problems with existing practices by both of IRD officials and the Ministry of Finance (MOF). During the interviews it was constantly highlighted that the existing system has been incapable in improving the government tax income base over the years (Ministry

of Finance 2015).

We have been observing the fact that the existing tax system does not assist in improving the tax revenue of the government and mitigating those who avoid tax payment through loopholes of the current tax system. So it has been long prevailing requirement to adopt a system that is capable of providing a solution to those problems.

Interviewee I
Knowledge

The existence of change agents with adequate skills and expertise is paramount for any organization which intends to create a desire for new practices (Rogers, 1983). In the context of RAMIS, MOF and IRD acted as key change agents providing the needed commitment and resources in promoting the system.

Being a project director of RAMIS project, me and my team worked hard at the forefront even at the times some of the officers failed and demotivated due to various obstacles we faced.

Interviewee I

The needed peripheral platform was already in place within the IRD. All the required infrastructure facilities such as Data Center and Disaster Recovery Center were established at the beginning of 2010, under the initiatives of Ministry of Finance on the Fiscal Management Reforms Programme (FMRP) and the Fiscal Management Efficiency Project (FMEP). Further, Local Area Network (LAN) and Wide Area Network (WAN) were also introduced in order to link all the regional offices to the head office and also to link branch to branch (Central Bank of Sri Lanka 2014).

However, the application was yet to be developed. In order to select an IT solution provider for this, a procedure of global tender calling was initiated. The main criterion of selection was adequate experience on automation of tax systems. But, several applicants were disqualified as they did not have the adequate required experience to handle such a complex project.

As the tender process failed, Cabinet of Ministers approved to start discussions with the Ministry of Finance of Singapore seeking assistance to implement RAMIS on a Government to Government basis (G2G). During the interviews it was emphasized on several reasons so as to why Singapore was selected for this. There were several reasons for selecting Singapore. The main reason is that Singapore has the best functional method for this kind of automated tax system. Further its locational proximity to Sri Lanka with lesser entry barriers and also Singapore has done some projects on automation of tax system in Australia and in some other countries through the popularity gained by pioneering the automation of their own tax system.

Interviewee I

Singapore was well known for the successful implementation of RAMIS within their

IRD and their quality of service was also backed by the successful implementation of RAMIS in several other countries

Interviewee VIII

Finally, a Memorandum of Understanding (MOU) was signed in June 2013 to implement RAMIS project at IRD. As per the MOU Infocomm Development Authority (IDA - International), the Government of Singapore's execution arm for collaboration with overseas Governments on ICT projects, submitted a proposal in August 2013. IDA International is a wholly owned subsidiary of IDA Singapore set up for collaboration with foreign governments on public service infocomm technology to achieve socio-economic outcomes for the respective countries. IDA International engages the necessary subcontractors to plan,

analyze, design and implement the tax system with the participation of relevant tax Authority. .... Commissioner General of IRD, Secretary of Finance Ministry and IDA International entered into an agreement. System development has been delegated to NCS Company. It's not a Singapore government company. Singapore Tax IT project was also done by NCS.

Interviewee I

The Cabinet Appointed Negotiation Committee (CANC) and the Project Committee (PC) having conducted a detailed technical evaluation of the proposal submitted by IDA concluded the evolution process in November 2013, deciding that the solution proposed by IDA, is technically acceptable and fulfills the requirements of the Inland Revenue Department. A further Due Diligence process was carried out in November 2013 by the Commissioner General and a Core Team of the IRD by visiting the Inland Revenue Authority of Singapore and it was concluded that IDA and its nominated subcontractors have the capability and required experience to undertake the implementation of RAMIS at the IRD.

Negotiations were started in January 2014 to finalize the work scope of RAMIS, the teams of contract etc. Specifications were created by the IRD officers and informed them to the software developer. The Supply, Delivery, Installation, Commissioning and Warranty of Application Software, System Software and Supporting IT Infrastructure, were concluded in March 2014.

During this pre-implementation period both parties to the agreement took a clearer understanding on the specifications of RAMIS, its deliverables and the time plan. This highlights that the policy and decision makers had the required knowledge of the innovation process (RAMIS) before implementation of the project which is a needed as per the diffusion process.

Persuasion

Acceptance of the need to adopt current international reforms is determined by the ability of promoters to convey the superiority of the new practices over existing practices (Adhikari et al. 2013). Once the agreements were in place, a Change Management Committee was established in order to plan the changeover and communicate the changes under RAMIS. The main task of the team is to influence the IRD employees and to organize change management programs. Change Management Committee comprised of IRD Change Agent, Project team Change Manager, IRD Deputy General (Head of the Team) and Project Director. Changes are communicated through RAMIS News, RAMIS Mass briefing sessions, Monthly Commissioner's and Senior Commissioner's meetings and at Monthly Steering Committee meetings which involves all the Deputy Commissioner Generals along with Commissioner General.

Change management team have taken several steps to improve the awareness among employees through publishing magazines, distributing leaflets and pasting posters in their own working environment at IRD. They have also held seminars to change the attitudes towards the RAMIS. In addition to that IRD has sent 1200 officers to Inland Revenue Board of Malaysia for five days training programme to see and understand how to work on an automated system. They played a major role in organizing pocket meetings for branches at IRD and practical training sessions for both IRD staff and users.

Interviewee I

Accordingly, IRD has conducted series of weekend in house seminars to all the IRD staff with regard to Change Management. Further, Mass briefing for taxpayers and supporting organization such as Chamber of Commerce, CA Sri Lanka, CIMA, AAT, Tax Agents and Tax Consultants were also conducted and is still in progress so that continuous communication is maintained (Department of Inland Revenue 2013).

The Mass briefings held with tax payers and related institutional bodies are very important to ensure the smooth functioning of the platform. This is a new initiative not only to the employees but also to the tax payers. There could be system failures, fear of using IT systems. The mass briefings help as a contact point

for IRD to track such weak points.

Interviewee X

However there had been some instances where the employees have had a resistive attitude towards the new system.

I regret to say that some of the employees of IRD engaged in various ways of resistance to stop the changeover program. They spread bad word of mouth and did not contribute the implementation process.

Interviewee I

Older workforce and employees who don't have computer literacy raised objections. However these objections were nullified by linking them to their promotions. Biannually commissioner evaluates the performance of the employees. The employees who didn't complete the allocated jobs will receive negative marks. Therefore IRD higher level officers expect that the employees will automatically adjust to the new RAMIS environment

Interview II

Decision

The decision stage occurs when the decision making unit engages in the activities leading to a choice of adoption or rejection of the innovation (Rogers 1983). Prior studies have established that any new accounting practice can be launched in various means, ranging from continuation to later approval and from disagreement to rejection (Adhikari et al., 2013). It was observed during the interviews conducted with the IRD staff that even though higher level authority has taken the decision to continue with the new system, some of the staff has had doubt over the decision of getting involved actively in the execution of RAMIS.

Cabinet approval was granted to the RAMIS Project on the 3rd of April 2014 according to the decision taken by the responsible actors for the implementation. The agreement between the IRD and IDA International was signed in May 2014 including all the terms and conditions finalized during the stage of negotiations. The project officially began in July 2014 (Department of Inland Revenue 2014).

Implementation

Initiating the implementation stage, IRD formed a RAMIS Core team comprising of five members. It is different from the RAMIS project team and the main purpose of core team is to coordinate with the Government of Singapore and the software developer, NCSI Solutions Private Limited. Monitoring and tracking the progress of the project is also conducted by the Core team.

IRD was internally organized to support RAMIS initiatives and accordingly IRD's business experts were organized into Lead User Representatives (LURs) and Subject Matter Experts (SMEs) to provide and validate requirements. LUR consists of Senior Commissioners and their role in RAMIS is requirement identification. SME consists of twelve Commissioners from whom information regarding current state of operations are acquired.

Under the RAMIS, IRD has gone through Business Process Re- engineering (BPR) and it uses Inland Revenue Authority of Singapore (IRAS) as the reference model. As part of RAMIS BPR, project team has studied the existing processes working with IRD LURs and SMEs to understand and document the pain points. The RAMIS processes are customized to address the key pain points.

The system developer aims to streamline each process both from within IRD and also externally from taxpayer perspective. Key changes through RAMIS were e- registration giving convenience to taxpayers register from their office or home instead of coming down to IRD office, e- payment leveraging on the bank's

online payment facility with key banks BOC and People's Bank, Centralized processing center at Head Quarters for centralized action for data entry, Regional processing center for all regional works on data entry and scanning and linkages with external interfaces. Further, it provides support for Multi-languages across forms and correspondences. This is also apparent in the newly launched web portal as well.

During the interviews it was emphasized on the linkage with external interface.

Actually the linkage with external interfaces is the most important feature under the RAMIS and IRD have identified 23 such agencies to be interfaced. The two main government banks which are Peoples bank and BOC now have already connected. MOU has been signed with Excise Department and Department of Customs.

Interview VI

As per diffusion theory, at this stage innovation can be reinvented, altered and modified as the need arises. This characteristic was also seen in the implementation process of RAMIS. Once a module has been handed over to IRD by the software developer, it goes through system integration testing and User Acceptance Testing where the service provider will be asked to alter and modify some of the parts as per the requirements of IRD.

An individual needs to be there to convince others that the change is desirable and who has the capability to promote it (Sangster 1996). Change management team of IRD being a predominant change agent for RAMIS staff was convinced to adapt to the new change. As indicated in the studies (Clegg et al. 1996 cited in Ezzamel et al. 2014) process may be shaped by different forms of communication which was apparent in RAMIS facilitated by different form of communications, such as training sessions, Organizing pocket meetings, organizing seminars & publishing leaflet & magazines.

Confirmation

Confirmation, the last stage of the Rogers' diffusion theory can have two opposite effects on the diffusion process namely the wider adopters realizing the benefits of the innovations and institutionalize them, or they rejecting the utilization of such innovations, as the desired paybacks are not actually gained in practical situation.

In terms of RAMIS, execution of the above stages has been behind the scheduled target timeline and there were deviations from the intended plan. Despite the slow transition, the processes have been implemented successfully and have been embraced by both employees and taxpayers and institutions.

Actually, we could not implement this project as per the time plan. This is mainly due to the considerable deviation in the time that was occurred in the testing phase due to unexpected small issues & time consumed to recover those issues. However now we are at the final stage. At present services cater to users have been implemented as planned, such as Web portal and E filing.

Interview III

Taking the above findings of the study in to consideration, the study emphasizes that the diffusion of Revenue Administration Management Information System can be understood as a process which followed Rogers' the stages of diffusion extending from prior knowledge to confirmation. The innovation of RAMIS can be considered as a clearly defined process in several stages, with time frames being assigned as indicated by Lapsley and Wright (2014).

Deviations in the proposed plan

Although the time frame for each stage was included in the initial agreement, it was deviated from the plan

due to various practical reasons. Budget changes and delays due to the rigorous procedure to follow in obtaining approval of MOF for funds, less support of other organizations with whom IRD thrive for external interface can be seen as critical drawbacks in achieving the expected outcomes.

Lack of an upgraded IT system in other organizations (E. g: Department of Registration of Companies) to be compatible with RAMIS has also adversely affected on time execution of objectives. Further, unexpected errors occurred in testing phase and considerable time consumed to recover those errors has prolonged the time to complete the project more than intended.

As identified under the background to the research subject, execution of RAMIS has been undertaken with the guidance, active participation and interaction of several key players from multifunctional teams. As per the interviews held with IRD staff, following parties were identified as key stakeholders to the project.

Ministry of Finance and Planning (MOFP)

The Ministry of Finance introduced Fiscal Management Reforms Programme with the objective of creating fiscal space through revenue collection and better expenditure management. MOFP is identified as the main catalyst that triggered the transformation process. As one interviewee said;

With the shortcomings of the old system (Legacy) concept of RAMIS emerged within the IRD. But ministry (MOFP) got involved since it's not feasible to pursue such a huge project only by IRD staff.

Interviewee IX

However, the interviewees also revealed that the support from MOFP was short-lived. Though they triggered the innovation process and pioneered the initiation, the support diminished subsequently during the implementation process.

Asian Development Bank (ADB)

ADB extended funding and technical assistance needed for the RAMIS implementation. It provided support in areas such as implementation of AS-IS Study and Functionality analysis, in introducing internally acceptable RAMIS and ITMIS, development of architecture definition and design for RAMIS and ITMIS and improvement of ICT environment from legal, regulatory, and institutional perspectives.

Interviewees expressed the assistance provided by the ADB as follows.

ADB helped in initial stages to acquire hardware. They supported to establish LAN and WAN by providing required funds. Further, it supported in setting up of local Area Network (LAN) and wide area Network (WAN) in order to link all the regional offices to head office and also to link branch to branch in head office.

Interviewee IV

Inland Revenue Department (IRD)

IRD being the platform upon which the RAMIS was launched, it can be recognized as a prime actor. Teams appointed such as the project team, core team, change management team facilitated the transition.

According to the opinion of one interviewee,

Project Directors and specially the higher level authority of IRD are considered as key players of RAMIS. Commissioner General plays a key role as she is responsible for the overall project. Further, nine additional project directors have been appointed. Each project director has been assigned separate modules in the RAMIS. Further sixty assistant project directors have been appointed to overlook RAMIS at operational level.

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Interviewee X

Members of those teams appointed have engaged in crucial activities including facilitating communication with Infocomm Development Authority of Singapore (IDA) and National Computer Systems Private Limited (NCS), collection of suggestions with regard to RAMIS from all IRD officers, submission of Due Diligence report after visiting Inland Revenue Authority of Singapore (IRAS) on 10th to 13th of November 2013 and implementing awareness programs among the IRD staff and union members.

Infocomm Development Authority (IDA) of Singapore

RAMIS was initiated as a G2G project one of the models of e-government as stated by Siau and Long (2005). Technical know-how was supplied by IDA through the discussions held between Sri Lankan and Singapore Government. IDA in collaboration with the IRD engaged with the necessary subcontractors to plan, analyze, design and implement RAMIS. IDA serves as the prime contractor and provides the project oversight on behalf of MOFP and IRD. IDA was the representative body of the Government of Singapore and is the party from which the diffusion of innovation commenced.

Finally as per the third objective of the study, following challenges have been identified during the phase I implementation of the project, as hindrances to the diffusion process.

Issues in requirement assessing stage

Requirement assessing stage is one of the initial steps in RAMIS where, teams allocated for each module were required to identify the requirements of respective module. Project teams were assigned to study the existing processes and there by identify the pain points.

As per one interviewee,

At initial stages IRD officers had an opportunity to learn the Singapore tax system and identify specifications for RAMIS in Sri Lanka. However the officers selected for those tours were at their retirement age and no intention to understand the process in details. Some officers who participated for such training programs were retired even before the implementation of RAMIS. Hence there were difficulties in identifying the requirements of a tax management information system which is suitable for local conditions.

Interviewee V

However certain teams have not been able to identify some of the crucial requirements and thereby system has failed to respond to user requirements. For instance VAT module does not have a sub module to calculate penalty for non-payment of VAT within the stipulated date.

Demographics of Staff

During the interviews it was identified that younger generation of staff were willing to embrace the new system when compared to older workforce. But most of them have not been equipped with proper training. Lack of training for staff has created doubt over the new system. Certain senior individuals are not willing to learn the new system since they know that old system "legacy" will operate parallel with the new system for a certain period of time. Further more than 50% of staffs have not been allocated work items in RAMIS. Thereby they have no knowledge of the new system. For example KPIs have been integrated to the system upon which individuals will be evaluated. But most individual do not know this and assume performance evaluation will be carried out in old means.

Interviewee V

This is a common issue evident as stated by ADB (2014, pp. 71-72). The standard argument is that an older workforce will not see the benefits of computerization as much as a younger workforce. This results in lack

of staff buy-in at the initial stages of a project (ADB 2014, pp. 71-72).

System Loopholes: Weak interlink between the modules

During training programs offered to IRD staff, training has been concentrated only on the respective module in which the respective staff will work on. Overall understanding regarding the system was not given to employees. As a result, employees are not aware on what others perform. This reduces the flexibility and mobility within tasks.

When inquired on the reason for such a strategy, the top management highlighted that it has restrained from giving an overall understanding about the new system to all employees because, they doubt that employees may resist the new system if they try to load them with all available information. However the system itself has failed to maintain interlinks between its Sub-modules.

For main types of taxes we have different modules. For example we have a VAT module and a NBT module. If the tax payer changes the address and informed it to VAT unit changes will be incorporated to the VAT module. But no alert is send by the system to other sub modules informing the address change. Hence this may results in returns been undelivered.

Interviewee VII

Failure to meet the agreed deadlines

As per the plan of Phase I of RAMIS was scheduled to be implemented on September 2015. But as per the interviews, it was revealed that the Phase I was actually implemented in beginning of 2016. Reasons like delays in the government tender system, delays of finding technically competent service provider and resource persons, variations to the initial plan during the process etc. has contributed to the overall delay of the process. However, the delay has not affected the expected final outcome.

As I experienced there were delays in implementing Phase I. This resulted in failing to achieve pre scheduled deadlines. However we were able to computerize all the tax types which we planned initially. Hence it did not affect the target achievement.

Interviewee IV

Document management cost been high

Tax payer returns are not directly uploaded to the RAMIS. IRD has intended to run the manual system parallel with the new system for next five years. E.g.: Tax payer returns received as hardcopies are scanned by the CPU and updated to the RAMIS. Simultaneously IRD files the original hardcopy of the return as per the old manual system.

Failure to link other Government institutions with IRD system

RAMIS external interface is one of the modules which connect RAMIS with twenty six other departments. Out of these institutions only two main government banks, Peoples bank and BOC have been linked to RAMIS at present. Linking the private banks to this system has been an issue due to the central bank rules and regulations. CBSL approval is yet to be obtained to link their data with IRD. Main cause for failure to develop the linkage is that the systems of respective organisations are not compatible with RAMIS system. Only Sri Lanka Customs possess a compatible system with RAMIS. MOU has been signed with Excise Department and the Customs regarding this interlink.
Another reason is that certain government institutions fail to maintain computer databases. Government departments such as Department of Registration of Companies, Land registry, Department of Registration of Persons, Department of Census & Statistics and Department of Motor Traffic maintain manual records in

place of computer databases.

Further Department of Motor Traffic (MTD) has difficulty in sharing information because necessary permission has not been granted under the Motor traffic Act. However this issue had been discussed with the respective Minister and since Inland Revenue act supersedes other Acts of the country, IRD will be able to obtain the permission to interlink their database with that of MTD in the near future. However, these will further delay the implementation process.

Providing adequate Training to IRD staff

IRD has up to now provided the theoretical aspect of training but had failed to offer adequate practical training on overall RAMIS processes. This is because resources such as computer labs are not sufficient to fulfill the training requirements of the staff.

Theory aspect on overall system was given to the employees. But the practical training given to them is not adequate. Employees were not given training on all of the modules and because of that the link between sub modules can't be maintained.

Interviewee VI

Jimenez, Sionnaigh, and Kamenov (2013, pp 44-49) concluded in their study that while the Integrated Tax Management and Administration System (ITMAS) in Egypt made considerable progress, there were issues during implementation, including a delay of over a year. The findings of the study was similar to the aforementioned incident where there were issues such as delays in some of the modules, varying contribution from the staff towards the change and developing the RAMIS external interface.

Conclusion, Limitations and Direction for future research

RAMIS is the initial step of automating the Government's treasury function (ITMIS). Through this, IRD expects to increase the efficiency of the tax administration by reducing human errors in the current system. As RAMIS is one step of a giant leap, it is an extremely complicated and novel process to Sri Lanka. Therefore the main purpose of this study was to analyze the evolution of RAMIS Phase I within the IRD of Sri Lanka.

This study aimed to achieve three major objectives. Firstly to identify the progression of the RAMIS project Phase I and highlight any deviations in the proposed plan. Diffusion of innovation theory was used in this regard. Secondly to identify key stakeholders of the project, their role and impact on the project. Finally to recognize the challenges faced during the implementation process. Findings under the objective I of the study reveal that the process through which RAMIS was progressed up
to the present status has been in line with the stages identified in by Rogers (1983) namely knowledge, persuasion, decision, implementation & confirmation. However there have been deviations in the initial time plan due to specific reasons such as design errors, change in the scope, inadequate procurement and complexity of the system.

This highlights lack of planning and system study prior to implementation.

As per the findings for the second objective of the study, execution of RAMIS has been undertaken with the guidance, active participation and interaction of several key players from multifunctional teams. The study revealed that Ministry of Finance and Planning as the pioneering stakeholder, triggering the need for the project RAMIS within the Inland Revenue Department. Asian Development Bank was identified as the funding agent, while IRD and its staff are the main parties facing the transition. Being the IT Solution facilitator, Infocomm Development Authority (IDA) of Singapore is also an important stakeholder providing

technical know-how. Even though several parties were recognized as key stakeholders, the Inland Revenue Department especially the core teams appointed at the inception are playing the predominant role in bringing the system to the stage of completion successfully.

Fulfilling the third objective of the study, several challenges have been identified during the implementation process including the varying contribution given by the staff, inadequacy of practical training provided to staff. Moreover pitfalls were also identified in terms of incongruence in the external interface developed through which RAMIS is linked to several other government institutes.

Hence based on the above summary of findings, this study concludes that though the diffusion of RAMIS is in line with the stages put forward by Rogers (1983), it has not been executed effectively owing to political interference, fading support from pioneering enetities and due to lack of buy-in from the staff.

However this study possesses some limitations. First, the scope of the study is limited to the Phase I of the RAMIS project rather than the whole project as highlighted earlier. Hence this study only covers the evolution of Phase I and therefore fails to answer the research question from the standpoint of the whole RAMIS project. Secondly, this study is based on the insights from IRD staff, obtained during the data collection for the research. Thirdly due to practical difficulties the study could not cover all employees of the IRD. Therefore convenient sampling has to be used. However this convenience sampling adopted in the study could make the sample biased leading to biased perspectives being analysed in the study. This will hinder the study to get objective information needed to ensure credibility and dependability of the study. Finally, this study involves the problem of generalizability across other government institutions due to possible cultural mismatches. Future studies could focus on the implementation of Phase II of RAMIS and whether lessons learnt from Phase I implementation was addressed. In addition, it is advised to conduct studies inclusive of relevant quantitative information on performance so that a more accurate evaluation could be performed on the impact of RAMIS on the effectiveness of RAMIS. Studies could also focus on the change management aspect analyzing the driving and restraining forces within IRD which induce and restricts adoption of RAMIS.

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