

Holistic Framework for Migrating Military Applications into Cloud Computing and Ensuring National Security and National Growth of Sri Lanka

RMS Veronika¹& PADACS Jayathilaka²

¹ Uva Wellassa University, Sri Lanka

² General Sir John Kotelawala Defence University

¹ Shalini.Veronika@Pearson.com

Abstract-The golden rule and principle in today's digital world is 'right to gather information and right to distribute it in right time'. When it comes to military related operations whether security operations in own country or ongoing abroad theatre defence operations those entities need access to the systems in time and the data requested should be on hand in an accurate and comprehensive manner. Availability of mass data is growing day by day, networking with clusters via digital networks. Parallel to that technological advances in main areas such as cybersecurity, surveillance by satellites, remote electronic sensors, and drone technology are generating huge volumes of data which are needed by all main ongoing processes of a country, and these new data create challenges for human analysts who are struggling to keep pace. It is important to point out that most military activities that use cloud computing are real-time, automated to financial management, communications and planning. By getting on the cloud, the Armed forces have a chance to do more with less and they are starting by doing what they do best being organized. the new technology and mass information have to be managed protect and process into some valuable output to obtain the best outcome of technology advancement with regard to defence related work. Specific defence agencies in Europe and USA have used advance technological enhancements to boost the information storage capacity and the data analytical processing power. In those regions, large number of investments place further strains on operations with the sufficient budget allocated under fire while defence service demands are

growing. With all these aspects defence agencies have been thoughtful about cloud computing. But cloud computing could be a new challenge and differentiator in accomplishing next generation defence strategies. This technology will be easier, secure and cheaper than existing siloed systems. An improved advantage is being able to keep bound with the demands of modern defence operations since optimizing operations in defence and military related applications becomes a strategic necessity for defence agencies and authorities across the world. When designing new cloud-based infrastructure for a military application, it is important to consider the holistic approach in different dimensions like security privacy, efficiency, maintenance, cost, society, standards and ethics. This holistic cloud framework is described by hierarchically organized processes which allow for military applications, technology and social-driven security management. A Reliable holistic framework for migration will ensure mitigation of risks in cloud computing technology. This holistic framework designed by meta-synthesis method to improve the migration process a maturity model called 'Holistic Cloud Migration Framework for Armed Forces Sri Lanka' is introduced with 5 main categories combined with holistic attributes to add extra value and sustainability for the framework design.

Keywords: Cloud Computing, Military Applications, Effectiveness, Holistic Approach

Introduction

The holistic development of national state in all social spheres is the main guarantor of ensuring the security of society, state and individual. There is a direct influence from the national security for the economy of a country. By developing effective military infrastructure, the wellbeing of people increases with different dimensions. For an effective and efficient military infrastructure is a must for a country with this digital Era. Whatever the military systems consume by militaries should have easy access to applications with less effort, time saving and high security enriched functionalities. In this case the cloud computing play major role in next generation digital renovation in military management as well as battlefield operations. Cloud computing is a rapidly evolving type of internet-based computing model that depend on the sharing computing related resources, rather than having local servers or personnel to handle them. It has already been adopted by a significant number of Small and Medium Enterprises in Sri Lanka as a business advantage able to improve their business environment and help them be more efficient and productive.

Cloud computing is suitable way to provide on-demand network access to a shared pool of computing resources in different industries like military, health, e-commerce, educational & entertainment. This cloud service is dynamic provisioning of IT capabilities, whether hardware, software or services from a third party over a network with scale up its capabilities, achieve economies of scale, and maintain resiliency. Beside that cloud provide a delivery model with improved operational and economic flexibility and reduced the maintenance and co-worker support. There are 3 core models: public, private or hybrid. Beside that cloud offers a delivery model with increased operational and financial flexibility and reduced maintenance and support.

Microsoft Azure, Amazon Web Services (AWS) Alibaba Cloud, Google Cloud. Oracle, IBM Cloud. & SAP are the major Cloud service providers in world. Main benefit of migrating into cloud computing services is cloud avoid the cost and complexity of possessing and maintaining their own IT structure.

Cloud applications can be specifically use in a military related operations to store & process data, accessing data from any physical location, networking, processing power through to natural language processing and artificial intelligence for military operations and mainly in day to day operations, management and office applications use by military operations. Currently using web services doesn't require operator to be physically locate in office or near to the desktop computer or the hardware that using. It can be delivered via the cloud. Due to its beneficial characteristics, as flexibility of cost and scalability, cloud computing has the feasibility of potential to transform the digital techniques and contribute to the boost of economic growth in a country like Sri Lanka.

1.1 Cloud Computing Efficiency and Effectiveness in defence related applications

Recent analyses literature showing that cloud computing has significant efficiency and cost advantages; showed per-transaction releases of emission reductions averaging 95 percent for companies that shift to using the cloud. Cloud computing is significantly more energy efficient than using in-house data centres:

These administrations are undergoing competing demands: managing high-sensitivity, high-volume, high-diversity information while simultaneously release their people from the difficulties of data management to focus on core missions. In the war and peacetime, access to information must be watertight and the safety around the plans or discussions are essential. In the time of armed conflict, data becomes the blood of operations. It must flow quickly, freely ideally and securely, while recognizing a degree of managed risk may be necessary.

There are many samples of the private division using cloud in a safe way. The speedy rise of eCommerce shows that sellers and suppliers able to manage their customers' financial information strongly by applying the right supremacy, systems and processes.

Defence agencies are not ready to embrace the risks and opportunities of cloud in quite the same way. But, with man energetic and realistic approach that minimizes the threats

A mixture of digital interruption and increasing citizen expectations for faster, informed communications adds to the heaviness to change. Agencies essential to be better connected, moving beyond their separate systems to exchange data with allies and other systems across the world. Cloud is the enabler of this shift. What's more, it is a simpler, more cost effective and potentially more secure option than the systems that defense agencies currently run themselves.

On-demand self-service. A consumer can unilaterally ask for the provision of computing capabilities as needed, such as server time and network storage, automatically, without requiring human interaction, or intervention of the service provider.

1.2 Characteristics of Cloud based Applications

Broad network access and available over the network, accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms like mobile phones, tablets, laptops, and workstations.

Resource pooling. The provider's computing resources (storage, processing, memory, and network bandwidth) are shared to serve multiple customers using a multi-tenant model combined with different physical and virtual resources, dynamically assigned and reassigned according to the consumer's demand. Rapid elasticity. Capabilities can be elastically and automatically provisioned and released, to scale rapidly outward and inward commensurate with demand.

Cloud systems robotically regulator and optimize resource use by leveraging a metering capability at some level of concept suitable type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be checked, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.

1.3 Global trend of using Cloud Computing in military applications

There are 3 main countries currently doing their initiatives with the Cloud computing related to defense military applications. In The United States newly launched a sequence of cloud enterprises aimed at improving mission

efficiency and cybersecurity in a reengineered information infrastructure and drive to get holistic approach to achieve the wellbeing of social mental spiritual and physical wellness of their society.

United Kingdom Ministry has adopted a "cloud-first approach" beneath which consumptions through the cloud are predictable to be the first selection considered by public sector buyers of IT products and services.

The Australian Government has launched its Cloud Computing Policy in the year 2014, requiring government agencies to adopt a 'cloud first' approach where it is fit for purpose, provides adequate protection of data and delivers value for money. The Australian Cyber Security Centre also provides guidance on secure cloud computing, including a list of Certified Cloud Services.

1.4 Scope and Significance of the Study

National economy growth can be achieved by an effective and efficient government body of a country. As a main entity of Sri Lanka government, Sri Lanka Armed forces can be playing a major role in ensure national growth and security in innovative way. To provide better service by enhancing the digital infrastructure in holistic manner the ultimate results can be impact to society of Sri Lanka. Migrate to the Cloud will be a advantage as well as challenging comparing to modern world, the first approach of migration is to decide whether such migration is feasible for Sri Lanka Armed forces. The answer to this may not be a direct and straightforward one. Several factors are involved for an organisation to decide whether moving towards Cloud Computing is feasible and safe. Various decision making involves in the process of a safe migration to the Cloud. A strategic feasibility study on whether to migrate to the Cloud, and if so, how to migrate are the core and initial requirements. For this, organisations need a strategic framework to aid in decision making process for Cloud migration. Such a framework can aid in an informed, integrated and structured decision-making process for Cloud migration.

Methodology

Migration into the cloud environment is a strategic long-term decision to a organization. Therefore, authors proposing a cloud migration framework for Sri Lanka Armed forces based on meta-synthesis method. After the feasibility study when decide on whether migration to Cloud platform is an acceptable option with analysing its internal and external benefits. The framework explores the factors that Sri Lanka Armed forces must address to decide on Cloud migration. Cloud Computing has its own pros and cons. A whimsical decision to move to the Cloud may be disastrous for armed forces. This proposed holistic framework will ensures mitigate risks in the cloud computing technology.

2.1 Analyse the literature by Meta-synthesis method

The aim of this research is to practise a meta-synthesis method for analysis and synthesis of previous published studies and suggests a holistic framework for cloud migration In related to Sri Lanka Armed forces. Meta-synthesis attempts to integrate results from several different but inter-related qualitative studies. The technique has an interpretive, rather than aggregating, intent, in contrast to meta-analysis of quantitative studies. Literature on the Cloud computing, Cloud computing migration, Cloud security related papers were searched and reviewed.

For develop this holistic framework, authors reviewed 67 research papers from published journals and conference proceedings. The holistic concept extracted from these papers are classified to related sub-categories and categories. Then, planed holistic framework based on these concepts and categories is developed. It includes five main categories wngaeged with holistic attributes in a sub-category.

By providing a systematic approach for researchers, meta-synthesis method explores new and essential concepts through synthesizing qualitative research. Meta synthesis method creates a comprehensive and widespread view toward the problems in addition to promote the current knowledge. It also is a method of reinterpreting and reshaping existing qualitative

findings (McClellan and Shaw, 2005). A qualitative meta-synthesis is a technique that combines results from a variety of studies with a common theme. Per se, —The sample for a meta-synthesis, then, is made up of individual qualitative studies selected on the basis of their relevance to a specific research question posed by the synthesis. (Zimmer, 2006).

Data Analysis

Using Meta-synthesis analysis and Framework Design Khan and Al-Yasiri (2016) show that the lack of knowledge about cloud computing is one of the main obstacles in adoption and migration to the cloud. In a different way, some authors such as Alonso et al. (2013), Menzel and Ranjan (2012), Lewis et al. (2005), Jermyn et al. (2014) formulate the cloud migration problem using an objective function including cost, revenue, net present value, rate of investment, etc. and they finally solve it to find its optimal solution.

In early search, based on keywords we found 657 related articles. After investigating the title it is determined that most of them are related to other research fields of cloud computing and 145 articles are selected for reviewing abstract. After studying the abstracts, 63 articles are chosen for full content review. After a full review of content, 11 articles are rejected and finally 52 articles are obtained for analysis of content (see Appendix A, Table A1). The number of selected papers with separate years of publishing, relevant databases and search engines and also the process of searching and selecting appropriate articles are shown in Fig. 3, Fig.4 and Fig. 5 respectively

3.1 Meta-synthesis analysis of published migration steps to cloud services

A. Statistical Data Analysis from the Questionnaire.

Authors	Migration steps to cloud
Khan and Al-Yasiri (2016)	Cloud requirement stage (CRS) - cloud preparation stage (CPS) - cloud migration stage (CMS)
Yaghmaei and Binesh (2015)	the knowledge base about cloud - evaluating the present stage of IT (university) - experiment the cloud computing solutions - choosing the cloud computing solutions -

	implementation and management of the cloud computing solutions
Pardeshi (2014)	Preparation- analysis- migration to cloud platform- concluding the cloud migration- maintenance and vendor management.
Wielki (2015)	Preliminary assessment- migration's plan creation- implementation and maintenance
Jamshidi, et al. (2013)	Migration planning- migration execution- migration evaluation.
Chauhan and Babar (2012)	Identification of requirements- identification of potential cloud hosting environments- analyzing application compatibility with potential cloud environments- identification of potential architecture solutions- evaluation of cloud platforms- evaluation of potential architecture solutions- implementation and system refactoring.
Rai et al. (2015)	Feasibility study- requirements analysis and migration planning- migration execution- testing and migration validation- monitoring and maintenance.

Figure 2. Systematic review data

3.2 Feasibility Study and SWOT Analysis

The decision to migrate to the Cloud for an any organisation needs to be scrutinised based on several factors. These factors relate to specific organisation's mission and vision and its existing capability, the technology used, and the costs involved. When conducting a feasibility study based on the empirical findings proposed feasibility study framework design with main 5 categories.

1. Organizational Feasibility
2. Economic Feasibility
3. Technical Feasibility
4. Security feasibility
5. Migration and adoption Feasibility

A justification of these aspects would first give a 'yes' or 'no' answer to the question via a proper feasibility study. Main categories of the feasibility frame work can be done via open end analysis like answering 'yes' or 'no' answers to the questions under main categories. For each main category there should be subcategories and for the better understanding of real question the defence ministry can conduct a SWOT analysis under each main category.

If the outcome of feasibility study is positive from each main category only, the actual Migration Approach can be implemented with allocating budget and technical expertise. If Organisational Feasibility become negative with any field from above main field, the organisation does not require to proceed further towards exploring whether they should migrate to the Cloud.

To carry out Feasibility study based on proposed framework will help identify subcategories which falls under the main categories. Under the Organisational Feasibility of Sri Lanka army, the study should have positive answers with categories.

- Stakeholders of Armed forces
- Security of the existing system
- Risk Management
- Disaster Recovery management
- Documenting knowledge for existing system architecture
- Disaster Recovery.
- Identify the skill gaps in stakeholders
- Plan for new knowledge transfer methods

Economic Feasibility of Sri Lanka army the study should have positive answers with below subcategories.

- System migration cost
- Investment cost
- Cost benefit analysis

- Purchasing cost
- Documentation cost
- Hiring cost for knowledge expertise for trainings after migration
- Data Usage cost

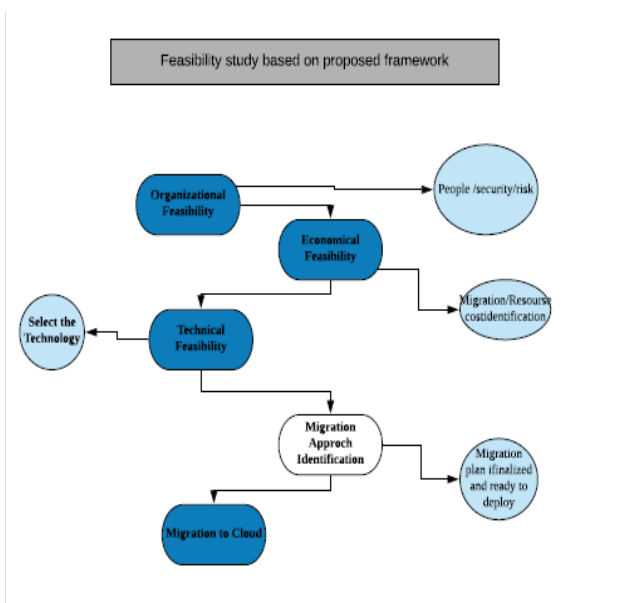
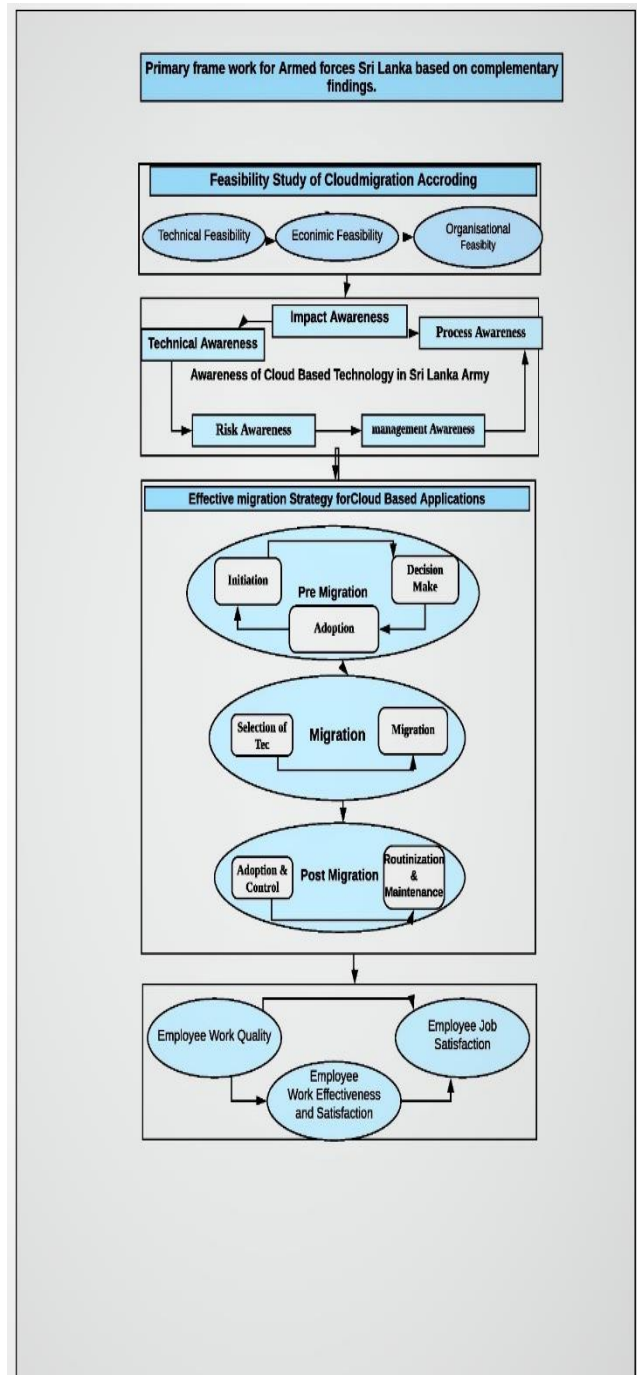
Technical Feasibility of Sri Lanka army the study should have positive answers with below subcategories.

- Available Knowledge about the migration
- Technical knowledge with the stakeholders
- Available equipment
- Technical architectural diagrams

Security Feasibility of Sri Lanka army the study should have positive answers with below subcategories.

- Data security analysis
- Available laws and regulations
- Firewall and virus protection knowledge and software available
- Hardware protection methods use in armed forces
- Code of conduct ethics use in military related management disciplines

Figure 4. 1 Proposed cloud migration feasibility study framework



3.3 Process of holistic Clod Migration Framework development for Sri Lanka Armed forces

Next step of the positive output of the feasibility study of analysing Sri Lanka armed forces is initiate migration steps and come up with a new framework with holistic approach for cloud migration. In this situation there should be a proper framework for follow up with long term plans and strategies. This proposed framework model is designed via systematic review based on

Meta-synthesis analysis to get ready with minimum risks and come up with effective results once after the migration.

Feasibility study conduct according to the organization, economy technical feasibility is an entry requirement for this approach.

With the holistic cloud migration framework view, new technology migration starts with the awareness about the cloud technology of SL armed forces. According to the Cooper and Zmud (1990) Technical awareness, Management and economy Aspect awareness, Impact awareness, Process awareness and the risk awareness is one top layer of migration.

Effective migration approach consists of three stages called pre-migration, migration, and post-migration. Reviewing organizational failures in the implementation of applications and IT-based technologies reflects the fact that most life cycle models suffer from lack of a transparent stage of postmigration, while this stage is the longest phase of life cycle (Jasperson, Carter, & Zmud, 2005). Therefore, complete review of the migration and post-migration processes are vital in cloud-related models because the success of its implementation is based on the acceptance, routinization and infusion (i.e., maximum usage of potential) of the technology (Saga and Zmud, 1993).

Most of previous studies lack a systematic review and presentation of holistic view. Majority of Proposed approaches incorporated with heterogeneous technical-centric concept. In this new holistic framework first authors propose a primary framework. This primary framework is constructed directly based on the extracted concepts, sub-categories and categories (i.e., the result of qualitative Meta-synthesize research methodology as shown in Appendix B, Table B1). It should be noted that to avoid probable misguiding, it seems better that the readers should first consider this primary framework. Then, researches improve the primary framework based on complementary findings and add new phases (categories) to it as well as proposing the final migration framework. Finally, we clarify our proposed cloud migration maturity model for improving migration processes.

3.4 Effective Cloud migration strategy Primary framework for Armed forces Sri Lanka based on complementary findings

This primary framework is constructed directly based on the extracted concepts, sub-categories and categories which have direct impact with the main categories combined with the holistic concept with the physical, emotional, social and spiritual pillars with the adoption of new technology in middle. Influence of the new technology to increase national growth as well as the effectiveness of work force of armed forces diagrammed based on systematic review in the final proposed framework.

This primary framework is constructed directly based on the extracted concepts, sub-categories and categories It should be noted that to avoid probable misguiding, it seems better that the readers should first consider this primary framework. Then, we improve the primary framework based on complementary findings and add new phases (categories) to it as well as proposing the final migration framework. Finally, we clarify our proposed cloud migration maturity model for improving migration processes. the following preliminary framework is recommended for stepwise migration to cloud computing environment. The mentioned framework consists of six main phases (categories) including initiation, adoption, decision-making and selection, migration, adaptation and control, routinization and maintenance stages and thirteen sub-phases.

3.4.1 Initiation phase of cloud migration framework

Cooper and Zmud (1990) explained the initiation phase as follow, change for the new technology will be increase by the organizational need for change in technology or technological innovation need or both of them. Organizations deal with proactive investigation of problems, opportunities and adoption of cloud solutions related to them. the main difficulties in the way of organizations' migration to cloud computing environment is the lack of awareness of top managers and decision-makers from cloud computing.

For a successful start, organizations must effectively extend their cloud knowledge (Khan

and Al-Yasiri, 2016; Yaghmaei and Binesh, 2015; Pardeshi, 2014; Alkhalil, et al., 2014). In addition, it is necessary for organizations to modify their mentality from infrastructure ownership toward the providing services. Organizations should understand legal considerations, verify standards and develop knowledge database (Alkhalil et al., 2014; Alsufyani et al., 2015; Kiadehi, 2014). They should identify the cloud environment, opportunities, risks and threats (Alkhalil et al., 2014; Khajeh- Hosseini et al., 2010a; Omerovic et al., 2013; Rockmann et al., 2014). The more accuracy in the process of acquiring knowledge leads to more effective analysis process at later phases.

3.4.2 Adoption phase of cloud migration framework

In the adoption phase, according to the opinion of Cooper and Zmud (1990) and Kwon and Zmud (1987) a logical and political bargaining in the organization leads to organizational support to implement IT applications. At this phase, the organization incline to cloud computing migration, and the decision is made to invest in the required resources. For reasonable bargaining in the organizations, separate needs and requirements should be firstly identified fully-detailed. In addition to fully understanding of applications (Menychtas et al., 2013), the requirements of stakeholders, compatibility, security (Subramanian and Seshasaayee, 2014), the potential cloud hosting environments and the proposed solutions are needed to be accurately and completely identified (Chauhan and Babar, 2012). After the identification step, preliminary strategic analysis is required to be conducted. In this step the value of cloud computing is analyzed (Kundra,2011).

After enterprise readiness identification (Khan and Al-Yasiri, 2016; Kiadehi, 2014), organizational strengths and weaknesses, opportunities and threats, in the previous step, the market landscape (Kiadehi,2014), business strategy (Alkhalil et al., 2014), technology vision, IT governance status (Khan and Al-Yasiri, 2016) and specification of governmental service should be evaluated.

Decision making phase of cloud migration framework.

At this phase, after the preliminary strategic analysis and evaluating the positivity of

organization's opinion toward cloud computing migration, migration goals must be set. Then, deployment model, service model, bench points, and architecture of target should be determined (Menychtas et al., 2013; Omerovic et al., 2013; Pardeshi, 2014). It is notable that being align with the organizational goals and strategies should always be considered in setting the goals by IT managers. After goal setting, stakeholder requirements, required IT capabilities (technical, human and organizational) and outsourcing capabilities (ITO) should be analyzed (Rockmann et al., 2014). Technical and economical feasibility analysis is should be done (Alonso et al., 2013; Jamshidi et al., 2013; Johnson and Qu, 2012; Khan and Al-Yasiri, 2016; Pfitzmann and Joukov,2011), also suitability of cloud-based services should be evaluated with the potential cloud environment (Alkhalil et al., 2014; Chauhan and Babar, 2012; Garg et al., 2013). By developing the knowledge-based decision support system from the analysis, which is done in the previous step, organizations can rank services and service providers based on various criteria, including the user's previous experience and performance of the service. Organizations can choose a suitable provider for migration by selecting the appropriate platform (Garg et al., 2013; Menzel and Ranjan, 2012).

3.4.3 Migration phase

The most important action on the migration phase is developing the migration strategy. Then, to apply the developed strategy, it is better to choose a pilot project and proceed to migrate after the initial test. In this phase, it is needed to make policy and plan for cloud migration and doing the categorization and assignment of responsibilities according to that. Services, applications and data should be classified along with ones which should migrate must be selected according to various criteria (such as: high updating, high maintenance costs, low utilization rates, high cost per user and innovation of delivered service). Then, decision makers should classify selected application and services based on sensitivity of the mission (Alabbadi, 2011). Researchers suggest applying traditional system for highly sensitive application with critical missions (not to be migrated). If organizations want to use cloud solutions for mentioned services and application, it is better for them to use private cloud deployment model. Public cloud is Suitable for low sensitive applications and services.

For effective migration, interoperability strategy (Abderrahim & Choukair, 2014), multi-tenancy and elasticity strategy (Andrikopoulos et al., 2013c), outsourcing strategy (Pardeshi, 2014), exit strategy and transmission schedule (Kiadehi, 2014) should be developed along with determination of immigrant services. After migration strategy development, modernization and adaptation of the legacy applications are done (Menychtas et al., 2013) and effective contract (Khan and Al-Yasiri, 2016) is presented. To perform migration process, it is better to select a pilot project at first, and employ systems' testing, retrieval and adaptation of the architecture (Jamshidi et al., 2013) and performing extraction and migration of data, services and applications as a seamless and integrated migration (Alkhalil et al., 2014).

3.4.4 Adaptation and Control phase

The purposes of this phase are control, monitor and evaluate important issues during migration, and then adapting the various factors to reach the desired results. By controlling the application for its security, availability and performance throughout the migration process, this phase looks to ensure continuity of the application and integration of the new system with the older system (Abderrahim and Choukair, 2014; Jamshidi et al., 2013; Menychtas et al., 2013). In order to realization of technical and economical goals which are set in the adoption phase, it should be evaluated and verified during and after the migration. For improvement, adaptation activities should also be done during and after the migration, such as the acquisition of new skills depending on the needs (Kundra, 2011), review of the existing IT governance model and creation of a governance model related to organizational strategies; also all relevant policies are reviewed for ensuring effective support (Kiadehi, 2014). As Cooper and Zmud (1990) also express, in adaptation phase, organizational procedures are reviewed and developed, besides organization's members are trained toward new procedures and IT applications (Cooper and Zmud, 1990).

3.4.5 Routinization and Maintenance phase

At this phase, in addition to the creation of guidelines, activities related to support, update and vendor management are conducted. The

routine budget is considered for migration. Cooper and Zmud (1990) and Kwon and Zmud (1987) define routinization phase in such a way that usage of systems and IT application are part of individual's routine behavior, normal activities and governance systems of organizations have been adjusted to respond to IT application. At this phase, in order to respond to organization's governance systems, evaluation of service

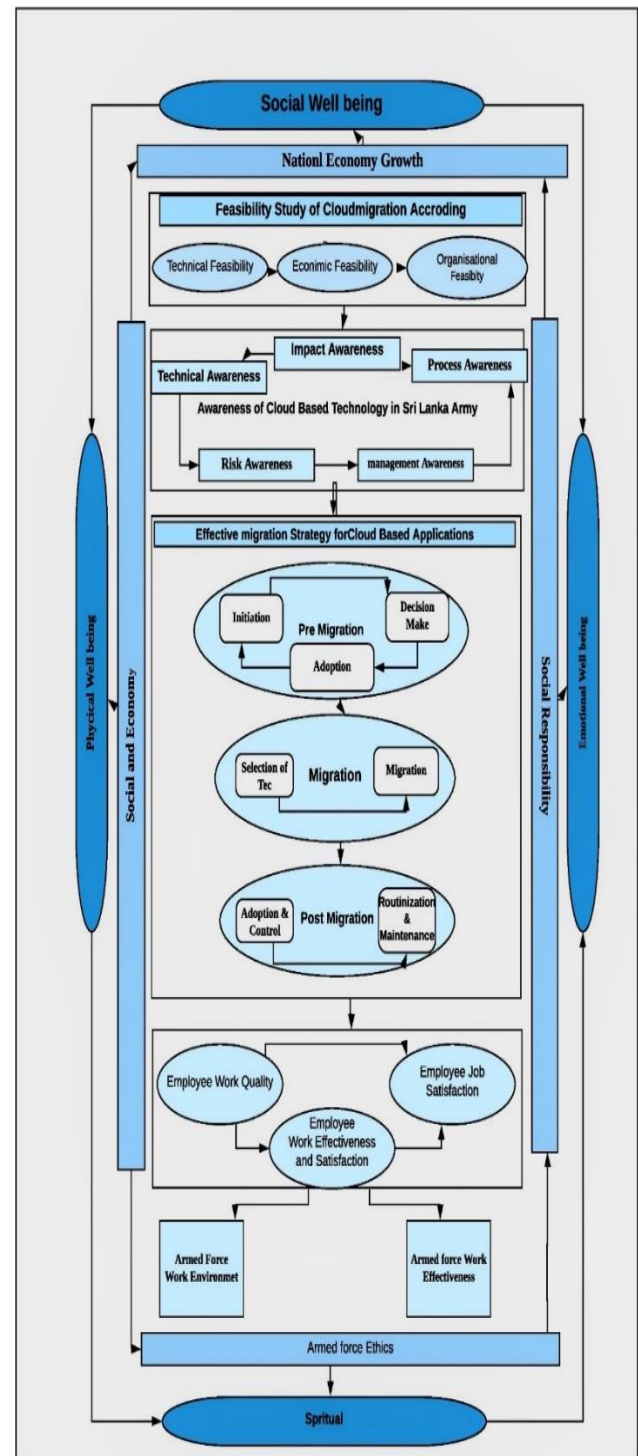


Figure 6. Quality Attributes Analysing Chart

delivery and vendor' models (Kundra, 2011) are periodically and continuously done as well as routine monitoring of quality of service (QoS) (Kundra, 2011; Pardeshi, 2014) and the way of meeting service level agreement (SLA) (Garg et al., 2014).

3.5 Holistic Cloud migration Framework for Armed forces Sri Lanka

When developing above 'Effective Cloud migration strategy Primary framework for Armed forces Sri Lanka based on complementary findings' into a Holistic Cloud migration. The new technology should be a holistic approach which the outcome of the technique should give positive benefits in physical, emotional, social and spiritual wellbeing of the society. According to those pillars the below framework design implemented.

There for impact after the migration and during post migration has found a connection to work environment and the work flexibility of stakeholders. When considering the Sri Lanka armed forces, the militaries can access every web portal via cloud and there the stress and physical appearing in the work environment get reduce. By that the result redirect into holistic approach main pillar like increase the workability effectiveness and time saving in the work and that will redirect a person into well social and emotional satisfied workforce.

Conclusion

Sri Lanka Armed forces work force use traditional computing applications in military & management level work. Microsoft office packages, SQL Servers host in local, Gmail, Web based applications host in local servers and data storage in disks, data processing units, are the basic computing applications use in military that need additional cost of the server, hiring admins, and physical rent for the storage. Main disadvantage is the limitation to access those applications when stakeholder is away from the physical hosting premises of the hardware resources. storing your files and data with other users with often conflicting objectives. The lack of isolation of data exposes you to the risk of security and poor performance in traditional

computing. That may be decrease the productivity of the service provide by organization.

New technologies such as cloud computing play an important role in organizations flexibility and productivity and allow them to take proper steps in developing and creating competitive advantage by accessing the capabilities of additional value. In order to take advantages of cloud computing infrastructure and services, organizations need to migrate to the cloud environment. Migration to the cloud is a strategic organizational decision with complex and dynamic nature. The benefit of this research is that, for the first time, has used the qualitative meta-synthesis method to analyze and synthesize the result of previous studies whose main objective was to recommend a framework or model for cloud migration. This research has founded the concepts, subcategories and categories affecting cloud computing migration and provided a comprehensive cloud computing migration framework containing initial stages of pre-migration, migration and post-migration.

The presented framework structures various factors as well as Cloud migration approaches and combine them into a common framework for a seamless strategic decision towards Cloud migration – this is where the novelty of the proposed framework stands. The framework helps an organisation to take informed and integrated decision towards Cloud migration. The conclusion of migration of physical servers to cloud based technology is a strategic approach rather than a mere technological move.

The main and o difference lies on the economical side of armed forces budget is "Cloud Computing" is really an economical definition for delegating the management of your IT infrastructure to a third party ("Cloud Provider"), which buys, maintains and utilizes the resources it owns in a profitable way. Employee have access to this infrastructure through the public Internet, by means of a credit card. This is why it is "remote" where the employee stays can access to

his account and do the relevant work that wants to finish within that day.

Further, as a country can have more advantages in working remotely via cloud-based applications to gain holistic advantages as well as for the well-being of the people of Sri Lanka. Our proposed framework and maturity model helps managers to gain a comprehensive overview of migration and they can perform strategic planning for its effective management. In connection with the future activities, it is suggested to use mixed method research and case studies to validate the proposed framework.

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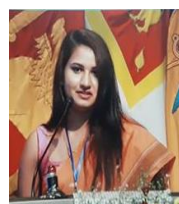
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Author Biographies



RMS Veronika is a Certified Software Tester and currently working as a Software Quality Engineer in Pearson Education Global. She holds a Postgraduate Diploma in Business Management (UK), and graduated in the discipline of Industrial Information Technology at the Uva Wellassa University of Sri Lanka, in 2017. Her research

interest is exploring new technologies, conducting Research and Traveling.



Major Chandana Jayathilaka is a commissioned army officer with a BSc in Management (KDU) and PGD in Strategic Management and Marketing (UK). He is currently disseminating his duties at the capacity of Officer

in Command in 6th Regiment, Sri Lanka Armoured Corps. He is a young researcher in disciplines of Virtual Reality, Augmented Reality, Mixed Reality and National security.