THE INTENTION OF CLOUD SUPPLY CHAIN ADOPTION: MANUFACHCHER'S PERSPECTIVE

(WITH SPECIAL REFERENCE TO TEA EXPORT COMPANIES IN SRI LANKA)

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(14/MS/096)

B.Sc. BUSINESS MANAGEMENT

SABARAGAMUWA UNIVERSITY OF SRI LANKA

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A supervised independent study submitted to the Faculty of Management Studies, the Sabaragamuwa University of Sri Lanka in partial fulfillment of the Requirement for the Honours in Bachelor of Science in Business Management.

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(WITH SPECIAL REFERENCE TO TEA EXPORT COMPANIES IN SRI LANKA)

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ABSTRACT

The world is becoming more competitive with the growth of technology. Customers are well updated with those technologies and are seeking more advanced products and services from their service prodders. Tea is one of the ancient industries in Sri Lanka which is recorded as the largest agricultural export earning source. The cloud supply chain is a new supply chain management practice in the Sri Lankan context. Thus, this study was conducted to investigate the cloud supply chain management (C-SCM) usage intention of the tea export companies in Sri Lanka from the manufacturer's perspective. This study was conducted in a quantitative methodology and uses a survey strategy. This study develops a theoretical model of the elaboration likelihood model (ELM). The researcher chose to use the whole population as a sample (census method). The researcher used correlation analysis and multiple regression analysis. Moreover, multiple regression results found that source credibility has a positive significant impact on cloud supply chain management (C-SCM) usage intention while argument advantage, perceived usefulness, and attitude are insignificant in the current context. The final result of this study is that the only affects source credibility the intention of tea exporters to use cloud supply chain management (C-SCM) in Sri Lanka.

Keywords: *Cloud Supply Chain Management, Cloud Computing, Cloud Manufacturing, Information Technology, Intention to Adopt CSM*

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LIST OF ABBREVIATIONS

SCM	- Supply Chain Management
C-SCM	- Cloud Supply Chain Management
IT	- Information Technology
CPS	- Cyber-Physical Systems
CC	- Cloud Computing
CM	- Cloud Manufacturing
ELM	- Elaboration Likelihood Model

CHAPTER ONE
INTRODUCTION

1.1 Introduction

Over the last few years, companies have considered and combined new technology and customer satisfaction. Cloud computing services are turning into a popular choice for companies because now not only do they change the critical approach to information technology (IT), however also grant significant advantages. Information Technology (IT) advances directly can correlate to supply chain management improvements, such as through the rise of effective virtual supply chains and cloud computing emerges as useful technological know-how that contributes to this optimization by providing infrastructure, platform, and software solutions for the whole supply chain through the internet (Tiwari & Jain, 2013). The application of cloud computing thought in the context of supply chain management is an innovative practice that generates a new area of study that is cloud supply chain management. The cloud supply chains of cloud services want to be identified and then managed and managed from each enterprise and technical perspective. This consideration has spread into the tea industry in the aspect of supply chain management all over the world. As a famous Ceylon Tea, Sri Lanka also has headed regarding the tea export service and the satisfaction of customers. The current market is characterized as being very competitive. Therefore, for organizations that choose to survive, it is necessary to adopt innovations (Priyadarshinee et al., 2014). Hence, that study investigates the adoption of cloud supply chain management usage intention of tea export companies in Sri Lanka.

1.2 Background of the Study

The business world is constantly changing. Hence new business concepts and processes are building. Supply chain management (SCM) can be delivered as the necessary management approach for each manufacturing business. Supply chain management generally involves supervising the transfer of products and goods, such as from a supplier, then to a manufacturer, a wholesaler, a retailer, and finally to the consumer. There are many definitions of SCM, Supply chain management can be defined as a combination of integrated planning, coordination, and the control of all processes and activities along the supply chain to provide a value-added service while reducing the total cost of all stakeholders in the supply chain (Vorst et al., 2000). And all so "design, planning, execution, control, and monitoring of supply chain activities to create net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally" (Tiwari & Jain, 2013). Today world manufacturing industries are currently adapting to Industry 4.0. Zhou et al., (2015) define the concept of industry 4.0 as the integration of information and communications technologies with industrial technology. Industry 4.0 needs cyber-physical systems (CPS) and cloud manufacturing (CM) (Ben-Daya et al., 2019). Nowadays, these networks are enriched with social networks, smartphones, GPS devices, cloud computing, and data analytics to assist the current concept of the Internet of Things (IoT). Internet of Things (IoT), one of the modern IT developments, is a new IT revolution presenting a paradigm shift in several areas which includes supply change management (SCM) (Ellis et al., 2015). IoT structures use normally cloud-computing capabilities in external data centers, which led to the concept of cloud manufacturing (CM) in the industry 4.0 context (Ben-Daya et al., 2019). In the current world, businesses are investigating ways to optimize both cost and operational effectiveness of each phase of their supply chains, such as sourcing and procurement, planning and forecasting, logistics and service, and inventory management (Toka et al., 2013). Cloud in Industry 4.0, Tjahjono et al., (2017) defined that "The term „Industry 4.0" was used to create a paradigm shift in manufacturing and supply processes with the aid of all soft of Internet of Things (IoT) in order to enable the fourth industrial revolution" (pp. 1175). Current business management, individual businesses cannot compete as independent entities however as a substitute as active contributors of the wider supply chain

involving a community of multiple businesses and relationships (Lambert & Cooper, 2000). As such, supply chains are running under ever-changing surroundings and are vulnerable to a myriad of risks at all stages (Ben-Daya et al., 2019). The external surroundings (environment) are particularly dynamic due to economic (energy cost, prices, and availability of raw materials, currency exchange rates), social (unrest, demanding customers), and natural elements (extreme weather conditions, earthquakes, tsunamis). To survive in such a complicated environment, businesses want to be extremely agile and build a high degree of resilience and risk mitigation competencies and structural flexibility that allow fast response to these challenges. Information technology (IT) has been and continues to be, a necessary enabler for effective supply chain management (SCM) (Ross as cited in Ben-Daya et al., 2019).

Information Technology (IT) has made a major effect on the nature and structure of supply chains due to its capability to internal integration a variety of procedures and more importantly external integration with suppliers and customers. This has been performed through enhancing communication, acquiring, and transmitting data, as a result enabling effective decision-making and enhancing grant chain overall performance (Ben-daya et al., 2019). IoT structures use generally cloud-computing capabilities in external information centers, which led to the concept of cloud manufacturing (CM) in the industry 4.0 context (Ben-daya et al., 2019). Cloud computing is a term, which includes virtualization, distributed computing, networking, and web services. Cloud computing can be defined as "A Cloud is a type of parallel and distributed system consisting of a collection of interconnected and virtualized computers that are dynamically provisioned and presented as one or more unified computing resources based on service-level agreements established through negotiation between the service provider and consumers" (Buyya et al., 2008. p. 6). Internet-based cloud computing technologies can be particularly useful because they provide a dynamic environment in which companies can arrive at the best decisions and accelerate changes in business procedures in terms of managing the supply chain (Wu et al., 2013).

Generally, cloud-based solutions provide organizations with quick, effective ways to identify and apply external technical solutions intended to improve operational efficiency (Aral et al., 2012). The utilization of cloud-based services in supply chain

management leads to monetary and operational benefits such as lower cost in contrast to on-premises infrastructure cost, supply chain visibility, platform scalability and flexibility via supply chain partner‟s collaboration are some excellent examples (Tiwari & Jain, 2013). The main benefit of cloud-based supply chain management systems is their simplification. Cloud eliminates the compatibility problem of the usage of the same platform access and presents an easy connection to each part of the supply chain (Tiwari & Jain, 2013). It allows supply chain data collaboration between partners in one supply chain system. Members of the supply chain can enter and add in the collaborative environment of the cloud using member identification and password as well as after that all customers have approved to operate easy process and application in the same platform, which reduced the response time of supply chain partners (Tiwari & Jain, 2013). And also another advantage is the visibility which presents timely connectivity along with multiple supply chain participants (Toka et al., 2013). Therefore, visibility is a key issue for supply chain management as it not only helps such businesses to coordinate their operations and control many different clients but also allows the customer community to have a transparent view of the whole system. Cloud-based systems are capable to provide real-time visibility of inventory and shipments and improve logistics tracking. However, with the creation of cloud technology, businesses were allowed to adjust their capacity automatically under their wants and scale their computing power depending on demand fluctuations (Tiwari & Jain, 2013). Therefore, cloud supply chain management is a very important and new research area in Sri Lanka.

1.3 Research Problem

The export industry is an important sector of a developing country. This is because foreign exchange flows into a country mainly through the export industry. Sri Lanka is a developing country and an agriculture-based trading system has existed since ancient times. Agriculture primarily based supply networks improve social wellbeing and reduce poverty in many developing countries (Stamm et al., 2006). According to the Central Bank annual report (2019), Paddy, Tea, Rubber, and Coconut are the main agricultural products of Sri Lanka and the total volume of tea exports is 292,657 kg and the value of tea exports is Rs. 240,637 million. And all so Tea, Rubber, and Coconut are the main export agricultural products, and their main earnings are tea-

based products (Central Bank of Sri Lanka, 2019). Tea is a necessary agricultural product, and it plays an essential economic role in many developing countries around the world (Gesimba et al., 2005).

Even though Tea is regarded as an agricultural product, supply chain management plays an essential role. Sri Lanka has relied heavily on plantation agricultural exports, mainly tea exports, as a primary source of economic surplus to generate sources required for development programs (Bhalla as cited in Ganewatta et al., 2005). Most of the research conducted in the tea industry in Sri Lanka has been focused on social issues such as labor, health, soil degradation, sales, and marketing (Jayaratne et al., 2011). One of the major challenges facing the tea industry in Sri Lanka is to be competitive and to expand productivity, as well as India, China, Kenya, and Indonesia, which are Sri Lanka's rivals in the tea industry (Thasfiha et al., 2020). When the industry is in contrast with its international competitors, productivity, specifically on the estates, is low, resulting in a very high cost of production (Ganewatta & Edwards, 2000). Innovation and knowledge is a driver for sustainable supply chain management and performance (Jayaratne et al., 2011). Rapid technological developments in the world over the closing two decades have led to a variety of innovations, which have the potential to address the technological wants of farmers and different agriculture sector stakeholders much faster and with far more accuracy than ever before (Central Bank of Sri Lanka, 2019). Agriculture export sector business organizations have practice IoT to a realistic degree, as a combination of „things" throughout the supply chain in different operational procedures with different intensity (De Vass et al., 2018). In many factories, they have a lot of products, and these products require more than one process. Hence, it is required advanced technology such as Radio Frequency Identification (RFID), Cloud Computing (CC), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way we live and work as well as IoT to track the movement of products at many stages, become aware of the bottlenecks and assesses the efficiency of the supply chain, activities, so they can improve the supply chain processes (Seng & Yew, 2019). IBM, Amazon Web Services, Wal-Mart, Zoom and E-bay are international examples that use cloud technology in to their processes. Not only have the above examples however also Dialog Axiata PLC, Sri Lanka Telecom PLC and PricewaterhouseCoopers International Limited and many different companies use

clouded technology in to their processes with different intensities. These evidences show that the big pictures in the commercial enterprise world are adopting IoT in to their business techniques and cloud technology is gaining popularity in Sri Lanka.

In the modern world, companies are investigating ways to optimize both cost and operational efficiency of each phase of their supply chains. The main problem for the tea export industries in Sri Lanka today is the high cost of production due to the increased cost of packaging, transportation, freight, and electricity (Sri Lanka Export Development Board, 2019). Cloud-based technology can reduce the cost according to the Tiwari and Jain (2013) further explain that the utilization of cloud-based services in supply chain management leads to monetary and operational benefits such as lower cost in contrast to on-premises infrastructure cost, supply chain visibility, platform scalability, and flexibility via supply chain partner‟s collaboration. Therefore, cloud supply chain management can address the major problem of Sri Lanka's tea export industry, as well as the potential for global competitiveness through other advantages of using cloud-based services. The recent development in technologies enables the organization to avail of information easily on its premises and today‟s world practices use the cloud supply chain to drive the supply chain more effectively and efficiently (Toka et al., 2013). The cloud supply chain is a new supply chain management practice in the Sri Lankan context as well as some industries moving on a cloud. Therefore, the researcher asked five Sri Lankan tea export companies about the use of cloud technology (Basilar Tea Exports (Pvt) Ltd, Millennium Teas (Pvt) Ltd, Euro Asia Corporation (Pvt) Ltd, Vintage Teas Ceylon (Pvt) Ltd, and Green Horizon Enterprises (Pvt) Ltd). Administrators at all of those companies said they do not use cloud technology. To confirm this, the Export Division of the Sri Lanka Tea Board, which controls all Sri Lankan tea exporters, said that cloud technology is not used for the activities of tea exporting companies. This is further reflected in the Tea Industry Capability Report released by the Export Development Board of Sri Lanka in December 2019 (Sri Lanka Export Development Board, 2019). Hence according to the Sri Lanka Export Development Board (2019), cloud supply chain management (C-SCM) practices tea export companies in Sri Lanka hasn‟t been able to find out yet. Most previous studies have found that the intention to use it influences the use of new technology (Bhattacherjee & Sanford, 2006; Dakshina Tharanga & Perera, 2018; Legris et al., 2003; Lin & Lin, 2018; Lu et al., 2011; Sussman & Siegal, 2003; Tu,

2018; Venkatesh et al., 2009). Thereby, the researcher formulated the research problem statement of the current study as;

Why the intention is low to use cloud supply chain management practices in Sri Lankan tea export companies?

1.4 Research Questions

According to the past literature, the researcher finds out most of the study used the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986) impact on Information Technology (IT) usage intention. According to Lin and Lin (2018), some variables impact on intention to use cloud SCM such as argument advantage, source credibility, perceived usefulness, trust, and attitude. The argument advantage is the central route, reflecting the merits of a cloud computing service to the degree to which users believe that cloud computing services in SCM (Lin & Lin, 2018). Source credibility means a third-party recommendation from a current expert information source measures the credibility of information in the form of a peripheral cue affecting trust (Yang et al., 2005). Perceived usefulness, that is considered as a measure of user‟s subjective assessments of the utility presented by new information technology adoption (Bhattacherjee & Sanford, 2006). As well as attitude is has a social character and it is contagious, malleable, and fragile in that human beings influence each other‟s attitudes by putting forward or contradicting them through interactions and mutual experiences (Yang & Yoo, 2004). Most of the study used argument advantage, source credibility, perceived usefulness, and attitude variable (Bhattacherjee & Sanford, 2006; Jin et al., 2009; Lin & Lin, 2018; Sussman & Siegal, 2003) in the Elaboration Likelihood Model (ELM) Petty and Cacioppo, (1986) impact on Information Technology (IT) usage intention. Only one research Lin and Lin (2018) use the mediating variable (trust) effect to that (ELM) model. Hence in this study select four variables in ELM.

Formulate the research question researcher select four variables there are argument advantage, perceived usefulness, source credibility, and attitude. The internet can allow immediate information sharing and decreases the costs of acquiring information (Chakravarty et al., 2013). Further, cloud computing has unique abilities that enable efficient, effective business procedures (Chiang et al. as cited in Lin & Lin, 2018).

The advantages of cloud computing in phrases of lower costs, immediately access and the scaling up of services (Marston et al., 2011) might make users feel that it would be really helpful in terms of work productivity, overall performance, and extra effective use of the service system in view that supply chain integration is established on their ability to leverage IT competence that can be efficiently utilized with supply chain partners (Zhang et al., 2006). The benefits of a cloud-based service consist of supplying enterprises with operational flexibility and productivity (Xu, 2012). Hence, the subsequent question was developed:

- Does the argument advantage of using cloud supply chain management impact on user's intention to use cloud supply chain management in Sri Lankan tea export companies?

Perceived usefulness is the key variable in the technology acceptance model (TAM) and innovation diffusion theory that can be used to explain IT system adoption (Legris et al., 2003). In this scenario, cloud service companies need to be concerned about their security standards, system stability, and reputation (Durowoju et al., 2011). Thus, constructing a mutual trust relationship between users and a cloud computing service is viewed to play a middle role in user behavioral intention (Lin & Chen, 2012). And also attitude can be put forward technology acceptance through interactions and mutual experiences (Yang & Yoo, 2004). Bhattacherjee and Sanford (2006) suggest that perceived usefulness refers to user expectations that an IT system will advantage their task overall performance and that it will be an important motivation of system adoption in the place of work. Hence, the subsequent question was developed:

- Does the perceived usefulness of using cloud supply chain management impact on user's intention to use cloud supply chain management in Sri Lankan tea export companies?

Since cloud SCM adoption may also signify a firm‟s policy to achieve overall performance goals, user‟s perceptions of the usefulness advantages of cloud SCM and adoption intention can be important preparation by way of which managers can recognize the processes influencing its adoption. Moreover, cloud SCM requires efficient and flexible information exchange among supply chain partners. The governance of facts and purposes can also depend on the cloud computing service, the

place of trust in a cloud environment depends closely on the selected cloud service institution (Zissis & Lekkas, 2012). Source credibility measures perception attributes such as trustworthiness, expertness, and elegance (Patzer, 1983). Therefore, any business enterprise must have confidence in the new IT of the company's management before submitting the intention to use IT. Hence, the subsequent question was developed:

- Does the source credibility of using cloud supply chain management impact on user's intention to use cloud SCM in Sri Lankan tea export companies?

Furthermore, the degree to which the benefits and negative aspects of cloud computing innovations are associated with how organizational culture, information systems compatibility, and software performance affect a company‟s intention to adopt such technologies have been investigated (Cegielski et al., 2012; Wu et al., 2013). Then, the researcher subsequent question was developed:

- Does the attitude of using cloud supply chain management impact on user's intention to use cloud SCM in t Sri Lankan tea export companies?

1.5 Research Objectives

The objective of the study is to investigate empirically the determinants of why the intention is low to use cloud supply chain management practices in Sri Lankan tea export companies.

Depend on the research questions; the researcher has formulated the research objective as follow,

- To identify whether there is an impact of argument advantage on the user's intention to use cloud SCM in the tea export companies in Sri Lanka.
- To identify whether there is an impact of perceived usefulness on the user's intention to use cloud SCM in the tea export companies in Sri Lanka.
- To identify whether there is an impact of source credibility on the user's intention to use cloud SCM in the tea export companies in Sri Lanka.
- To identify whether there is an impact of attitude on the user's intention to use cloud SCM in the tea export companies in Sri Lanka.

1.6 Significance of the study

The application of the cloud computing concept in the context of supply chain management is an innovative practice that generates a new field of study. A cloud supply chain is "two or more parties linked by the provision of cloud services, related information, and funds" (Lindner et al., 2010, p.3). However, before that companies should weigh all the factors to assess the implementation of cloud technology in their supply chain. Questions about the changes, the benefits as well as the challenges that supply chain stakeholders have to face when using cloud computing should be answered well before taking the critical decision of moving to the cloud. The cloud-based platform operates on databases that contain multiple data from different suppliers which provide efficient and different benefits for companies that handle thousands of them. On the other hand, companies can select between suppliers that which of them can provide appropriate martial as their specification and within time. Cloud-based tools also allow companies and suppliers to collectively improve contracts and enhance contract management. And also, the export industry is one of the booming industries in the Sri Lankan economy. Based on the prevailing literature cloud supply chain management practices is more helpful which can heal the satisfaction of user thereby increase the performance of the export industry. By conducting the current study can identify several significances relating to managerially as well as theoretically.

1.6.1 Managerial Significance

By analyzing this research in tea export companies, managers will be able to moderate their strategies to uplift the SCM. Additionally, it will provide insight to managers to identify the most and least important factors when developing the cloud computing concept in the context of supply chain management to attract more benefits to the tea export industry in the country. As well as managers who can handle the logistics information management system keeps track of inventory information by using logistic management under the cloud to give the benefits of on-demand self-service, resource pooling, elasticity, and scalability. In cloud computing, providers can quickly add and release the resources as soon as possible to match changes in consumer demand. Logistics involves the process of material acquisition, warehousing, and transportation process. This should be done efficiently. Inventory management is

enhanced by many organizations using barcoding technologies and wireless services. The radio-frequency identification (RFID) system integrates with the cloud-based centralized data management system to deliver the global identification and tracking of any items or goods across the global supply chain management lifecycle. These clouds based platforms get the data from the internet and perform basic operations like analytics and perform a more accurate demand forecast for all supply chain partners. This will help the chain partners to aware of the real demand volatile they have to handle.

1.6.2 Theoretical Significance

According to the prevailing literature, it can be seen a gap of literature in the Sri Lankan context. So the current study will be a fresh contribution to fill the gap of literature in the context. Further, the current study intends to use industry specialized measuring instruments developed in another context by previous authors rather than using determinants of cloud computing adoption measures in SCM. However, this research did not explore how external information procedures affect perceived usefulness and attitudes toward cloud SCM services amongst possible users, nor did they study how perceived usefulness, attitudes are associated to cloud SCM usage intention. To deal with these study gaps, we draw on the elaboration likelihood model (ELM) to suggest a model supposed to discover these relationships. Therefore the current study will contribute to such a measuring instrument by testing in a different context.

1.7 Limitations of the Study

When conducting this study the researcher had to face several limitations which are unavoidable due to several reasons.

There are several models used by researchers created by many authors to measure the intent of using cloud supply chains, which is a new concept. But this study has stuck to one model which is a developed version of the Elaboration likelihood model (ELM). In cloud supply chain management usage intention literature, several dimensions have been identified for the cloud supply chain management adoption. But this study has considered only the four-dimensional model for cloud supply chain management usage intention. And this study has missed some dimensions such as

Trust. The study conducted in a cross-sectional time horizon means collecting data at one time. Thus, the respondent's emotional situation at that time has influenced their responses, and perception errors can occur. So it has limited the scope of the study. Since the study considers only tea export companies in Sri Lanka again the scope of the study was limited. Further, the study was limited to a specific supply chain partner (manufacturers), the generalizability of the findings is limited. Because the findings can be generalized only to the selected population of tea export companies in Sri Lanka, not all the manufactures arrived in Sri Lanka.

1.8 Chapter Organization

The research report consists of five chapters. The purpose of this section is to provide an overview and a brief introduction to future chapters of the research report.

The very **first chapter** gives a better understanding of the research background, research problem, and research questions. Further, it provides research objectives derived from the research questions, the significance of the study separately for managers, and theoretical significance. Finally, it shows the limitations the researcher faced during the study.

Chapter two is to provide the theoretical background of the study. It consists of literature related to cloud computing and cloud supply chain management and also provides insight into the factors that influence the cloud supply chain management user's intention to use cloud SCM in the future.

Chapter three draws a holistic picture of the methodology of the study. Under that, it talks about the conceptual framework, conceptualization, operationalization, research design, and the time frame of the research study.

Chapter four explains the analysis of data that has been collected through questionnaires and interviews and the interpretation of information obtained through analysis and discussion of the results with proper evidence. Finally, discuss the theoretical and practical implications of the study.

The **Final Chapter** of the research study gives a clear and proper conclusion to the study and it was an essential part of the whole study. Finally gives directions for future researchers who are interesting to conduct researches in the future.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The study has headed to cloud supply chain Management (C-SCM) from a manufacturer perspective. Therefore, the cloud supply chain is a major concept that can discuss thoroughly in this study. Further, many scholars have done many studies regarding supply chain management, cloud computing service, and cloud supply chain management intention. Thus, in this chapter, the researcher tries to discuss different models that are in the existing body of knowledge. Moreover, throughout this chapter, the researcher is going to investigate are relevant concepts and the theoretical aspects which relate to the current study by using opinions and definitions of early scholars.

2.2 Tea industry in Sri Lanka

The export industry is an important sector of a developing country. This is because foreign exchange flows into a country mainly through the export industry. Sri Lanka is a developing country and an agriculture-based trading system has existed since ancient times. Tea is one of the most broadly consumed beverages worldwide because of its low cost, which is second only to water (Hazarika as cited in Wang & Yu, 2016). Considering the excessive competition in the world, production efficiency will come to be an essential determinant of the future of Sri Lanka‟s tea enterprise (Basnayake & Gunaratne, 2002). Ceylon tea from Sri Lanka, acclaimed as the quality tea in the world has its inherent special characteristics and recognition running through more than a century. Sri Lanka is renowned for its high-quality tea and as the 4th largest tea producing country globally, has a manufacturing share of 10% in the

global sphere, and one of the world's leading exporters with a share of around 19% of the international demand (Sri Lanka Export Development Board, 2019). Sri Lanka produces tea at some point of the year and the complete tea manufacturing is about 349,308 tons per annum and the complete export volume reached 212,335 MT out of the total production in the year 2018 (Sri Lanka Export Development Board, 2019). As the fourth largest tea producer and possibly the third-largest exporter in the world, Sri Lanka is at the forefront of tea exports to the world market. This is a position that Sri Lanka has maintained over the years. Most of the research carried out in the tea industry in Sri Lanka has been focused on social issues such as labor health issues, soil degradation and, sales and marketing issues (Jayaratne et al., 2011). But improved technologies on industrial cultivation especially the application of fertilizer, crop management, irrigation systems, most suitable input applications, pest and disease control, postharvest management, well-equipped machinery for processing, high-quality packaging, and expanded transportation techniques are practiced specifically for export marketing (Sri Lanka Export Development Board, 2019).

2.2.1 Supply chain management in the tea industry

Supply chain management can be defined as a combination of integrated planning, coordination, and control of all processes and activities along the supply chain to provide a value-added carrier whilst reducing the total cost of all stakeholders in the supply chain (Vorst et al., 2000). As well as supply chain management usually involves supervising the transfer of products and goods, such as from a supplier, then to a manufacturer, a wholesaler, a retailer, and finally to the customer or consumer. Tiwari and Jain (2013) define supply chain management (SCM) as the "design, planning, execution, control, and monitoring of supply chain activities to create net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally" (p. 152). In the Sri Lankan tea supply chain, the tea leaves are bought from the estate by a supplier or are sold immediately to a factory the place it is processed, this tea is then bought by a broker and is sold through an auction or different means of sales to an exporter or an overseas buyer and this supply chain can take many routes before reaching the final consumer, depending on the type of tea, techniques of the trade, market structure, and type of buyer (Kasturiratne & Poole, 2006). At present,

government and private sectors are looking out to find an excellent solution to improve efficiencies of small manufacturing enterprises (SMEs) in Sri Lanka and these SMEs play a most important role in uplifting the economic system of the country as well (Nuskiya, 2017). The current market is characterized as being very competitive. Therefore, for organizations that choose to survive, it is necessary to adopt innovations (Priyadarshinee et al., 2014). Imposing supply chain management practices has come to be an important factor in the agricultural sector (Christien et al. as cited in Jayaratne et al., 2011). Information technology (IT) advances directly can correlate to supply chain management improvements, such as through the rise of effective virtual supply chains (Tiwari & Jain, 2013). Being an important place for IT innovation and enterprise investment the adoption of cloud computing services and cloud platforms has received increasing interest in each practice and research (Nuskiya, 2017). Cloud computing emerges as useful technological know-how that contributes to this optimization by providing infrastructure, platform, and software solutions for the whole supply chain through the internet (Tiwari & Jain, 2013). These technologies are useful to coordinates the activities to control the supply chain.

2.3 Cloud platform for supply chain management

The utilization of cloud-based services in supply chain management leads to both monetary and operational benefits and lower cost in contrast to on-premises infrastructure cost, supply chain visibility, platform scalability, and flexibility via supply chain partners (Tiwari & Jain, 2013). Supply chains and information systems (IS) both depict the movement and development of materials and data by using connecting businesses together to serve the end-client (Sundarakani et al., 2019). A substantial trend of the current economic system in the area of information and communication technologies (ICT) is the emergence of cloud computing. Cloud computing has emerged as a convergence of developments in the areas of grid computing, virtualization, utility computing, data-center automation, multi-tenancy, and web services, which can radically exchange the way companies access and use information and communication technologies (ICT) for supporting their operations and activities (Marston et al., 2011). Marston et al. (2011) define Cloud computing as “an information technology service model where computing services (both hardware and software) are delivered on-demand to customers over a network in a self-service

fashion, independent of device and location" (p. 177). Further, Cloud computing can be defined as "A Cloud is a type of parallel and distributed system consisting of a collection of interconnected and virtualized computers that are dynamically provisioned and presented as one or more unified computing resources based on service-level agreements established through negotiation between the service provider and consumers" (Dhaka & Jain, 2015. p. 11). However, the widely known definition of cloud computing is the one given through the National Institute of Standards and Technology (NIST). The NIST defines cloud computing as "a model for enabling convenient, on-demand network 3 access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" (Mell & Grance, 2011. p. 2). Supply chain information collaboration system bases on cloud computing technological know-how provide an efficient supply chain information system primarily based on cloud computing technologies like software as a service (SaaS), platform as service (PaaS), and infrastructure as service (IaaS) (Tiwari & Jain, 2013).

Software as a Service (SaaS) provides the capability of offering hosted applications over the internet in an on-demand manner (Mahmood & Hill, 2011). With SaaS, users do not want to install applications or services into their personal computers however directly them online (Giannakis et al., 2019). Platform as a Service (PaaS) offers the capability of the client to deploy onto the cloud infrastructure consumer-created or obtained applications created using programming languages, libraries, services, and equipment supported by the provider (Hogan et al., 2011). This offers clients or third parties with designing, creating, and deploying their applications (Mahmood & Hill, 2011). Infrastructure as a Service (IaaS) presents the functionality of provisioning computing services in the form of storage, processing capability, network connectivity, virtual machines, and different applicable services where the consumer is capable to deploy infrastructure and run applications (Zhang et al., 2010).

Academic research understands the possibilities of cloud computing and proposes its adoption to improve business performance. Marston et al. (2011) and Garrison, Wakefield, & Kim (2015) provide a comprehensive analysis of the business benefits of cloud computing and several recommendations for policymakers to facilitate the

technology. Durowoju et al. (2011) look into how cloud computing systems can enhance security and scalability of operations, and Yang et al. (2015) show how cloud-primarily based systems can enhance the overall performance of complicated service operations in healthcare. And also Wu et al. (2013) investigated cloud computing in support of supply chain information system infrastructure. The concept of cloud computing can be correctly used in the subject of supply chain management facilitating mainly the collaboration amongst the supply chain stakeholders through the integration of supply chain activities, such as planning and forecasting, logistics, sourcing, and procurement, as well as service and spare components management appear as the most common things to do in which cloud computing can be efficiently implemented (Toka et al., 2013).

2.4 Cloud Supply chain management: Implications for Supply Chain process

The application of cloud computing thought in the context of supply chain management is an innovative practice that generates a new area of study. The following definition is defined as a cloud supply chain, "A cloud supply chain is two or more parties linked by the provision of cloud services, related information, and funds" (Lindner et al., 2010. p. 3). The cloud supply chains of cloud services want to be identified and then managed and managed from each enterprise and technical perspective. The cloud supply chain represents a community of interconnected companies in the cloud computing area concerned with the end-to-end provision of products and aggregated service packages required through end cloud service customers (Lindner et al., 2010). This system process can be simply shown below in Figure 2.1.

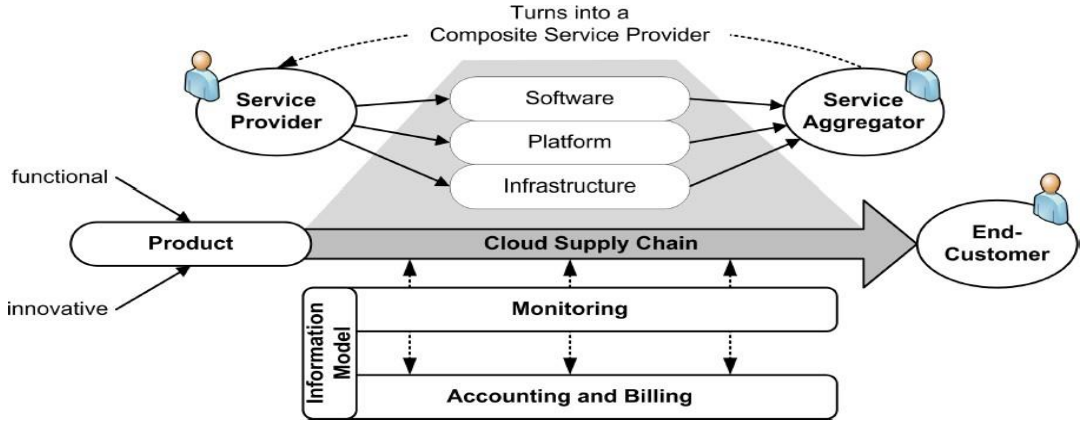


Figure 2. 1: Cloud Supply Chain (Lindner et al., 2010)

Within a manufacturing context, a cloud adoption model is an increasing number of gaining interest within recent years as one of the most important enablers for the manufacturing industry (Rauch et al., 2016; Shamsuzzoha et al., 2016). Traditional products and manufacturing structures are turning into more and more multidisciplinary, intelligent, networked, and agile, and also industrial goods are becoming "smart" (Rauch et al., 2016). Cloud-based operations management approves companies to request a variety of services ranging from product design, manufacturing, testing, management, and all different levels of manufacturing planning and lifecycle management (Wu et al., 2013). As services are delivered as a utility, businesses placed somewhere in the world can without difficulty access them and can globally supply a manufacturing service model for the supply chain partners (Grant & Yeo, 2018). It allows firms to design, monitor, control, execute, analyze, and optimize business strategies within the supply chain (Gartner as cited Giannakis et al., 2019). The strategies may also involve requests for quotations, order fulfillment, price negotiations, delivery of goods, raising purchase orders, etc. A process itself should additionally be encapsulated as a service that is consumable by using different processes, to compose complicated business transactions. Cloud computing is an innovative method to do business through the internet. The cloud computing adoption helps small manufacturing enterprises (SMEs) to minimize the cost, increase efficiency, and best market reach (Nuskiya, 2017). As well as Cloud computing has a significant effect on SMEs at equal time it has more barriers such as limited capital, shortage of expert labor, and lack of several IT infrastructures. In this scenario, the application of cloud technology on the various supply chain activities is presented. More specifically, forecasting and planning, sourcing and procurement, logistics, as well as service and spare components management appear as the most common things to do in which cloud computing can be effectively implemented (Toka et al., 2013).

2.5. Empirical research findings on the intention to use cloud supply chain Technology

By reviewing the previous empirical literature on cloud supply chain management, researchers have been able to find little research on the adoption of CSM, but most research has found the adoption of cloud computing. Initially, a search for relevant papers was made in Google Scholar, Emerald, Elsevier, Springer, as well as in the

journals and conferences; then we proceeded to the relevant references of the papers we initially found, etc. Implementation of Cloud Computing (CC) into SCM has received substantial academic attention from some world‟s high-quality academic journals such as Journal of Manufacturing Technology Management, The International Journal of Logistics Management, Journal of Supply Chain Management, Journal of Business & Industrial Marketing, Journal of Purchasing and Supply Management and Industrial Management & Data Systems. Table 2.1 below contains research papers related to the use of cloud technology in cloud supply chain management and supply chain operations during the period 2015 to 2020.

Table 2. 1: Empirical literature of cloud supply chain management concept (2015-2020).

Authors	Year	What they have Study
Dhaka & Jain	2015	Significance of Cloud supply chain management
Akbaripour et al.	2015	Develop a future conceptual model called a "global cloud-based supply chain" that can avoid or minimize problems and risks associated with supply chain processes around the world.
Babiceanu & Seker	2016	Use of large data analytics to review current literature and design and control production operations for virtualization and cloud-based services for production systems.
Cao et al.	2017	Information sharing via cloud computing enhances the performance of the supply chain.
Lin & Lin	2018	Usage intention of cloud supply chain management.
Giannakis et al.	2019	A Cloud-based Supply Chain Management System, Effects on Supply chain Responsiveness
Novais et al.	2019	A systematic literature review of cloud computing use in supply chain integration

Source: (Developed by Researcher, based on literature 2020)

This has resulted in an emerging line of research that focuses on the consequences that derive from the application of cloud computing (CC) technologies in the supply chain different aspect, but cloud Supply chain management is a different research concept which is an even more particular line of research (Giannakis et al., 2019). In

the Sri Lankan context, find some research on cloud computing (CC) technologies, but they do not look at the concept of cloud supply chain management (Dakshina Tharanga & Perera, 2018; Nuskiya, 2017; Ranasinghe et al., 2017). Therefore, this study fills the knowledge gap in this context.

Past research on individual Information Technology (IT) acceptance has been informed by two dominant theoretical perspectives. The first perspective, centered on the concept of reasoned action (TRA) (Ajzen & Fishbein, 1975) and the theory of planned behavior (TPB) (Icek, 1991) has targeted individual perceptions as the main drivers of acceptance intention and behavior. IT-specific editions of these theories consist of the technology acceptance model (TAM) (Davis, 1989) the decomposed theory of planned behavior (DTPB) (Taylor & Todd, 1995), and the unified principle of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003). But many researchers have used the technology acceptance model (TAM) and the Elaboration likelihood model (ELM) to find out the IT usage intention. Research to find intentions for the use of many information technologies has seen the use of the Elaboration likelihood model (ELM). Lin & Lin (2018) also used the same model (ELM) in their research on cloud supply chain intentions. Hence the researcher used in this study the Elaboration likelihood model (ELM) for this study as well.

2.6. Elaboration likelihood model (ELM)

Using Cloud computing services and C-SCM practices have been utilized in a multidimensional way in various supply chains (Durowoju et al., 2011). They supply excessive-quality on-demand services and have come to be more cost-effective and technically flexible than common solutions (Stieninger & Nedbal as cited in Lin & Lin, 2018). According to the technology acceptance model (TAM) and innovation diffusion theory, perceived usefulness and perceived ease of use are the most essential elements that can be used to explain IT system adoption (Legris et al., 2003). However, several adoption models have been developed by many authors, but two theories that are commonly used are the diffusion of innovation (DOI) theory (Rogers, 2003) and the technology-organization-environment (TOE) Framework (Tornatzky & Fleischer as cited in Baker, 2012). Other popular theories such as the technology acceptance model (TAM) Venkatesh and Davis (2016) and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2009). However, this

research did not explore how external information procedures influence perceived usefulness and attitudes toward cloud SCM services among possible users, nor did they observe how perceived usefulness, attitudes, are associated to cloud SCM usage intention. Hence to deal with this study, the researcher draws on the elaboration likelihood model (ELM) to recommend a model supposed to explore these relationships. Altogether, this study is an try to improve the understanding of the intention to use cloud SCM services through not only exploring the argument that consumer evaluations of both the benefits and source credibility of cloud computing services have an impact on their affective states (perceived usefulness), which in turn affect their usage intention.

ELM is a kind of persuasion theory (Petty & Cacioppo, 1986). It proposes two kinds of processes: careful, systematic elaboration of the central merits of the arguments of a message and easy elaboration and cognitive useful resource shortcuts and associations primarily based on peripheral cues. It is similar to the technology acceptance model (TAM), which indicates the external variables may also have an impact on inside beliefs such as usefulness and attitude that are necessary elements in explaining acceptance of IT (Lin & Lin, 2018). However, it is not like TAM, which does now no longer explain why the alternatives, such as dynamic external variables may also affect the acceptance influence procedure (Bhattacherjee & Sanford, 2006). ELM studies in this place have recognized two different consumer information processing routes, argument quality, and source credibility, as the high-quality foundation through which character perceptions of usefulness and attitude influence IT adoption (Bhattacherjee & Sanford, 2006; Ho & Bodoff, 2014; Sussman & Siegal, 2003). TAM and integrated ELM‟s two choices affect procedures routes, the central (argument quality) and peripheral routes (source credibility), regarding how consumer motivation influences perceptions of usefulness, and in turn, IT acceptance (Bhattacherjee & Sanford, 2006). They counseled that users with higher elaboration motivation and capacity tend to be extra influenced through the central route, while those with lower motivation and capability are influenced through the peripheral route in phrases of perceived usefulness and attitude. Sussman and Siegal (2003) used ELM to recommend a theoretical information adoption model explaining how perceived usefulness is influenced through argument quality and source quality in phrases of user adoption of information received from computer-supported channels. Thus, the

results of ELM argument quality and source credibility primarily based on the advantages of cloud computing services in phrases of the depth of processing on perceived usefulness in the location of cloud SCM are examined. Cloud computing services can be used to right away share information that helps in obtaining knowledge, which in turn results in prompt, efficient information sharing, as a result improving perceived usefulness (Marston et al., 2011).

Cloud computing services are a dynamically scalable digital useful resource that presents users access through the internet (Marston et al., 2011). C-SCM gives advantages including effectiveness, flexibility, and productiveness through which supply chain partners can exchange business activity facts on the cloud. Thus, technological trust such as C-SCM system stability, reputation, and security requirements are regarded to be influences related to user adoption of such systems. C-SCM system balance reflects each reliability and dependability and is essential because system defects and viruses can harm data storage in the cloud. Furthermore, reputation has been broadly considered on cloud-based systems (Pranata et al., 2012). Previous researchers used the ELM model can identify four variables. There are IT usage intention, argument advantage, source credibility, perceived usefulness, and attitude.

2.6.1 C-SCM usage intention

In making use of ELM in the IT acceptance context, first expand the dependent variable in ELM (C-SCM usage intention) to consist of belief, affect, and intention regarding IT acceptance. According to Lin and Lin (2018) the two or more parties linked by the provision of cloud services, related information, and funds that related process usage intention toward cloud supply chain management.

2.6.2 Argument advantage

The central route argument best refers to the benefits of cloud computing in phrases of persuasive user participation in cloud SCM (Bhattacherjee & Sanford, 2006). Considering message arguments are directed at user‟s rational judgment alternatively than their effect, argument quality (arguments advantage) is predicted to influence perceived usefulness alternatively than attitude, by reinforcing or enhancing their extant beliefs about system acceptance (Bhattacherjee & Sanford, 2006). The

argument gain is the central route, reflecting the merits of a cloud computing service to the degree to which customers believe that cloud computing services in SCM (Lin & Lin, 2018).

2.6.3 Source credibility

Source credibility is described as the extent to which an information source is perceived to be believable, competent, and trustworthy through information recipients (Bhattacherjee & Sanford, 2006). A third-party recommendation from a current expert information source measures the credibility of information in the form of a peripheral cue affecting trust, Source credibility measures perception attributes such as trustworthiness, expertness, and attractiveness (Lin & Lin, 2018; Patzer, 1983; Z. Yang et al., 2005).

2.6.4 Perceived usefulness

Perceived usefulness is primarily based on the belief that the utilization of service will result in really useful outcomes (Lin & Lin, 2018). Amoako-Gyampah (2007) recommended that perceived usefulness influences attitudes toward the use of a system. As well as perceived usefulness is also an applicable perception in the context of information acceptance (Sussman & Siegal, 2003).

2.6.5 Attitude

Attitude is has a social character and it is contagious, malleable, and fragile in that human beings impact every other‟s attitudes by putting ahead or contradicting them through interactions and mutual experiences (Bhattacherjee & Sanford, 2006; Lin & Lin, 2018; Yang & Yoo, 2004). Furthermore, an advantageous attitude will result in usage intention if beneficial results are expected (Ozok et al., 2014).

2.7 Summary

The second chapter of the study has presented valuable knowledge of the literature background behind the research study. Though the previous studies have been conducted on cloud computing services and cloud supply chain management adoption they have paid less attention to the intention of cloud supply chain adoption. In the Sri Lankan context can‟t find out the intention of cloud supply chain adoption research in

tea export companies. Therefore, this study contributes to filling the gap of the existing body of knowledge as well as the contextual gap. The forthcoming chapter discusses the methodology of the research study.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

The core of this chapter presents the method by which the research study was carried out. This chapter includes research site, conceptualization and operationalization, research approach, research design, sample design, the source of data, data collection procedure, data analysis and presentation methods, and time frame. Finally, a summary of the chapter is given.

3.2 Selection of research context

Sri Lanka is a developing country and an agriculture-based trading system has existed since ancient times. The main agricultural crops are paddy, tea, rubber, and coconut (Central Bank Annual Report, 2018). According to Table: 3.1, the tea export industry is the largest export earner among them. And also the fourth largest tea producer and possibly the third-largest exporter in the world, Sri Lanka is at the forefront of tea exports to the world market (Sri Lanka Export Development Board, 2019).

Table 3. 1: Agriculture Exports Income

Agricultural Exports Crops	2017 (Rs. Bn.)	2018(a) (Rs. Bn.)
Tea	233.3	231.8
Rubber	5.9	5.1
Coconut	53.0	50.5
Other Agricultural Crops	129.7	131.6

Source: (Central Bank of Sri Lanka Statistics Department, 2019. p.3)

Sri Lanka produces tea at some point of the year and the complete tea manufacturing is about 349,308 tons per annum and the complete export volume reached 212,335 MT out of the total production in the year 2018 and Sri Lankan tea enterprise maintains the very best quality in the world market and ISO 3720 is the minimum standard applies for the products (Sri Lanka Export Development Board, 2019). As well as the Processing/ Manufacturing facilities owned by the export companies comply with local standards (SLSI) and additionally with international quality standards such as ISO, HACCP, and EU Standards. Sri Lanka is renowned for its high-quality tea and as the 4th largest tea producing country globally and one of the world's leading exporters with a share of around 19% of the international demand (Sri Lanka Export Development Board, 2019). Hence, imposing supply chain management practices has come to be an important factor in the agricultural sector (Jayaratne et al., 2011). In the Sri Lanka tea supply chain, the tea is bought by a supplier from the tea estate, or sold immediately to a factory where it is processed, which is then bought by a broker and sold at auction or by various means and selling to an exporter or a foreign buyer and this supply chain can take many paths before reaching the final consumer, depending on the type of tea, the trading techniques, the market structure and the type of buyer (Kasturiratne & Poole, 2006). The current market is characterized as being very competitive and for organizations that choose to survive, it is necessary to adopt innovations (Priyadarshinee et al., 2014). The tea export supply chain's main hub is the tea export companies (Kasturiratne & Poole, 2006). Hence, considering these facts the researcher, selected the tea export companies in Sri Lanka as the research area.

3.3 Conceptualization and Operationalization

3.3.1 Conceptual Framework

The conceptual framework was developed by researchers by referring to existing literature. The learning about the framework is constructed on the rich stream of research associated with how users are influenced by information. The proposed conceptual framework is an try to provide a more holistic clarification of how a user‟s argument advantage and source credibility influence perceived usefulness and attitude toward constructing commitment and in turn, how perceived usefulness and attitude as well as subsequent cloud supply chain management usage intention. The

conceptual framework was developed by researchers by referring to existing literature. This conceptual framework shows the relationship between independent variable which is Argument advantage, Source Credibility, Perceived Usefulness, Attitude and Cloud Supply Chain Management (C-SCM) usage intention which serves as a dependent variable in this study. The proposed conceptual framework is formulated as shown in Figure 3.1.

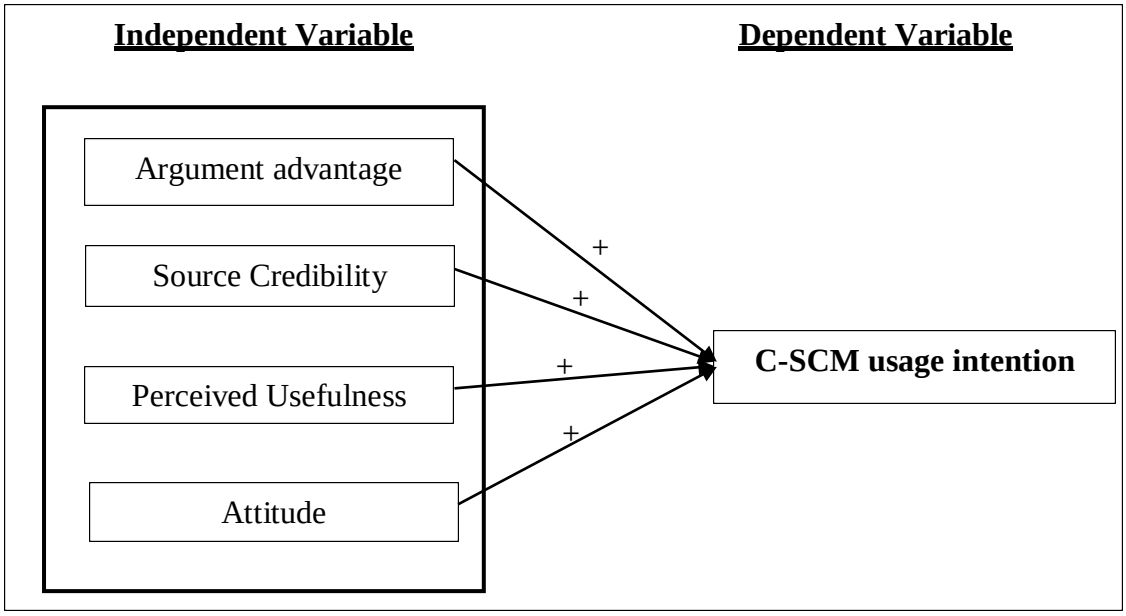


Figure 3. 1: Conceptual Framework
Source: (Developed by Researcher based on literature 2020)

3.3.2 Conceptualization

Table 3. 2: Conceptualization

Variables	Definitions	Source
Cloud supply chain management (SCM) usage intention	A cloud supply chain is two or more parties linked by the provision of cloud services, related information, and funds that related process usage intention toward cloud supply chain management.	(Lin & Lin, 2018; Lindner et al., 2010)
Argument advantage	The argument advantage is previous research has	(Bhattacherjee & Sanford, 2006; Lin & Lin, 2018)

	focused on user judgments given by reviews influencing expectations (i.e. system advantages) and understanding this usefulness.	
Source credibility	A third-party recommendation from a current expert information source measures the credibility of information in the form of a peripheral cue affecting trust, Source credibility measures perception attributes such as trustworthiness, expertness, and attractiveness.	(Lin & Lin, 2018; Patzer, 1983; Yang et al., 2005)
Perceived usefulness	Perceived usefulness is the degree to which users believe that cloud computing services in SCM can affect perceived usefulness in terms of their work as well as considered as a measure of user"s subjective assessments of the utility presented by new IT adoption.	(Bhattacherjee & Sanford, 2006; Lin & Lin, 2018)
Attitude	Attitude refers to the degree to which users believe in the use of cloud SCM in their jobs.	(Lin & Lin, 2018; Yang & Yoo, 2004)

Source: (Developed by a researcher based on the literature, 2020)

3.3.3 Operationalization

Table 3. 3: Operationalization

Variables	Items	Measure	Source
Cloud supply chain management (SCM) usage intention	IN1: I intend to use cloud SCM services in job more often in the near future. IN2: I intend to use cloud SCM services for more of job responsibilities. IN3: I intend to use cloud SCM services more often with customers. IN4: I intend to use cloud SCM services more often with suppliers.	7 point Likert scale numbers ranging from 1 (strongly disagree) to 7 (strongly agree).	(Lin & Lin, 2018)
Argument advantage	AA1: Cloud SCM services provide immediate access to hardware resources (e.g. coordinate plane; share information with suppliers). AA2: Cloud SCM services make it easier for firms to scale up services to client demand (e.g. faster time to market). Cloud supply chain adoption AA3: Cloud SCM services drive job toward new possibilities. AA4: Overall, cloud SCM services provide persuasive advantages.		

Source credibility	SC1: Cloud SCM services companies provide helpful information on their websites. SC2: Cloud SCM service companies have good reputations. SC3: Cloud SCM service companies are credible.		
Perceived usefulness	PU1: Using cloud SCM services in the job will increase productivity (e.g. make work faster). PU2: Using cloud SCM services in the job will improve performance (e.g. make work better). PU3: Using cloud SCM services in the job will make it more effective (e.g. help make better decisions). PU4: I find cloud SCM services to be useful in the job.		
Attitude	AT1: Using cloud SCM services in the job is (bad … good) idea. AT2: Using cloud SCM services in the job will be (unpleasant … pleasant). AT3: Overall, I (dislike … like) the idea of using cloud SCM service in the job.		

Source: (Developed by a researcher based on the literature, 2020)

3.3.4 Hypothesis development

Elaboration likelihood model (ELM) (Bhattacherjee & Sanford, 2006) serves as a bridge that connects the technical view and relational view in the context of cloud supply chain management usage intention to develop this research model and carry out the five constructs used for hypothesis development. Ho and Bodoff (2014) utilized ELM to check how user‟s elaboration of the persuasive information of others influences their attitude formation regarding website personalization agent selection. The five constructs that link to the Conceptual Framework are as follows: In the central route argument, quality refers to the benefits of cloud computing in terms of persuasive user participation in cloud supply chain management (C-SCM).

Argument advantage and source credibility from the elaboration likelihood model

In applying the ELM to the current context, the effects of argument advantage and source credibility on perceived usefulness are first examined. The advantages of cloud computing in terms of lower costs, immediate access, and the scaling up of services (Marston et al., 2011). Would possibly make users feel that it would be really useful in terms of work productivity, overall performance and more effective use of the service system given that supply chain integration is dependent on their capability to leverage IT competence that can be effectively utilized with supply chain partners (Zhang et al., 2006). The advantages of a cloud-based service consist of offering organizations with operational flexibility and productivity (Xu, 2012). In that current study, the argument advantage is the central route, reflecting the merits of a cloud computing service to the degree to which users trust that cloud computing services in supply chain management (SCM) can have a positive effect on cloud supply chain management (SCM) usage intention in terms of their work. Therefore, the researcher postulated the first hypothesis as:

H1 - The argument advantage has a positive impact on the cloud supply chain management (C-SCM) usage intention.

Moreover, a third-party suggestion from an existing specialist information source measures the credibility of information in the form of a peripheral cue affecting trust (Yang et al., 2005). When the user‟s perceived information usefulness is determined

to utilize source credibility (Jin et al., 2009), peripheral cues are probable to influence their attitude through human effects (Salo & Karjaluoto, 2007). Users can also use their thinking based totally on the suggestions and expertise of others as well as making use of less effort to the peripheral route decision process related to the potential usefulness of cloud SCM (Koufaris & Hampton-Sosa, 2004). Source credibility measures understanding attributes such as trustworthiness, expertness, and attractiveness (Patzer, 1983). In the context of cloud computing services, it is reasonable to recommend that if users perceive the argument advantage and source credibility of a cloud SCM service to be higher, it will be possible to perceive the cloud system service as more useful. Therefore, the researcher developed the hypothesis as:

H2 - Source credibility has a positive impact on cloud supply chain management (SCM) usage intention.

Perceived usefulness, attitude, and intention in the ELM

Perceived usefulness is primarily based on the belief that the usage of service will result in really helpful outcomes. Studies have recommended that perceived usefulness influences attitudes toward using a system (Amoako-Gyampah, 2007). It is reasonable to recommend that if users perceive a cloud computing service to be useful, they will be more likely to have a positive attitude because users tend to improve a positive attitude toward a system if they become aware of the system will improve task overall performance (Venkatesh et al., 2003). Perceived usefulness has a strong impact on system usage intention due to the fact it is a measure of user‟s subjective assessments of the utility provided through a new Information Technology (IT) in terms of specific related goals such as productivity and overall performance (Gefen et al., 2003). Prior research on information and communication technology utilization has published that perceived usefulness significantly affects behavioral intention (Alwahaishi & Snášel, 2013). Therefore, the researcher developed the hypothesis as:

H3 - Perceived usefulness has a positive impact on cloud SCM usage intention.

A positive attitude will result in usage intention if beneficial outcomes are expected (Ozok et al., 2014). The relationship between the system service provider and the end

user‟s attitude toward new technology (Brown et al., 2016). Potential users perceive cloud SCM structures as being beneficial because they trust that using the system will extend their work productiveness and improve their performance (Lin & Lin, 2018). This, in turn, will affect their usage intentions:

H4 - Attitude has a positive impact on cloud SCM usage intention.

3.4 Research Philosophy

The research philosophy consists of important assumptions that show the way people view the world and its support for the research strategy and methods. When researching positivism philosophy the findings of such research can be generalized to the population of the study (Saunders et al., 2009). The findings of this study will be generalized to the whole population as well. Hence, the present study has used the philosophy of positivism since it prefers working with observable social reality.

3.5 Research Approach

There are two approaches known as inductive (developing a theory) and deductive (Testing a theory). Saunders et al. (2009) stated that the deductive approach is used to test an existing theory and hypotheses. According to the finding, a researcher will be able to find the most significant factor that impacts cloud supply chain management (C- SCM) usage intention for tea export companies in Sri Lanka. So, the research will be based on the deductive approach.

3.6 Research Purpose

The classification of research purposes most often used in the research methods literature is the threefold one of exploratory, descriptive, and explanatory (Saunders et al., 2009). The current study is conducted for the explanatory purpose. Because the researcher needs to find out the relationship between the independent variables and dependent variables and explaining the aspects of the study in a detailed manner. Hence the present study was treated as an explanatory study.

3.7 Research Strategy

The strategy selected is depending on the research questions, objectives, and the extent of existing knowledge. The survey strategy is usually associated with the deductive approach and it is a popular and common strategy in business and management research (Saunders et al., 2009). The survey strategy allows collecting quantitative data which can analyze quantitatively using descriptive and inferential statistics. Also, the data collected using a survey strategy can be used to suggest possible reasons for particular relationships between variables and to produce models of these relationships. Therefore the researcher applied a survey strategy for the research study.

3.8 Time Horizon

The time horizon of collecting data for the study was cross-sectional because the researcher has collected the data at once from the target respondents. Inlining the words of Saunders et al. (2009) most of the research projects employ a cross-sectional time horizon because of the time constraints. Hence in the current study has used the time horizon of collecting data of the study was cross-sectional by using a survey strategy.

3.9 Sample Design

3.9.1 Population and Sampling

The population in this research is registered tea export companies in Sri Lanka. Sri Lanka has 1803 registered tea export companies but the currently active mode working tea export company amount is 346 (Sri Lanka Tea Board, 2019). Hence the researcher population is an active mode working for tea export companies (N=346).

Since the population is known, the researcher chose to use the whole population as a sample. The current study is based on the census method. Because, some research questions it is feasible to gather data from a complete population as it is of a manageable size (Saunders et al., 2009). Under that, the researcher uses the census method. (n=346)

3.10 Unit of Analysis

The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage (Sekaran & Bougie, 2016). Here the unit of analysis is the individual because the study has considered tea export companies of Sri Lanka as the unit of analysis of this study.

3.11 Source of data

In conducting research, there are different methods are applied to gather data namely, primary data sources and secondary data sources. Primary data is one that is collected for the very first time by the researcher while secondary data is the data that is previously acquired or generated by others (Saunders et al., 2009; Sekaran & Bougie, 2016). The present study is carried out by using primary data sources since the researcher gathers data for the first time by herself and uses structured questionnaires to collect those primary data. These types of data are always specific to the researcher‟s needs. The researcher will examine cloud supply chain usage intention through the submission of a questionnaire to the tea export companies in Sri Lanka.

3.12 Data Collection Methods

3.12.1 Questionnaire

The researcher has developed a questionnaire to collect primary data. The questionnaire consists of two sections (Appendix K). Section „A‟ consisted of demographic information of ta export companies. Section „B‟ consisted of a measurement scale developed by Lin and Lin (2018) regarding cloud SCM usage intention with 18 items (cloud supply chain management (SCM) usage intention items- 4, argument advantage items- 4, source credibility items- 3, perceived usefulness items- 4, and attitude items- 3). The scale is measured through 7 points Likert scale (1-Strongly Disagree, 2-Disagree, 3-Slightly Disagree, 4- Neutral, 5-Slightly Agree, 6- Agree, 7- Strongly Agree) and it has recorded validity for each dimension in the range of 0.50 to 0.71 which is higher than the acceptable level (0.5). If it further illustrates, Argument advantage, Source credibility, Perceived usefulness, and Attitude are recorded validity values are 0.68, 0.50, 0.71, and 0.5 respectively and indicate that variables are average, because this scale is newly developed by using

previous research. This scale was used by several authors to measure IT usage intention as a whole in different contexts. Bhattacherjee and Sanford (2006) have used this model in the Ukraine context and also Lin and Lin (2018) have used it to measure the cloud supply chain usage intention of the top 1,000 enterprises in Taiwan. Finally was an open question to get their suggestions to adopt the cloud supply chain usage intention of the tea export companies in Sri Lanka. Afterward, the researcher distributed 346 questionnaires among tea export companies in Sri Lanka and 191 questionnaires were collected. The questionnaire was self-administered.

3.13 Data analysis and presentation tools

3.13.1 Data presentation tools

The researcher used pie charts and tables, to present the demographic information of the questionnaire as well as contingency tables also will use to present the output of the data analysis.

3.13.2 Data analysis tools

The researcher applied descriptive techniques to analyze the data. The descriptive statistics used for the present study including percentages and reliability and validity tests were used. And also, the researcher used correlation analysis to identify that there is a relationship between cloud supply chain usage intention and its dimensions, and multiple regression analysis to verify that how well elaboration likelihood model (ELM) dimensions describe the cloud supply chain usage intention. The mean and standard deviation are used in descriptive statistics while correlation analysis and the multiple regression analysis are used in inferential statistics. The researcher used Statistical Package for the Social Science (SPSS) 21.0 and Minitab 17 version software to analyze the data.

3.14 Summary

The methodology chapter presented a method in which the research study was carried out. Depending on the philosophy of positivism, the researcher used a deductive approach and the present study was an explanatory one and it was used a survey strategy. The whole study was used a single data collection technique and

corresponding analysis procedures, hence it called a mono method and this study was a cross-functional one. The next chapter clearly explains the analysis of data that was collected and build a discussion based on the result of the analysis.

CHAPTER FOUR
DATA ANALYSIS, PRESENTATION, AND DISCUSSION

4.1 Introduction

The purpose of this chapter is to present the findings of this study logically and also it is used to reach a better conclusion regarding the current study. Furthermore, this chapter presents data analysis techniques, data analysis process, and presentation of the findings through the analysis process.

4.2 Sample Profile

The sample is a subset of the population, which collects for the easiness of generalizability (Saunders et al., 2009), and gathering demographic factors involving the sample is necessary for the data analysis (Sekaran & Bougie, 2016). The researcher distributed all questionnaires by email because during this research time in the COVID-19 pandemic situation in our country and social distance is the main rule in this period. The researcher distributed 346 questionnaires for the sample because the sample was present in the total population of this study. And all so could able to collect 191 questionnaires from the distributed questionnaires and the analysis was done base on these 186 questionnaires because of deleting unusual observations and the response rate was 53.8% (186/346*100). From this section, the researcher presents the characteristics of the respondents of the sample collected through section „A" of the questionnaire.

It includes the following company information, the number of employees, company revenue, production capacity, work experience, and the organization's use of the Internet of Things (IoT). Table 4.1 shows the sample characteristics of the respondents.

Table 4. 1: Sample Profile

Factor		Frequency	Percent
Organization use the Internet of Things (IoT)	Yes	190	99.5
	No	01	0.5
Number of employees	1-100 employees	191	100
	100-250 employees	00	00
	250-500 employees	00	00
	500-1000 employees	00	00
	More than 1000 employees	00	00
Company revenue (per month)	Rs 50000 or below	08	4.2
	Rs 50000-100000	11	5.8
	Rs 100000-500000	49	25.6
	Rs 500000-1000000	77	40.3
	Rs 1000000 or above	46	24.1
Production capacity-per annum	50000Kg or below	129	67.5
	50000Kg-100000kg	55	28.8
	100000kg-500000kg	02	1.05
	500000kg-1000000kg	02	1.05
	1000000kg or above	03	1.6
Work experience	Year 10 or below	54	28.3

of the company	Year 10-25	53	27.7
	Year 25-35	51	26.7
	Year 35-50	23	12.1
	Year 50 or above	10	5.2

Source: (Survey data, 2020)

According to table 4.1, the majority (99.5%) of the respondents are using the Internet of Things (IoT) and its enabling technologies, and the total number of employees in the respondent company is between 1-100. Moreover, more than (64.4%) of respondents are a monthly income above Rs 500000. Further, the majority of the respondents (67.5 %) are in 50000Kg or below Production capacity-per annum and a small number of respondents (28.8%) are between 50000 Kg-100000 kg. Most of the sample respondents (56%) come from work experience below 25 years in the industry but sample respondents (44%) come from work experience above 25 years in the industry.

4.3 Preliminary Analysis

4.3.1. Descriptive Statistics

Descriptive statistics enable us to describe and compare variables numerically. There are two aspects that center of attention to describing a variable through statistics, central tendency, and dispersion. Central tendency measures provide a common impression of data for sample and population. There are three approaches to measuring central tendency. They are mode, median, and mean (Saunders et al., 2009). Dispersion measures describe how the information values are dispersed around the central tendency inter-quartile range & the standard deviation are the most frequent approaches to describing the dispersion (Saunders et al., 2009). Table 4.2 represents the descriptive statistics of all the variables.

Table 4. 2: Mean and standard deviation of variables

Variable	Mean	Standard Deviation
Cloud supply chain management (SCM) usage intention	4.68	0.829

Argument advantage	5.85	0.509
Source credibility	5.23	0.768
Perceived usefulness	5.78	0.529
Attitude	5.27	0.793

Source: (Survey Data, 2020)

As per Table 4.2, the mean value and the standard deviation of the dependent variable cloud supply chain management (SCM) usage intention are 4.68 and 0.829 respectively. Since the mean value is slightly less, it is re-justified the research problem with the results of the final survey. Moreover, the mean value of argument advantage is 5.85 and the standard deviation is 0.509. It indicates that argument advantage deviates around the mean within a range of 0.509. And also mean value of the source credibility is 5.23 with a 0.768 standard deviation. And the mean value of the perceived usefulness is 5.78 and 0.529 respectively and both deviate within the range of 0.768 and 0.529 around mean values. On the other hand, the mean value of Attitude 5.27 and the standard deviation is 0.793.

4.3.2 Reliability and Validity Analysis

4.3.2.1 Reliability Analysis

The reliability of a measure shows the extent to which it is without bias (error-free) and as a result ensures consistent measurement throughout time and across a variety of items in the instrument Sekaran and Bougie (2016) and which extent your data collection methods or analysis methods will yield consistent findings (Field, 2009). If Cronbach's Alpha (α) value is 0.7 and above, it is considered acceptable to ensure reliability (Garson, 2012). When considering the overall Cronbach's Alpha value of this study has recorded 0.861 which is a greater value than the accepted value (0.7). Table 4.3, Represents the results of reliability analysis.

Table 4. 3: Results of Reliability Test

Variables	Cronbach's Alpha Value	Accepted Items	Deleted Items
Cloud supply chain management (C-SCM) usage	0.949	2	IN1: I intend to use cloud SCM services in my job more often in the

intention			near future. IN2: I intend to use cloud SCM services for more of my job responsibilities.
Argument advantage	0.736	4	-
Source credibility	0.720	2	SC1: Cloud SCM services companies provide helpful information on their websites.
Perceived usefulness	0.829	3	PU1: Using cloud SCM services in my job will increase my productivity (e.g. make my work faster).
Attitude	0.825	2	AT2: Using cloud SCM services in my job will be pleasant.

Source: (Survey Data, 2020)

According to Table 4.3, since the overall Cronbach‟s Alpha value of cloud supply chain management (C-SCM) usage intention (0.949) is greater than 0.7 which is an acceptable level, it can be concluded that the cloud supply chain management (C-SCM) usage intention scale is reliable in this context. Considering the overall Cronbach‟s Alpha value of cloud supply chain management (C-SCM) usage intention is 0.861, which is higher than the accepted value (0.7) after deleting one item (See Appendix C). Further, considering reliability in dimension wise can be seen that except two items of cloud supply chain management (C-SCM) usage intention, four items of argument advantage, two items of Source credibility, three-item of Perceived usefulness, and two items of Attitude 13 items were reliable in the context since all the dimensions have recorded greater Cronbach‟s Alpha values than the accepted level of 0.7. If items deleted values of Cronbach‟s Alpha is greater than the overall

Cronbach‟s Alpha, then researchers can delete items to improve the reliability (Field, 2009). (See Appendix C)

4.3.2.2 Validity Test

Validity is proof that the measuring instrument measures its purpose to measure conceptually (Field, 2009). According to Saunders et al. (2009) validity refers to whether the findings are really about what they appear to be. Thus to validate the findings of this find out about the researcher used KMO and Bartlett‟s Test. According to Kaiser as cited in Field (2009), KMO and Bartlett‟s Test values must be greater than 0.5 to ensure the validity. Furthermore, if KMO and Bartlett‟s Test values between 0.5 and 0.7 are average, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values more than 0.9 are excellent. Table 4.4 Presents the KMO and Bartlett‟s Test values of all variables.

Table 4. 4: Results of the Validity Test

Variable	KMO and Bartlett's Value	P-Value
Cloud supply chain management (C-SCM) usage intention	0.500	0.000
Argument advantage	0.682	0.000
Source credibility	0.500	0.000
Perceived usefulness	0.707	0.000
Attitude	0.500	0.000

Source: (Survey Data, 2020)

As per the outputs of Table 4.4, all items which reliable were significant and all the values of KMO and Bartlett were 0.5 and higher than 0.5 which is the acceptable level. Since the scales were validated, outputs can be generalized to the whole population (See Appendix D). Furthermore, the KMO & Bartlett‟s value of Perceived usefulness is above 0.7 indicate that variables are good and the KMO & Bartlett‟s value of cloud supply chain management (SCM) usage intention, argument advantage, source credibility, and attitude between 0.5 and 0.7 indicate that variables are average.

4.3.3 Test of Normality

Parametric tests are based on the normal distribution of data (Field, 2009). Sekaran and Bougie (2016) have noted that the normality test is checking whether the data are normally distributed or not. Further, the author suggested three types to check the normality such as Kolmogorov- Shimirov, Anderson Darling, and Shapiro Wilk‟s tests. Further, Shapiro – Wilk‟s test is recommended for small and medium sample sizes up to n=2000, and Kolmogorov- Shimirov test is recommended for larger samples (Garson, 2012). Thus the researcher developed a hypothesis for check normality as follows:

H_0: Cloud supply chain management (C-SCM) usage intention follows a normal distribution.

H_1: Cloud supply chain management (C-SCM) usage intention does not follow a normal distribution.

The researcher has carried out the normality test for the dependent variable of the present study which is, cloud supply chain management (C-SCM) usage intention to confirm whether the cloud supply chain management (C-SCM) usage intention data are normally distributed or not. Table 4.5. Presents the results of the normality test.

Table 4. 5: Results of Test of Normality

	Shapiro – Wilk		
Cloud supply chain management (C-SCM) usage intention	P-value	N	Statistics
	0.100	186	0.996

Source: (Survey Data, 2020)

As per Table 4.5 (Appendix E), since the output p-value (0.100) under the Shapiro-Wilk test is greater than the critical p-value (0.05), there isn‟t enough evidence to reject H_0 (H_0: Cloud supply chain management (C-SCM) usage intention follows a normal distribution). Therefore, it can be concluded that the cloud supply chain management (C-SCM) usage intention follows a normal distribution at a 95% confidence level (See Appendix E). Then, it is worth it for researchers to find out whether there is an association between the dependent variable with four independent variables.

4.4 Correlation Analysis

Correlation is the relationship between two variables. Its value +1 represents a perfect positive correlation. Conversely, coefficient value -1 indicates a perfectly negative correlation. And also, coefficient value 0 indicates variables are perfectly independent (Saunders et al., 2009). The researcher used Pearson‟s Product Moment Correlation Coefficient(r) for assesses the correlation.

Table 4. 6: Results of Correlation Analysis

Dependent Variable	Independent Variables	P-Value	Pearson Correlation Coefficient (r)
Cloud supply chain management (C-SCM) usage intention	Argument advantage	0.216	0.091
	Source credibility	0.000	0.678
	Perceived usefulness	0.524	0.047
	Attitude	0.000	0.491

Source: (Survey Data, 2020)

According to Table 4.6 (Appendix F), since output P-value (0.216) is greater than the critical P- value (0.05). So there is not enough evidence to reject H_0 (H_0: There is no positive association between argument advantage through cloud supply chain management usage intention, H_1: There is a positive association between argument advantage through cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is no positive association between argument advantages through cloud supply chain management usage intention. But Pearson‟s correlation coefficient value (r) of the argument advantage is 0.091. Then, it can be labeled as a very low degree of positive correlation.

According to Table 4.6 (Appendix F), since output P-value (0.000) is less than the critical P-value (0.05). So there is enough evidence to reject H_0 (H_0: There is no positive association between Source credibility through cloud supply chain management usage intention, H_1: There is a positive association between source credibility through cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is a positive association

between source credibility through cloud supply chain management usage intention. The correlation value (r) of source credibility is 0.678. Then, it can be labeled as a moderate degree of positive correlation.

According to Table 4.6 (Appendix F), since output P-value (0.524) is greater than the critical P- value (0.05). So there is not enough evidence to reject H_0 (H_0: There is no positive association between perceived usefulness through cloud supply chain management usage intention, H_1: There is a positive association between perceived usefulness through cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is no positive association between perceived usefulness through cloud supply chain management usage intention. But the correlation value (r) of the perceived usefulness is 0.047. Then, it can be labeled as a very low degree of positive correlation.

According to Table 4.6 (Appendix F), since output P-value (0.000) is less than the critical P- value (0.05). So there is enough evidence to reject Ho (Ho: There is no positive association between attitude through cloud supply chain management usage intention, H1: There is a positive association between attitude through cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is a positive association between attitudes through cloud supply chain management usage intention. The correlation value (r) of attitude is 0.491. Then, it can be labeled as a low degree of positive correlation.

4.5 Multiple Regression Analysis

In multiple regression analysis, use more than one independent variable to explain variance in the dependent variable (Sekaran & Bougie, 2016). Since the study involves four independent variables namely argument advantage, source credibility, perceived usefulness, and attitude and its impact on the dependent variable, cloud supply chain management usage intention. Therefore the researcher used a backward elimination method to get the coefficient of multiple regressions since it shows all the predictors at the beginning and then it optimizes the significance by deleting the most insignificant variables. Thereby finally generate the fitted model for the study. The analysis was based on 186 respondents. The table shows the output of the regression analysis.

Table 4. 7: Regression Output

Model	Variable	Regression Coefficient	P value	95% Confidence Interval	
				Upper bound	Lower bound
1	Constant	0.642	0.369	2.048	-0.764
	Argument advantage	0.149	0.264	0.411	-0.113
	Source credibility	0.716	0.000	0.880	0.552
	Perceived usefulness	-0.036	0.774	0.211	-0.283
	Attitude	-0.037	0.643	0.121	-0.196
2	Constant	0.566	0.393	1.870	-0.738
	Argument advantage	0.127	0.244	0.341	-0.087
	Source credibility	0.717	0.000	0.881	0.554
	Attitude	-0.039	0.624	0.118	-0.197
3	Constant	0.614	0.348	1.901	-0.673
	Argument advantage	0.109	0.286	0.311	-0.092
	Source credibility	0.687	0.000	0.796	0.578
4	Constant	1.241	0.000	1.809	0.672
	Source credibility	0.690	0.000	0.799	0.581

Source: (Survey Data, 2020)

According to the Table 4.7 (Appendix G), at model 01 since the output P-Value of perceived usefulness (0.774) is greater than the critical P-Value (0.05), there are not enough evidence to reject H_0 (H_0: There is no impact of perceived usefulness on cloud

supply chain management usage intention, H_1: There is an impact of perceived usefulness on cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is no impact of perceived usefulness on cloud supply chain management usage intention. As a result, under the backward elimination method, the independent variable of perceived usefulness was eliminated from the first model. Therefore, the perceived usefulness got insignificant in model 1.

According to the Table 4.7 (Appendix G), at model 02 since the output P-Value of attitude (0.624) is greater than the critical P-Value (0.05), there are not enough evidence to reject H_0 (H_0: There is no impact of attitude on cloud supply chain management usage intention, H_1: There is an impact of argument advantage on cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is no impact of attitude on cloud supply chain management usage intention. As a result, under the backward elimination method, the independent variable of attitude was eliminated from the second model. Therefore, the attitude got insignificant in model 2.

According to the Table 4.7 (Appendix G), at model 03 since the output P-Value of argument advantage (0.286) is greater than the critical P-Value (0.05), there are not enough evidence to reject H_0 (H_0: There is no impact of argument advantage on cloud supply chain management usage intention, H_1: There is an impact of argument advantage on cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be concluded that there is no impact of argument advantage on cloud supply chain management usage intention. As a result, under the backward elimination method, the independent variable of argument advantage was eliminated from the third model. Therefore, the argument advantage got insignificant in model 3.

Furthermore, according to model 3, in Table 4.7, the insignificant variables argument advantage was removed. In model 4 since the output P-Value of source credibility (0.000) is less than the critical P-Value (0.05), there are enough evidence to reject H_0 (H_0: There is no impact of source credibility on cloud supply chain management usage intention, H_1: There is an impact of source credibility on cloud supply chain management usage intention). Therefore, with a 95% level of confidence, it can be

concluded that there is an impact of source credibility on cloud supply chain management usage intention. According to the backward elimination approach, only model 4 can be accepted as the fitted model after eliminating insignificance variables and it relies on only one independent variable. Therefore, the researcher used model 4 for the rest of the analysis.

4.6 Assessing Goodness of Fit Test

Even though the regression model suggests the best fit line, it should be assessed how well the line fits the actual data (Field, 2009). In multiple regression, Goodness of fit is tested by the adjusted R squared value (adj. R^2) while in simple regression it is determined by the coefficient of determination whereas R squared value (R^2) (Saunders et al., 2009). The researcher wanted to know whether the goodness of fit value of the model is good or not. Therefore, they considered the adjusted R^2 value in multiple linear regressions. In multiple linear regression analyses, the goodness of the fitted model can be recognized through the value of adjusted R^2. It tells how well the model generalizes. But in this scenario, there is only one independent variable that exists within the fitted model. As a result, researchers cannot use adjusted R^2 value in predicting the goodness and have to consider R^2 value.

R^2 represents the amount of variance in the outcome explained by the model relative to how much variation there was to explain in the first place (Field, 2009). Further, the coefficient of determination can take on any value between 0 and +1. It measures the proportion of the variation in a dependent variable that can be explained statistically by the independent variable or variables (Saunders et al., 2009). Therefore, Table 4.7 has presented the R^2 value for simple regression and adjusted R^2 value for multiple regressions as follows.

Table 4. 8: Coefficient of Determination

Model	R^2	Adj. R^2
Model 4	0.459	0.457

Source: (Survey Data, 2020)

As per Table 4.8 (Appendix G), 46% of the variation of cloud supply chain management usage intention can explain through the variable of source credibility. Therefore it can be labeled that the fitted model is a moderate fitted model. Further,

54% of the variation of cloud supply chain management usage intention is explained through other independent variables.

4.7 Analysis of Variance (ANOVA)

According to Field, (2009) Analysis of Variance explains whether the overall model is significantly good and predicts the dependent variable. Therefore, the researcher developed the null and alternative hypothesis to check the significance of the model as follows.

H_0: Fitted model is not significant

H_1: Fitted model is significant

Table 4. 9: Results of ANOVA

Model 04	Sum of square	Df	Mean Square	F	Sig.
Regression	71.62	1	71.62	156.41	0.000
Residuals	84.25	184	0.458		
Total	155.86	185			

Source: (Survey Data, 2020)

According to Table 4.9 (Appendix H), since the output P-value (0.000) of Analysis of Variance of the fitted model (Model 04) is less than the critical P-value (0.05), there are enough evidence to reject H_0 (H_0: Fitted model is not significant, H_1: Fitted model is significant). Therefore, with a 95% level of confidence, it can be concluded that the fitted model (Model 04) is significant.

4.8 Model Adequacy

Furthermore, the researcher needs to test adequacy by using blue properties to check the goodness of the fitted model.

4.8.1 Test of Normality of Errors

According to Field (2009), the residuals of the model should be random and normally distributed. First, the researcher tests the normality of the errors for model 4. Hence, the researcher ran the skewness and kurtosis to get the normal distribution of

Standardized Residual. A distribution is called approximately normal if skewness and kurtosis of the data between -1 and +1 (Mishra et al., 2019).

Table 4. 10: Normality Test of Residuals

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Standardized Residual	-0.981	0.178	0.178	0.355

Source: (Survey Data, 2020)

According to Table 4.10 (Appendix I), Skewness and kurtosis value were in the acceptable range of -1 to +1. Due to those residuals follow a normal distribution.

4.8.2 Test of Randomness of Errors

Any two observations, the residual terms should be uncorrelated or independent with each other (Field, 2009) and it can measure by the Durbin Watson coefficient by using standardized residuals (Garson, 2012). The DW Coefficient should be 2 or close to 2 meaning that the residuals are uncorrelated.

Table 4. 11: Results of the Durbin Watson Coefficient

Model	Durbin Watson Statistics
Model 4	0.529

Source: (Survey Data, 2020)

According to table 4.11 (Appendix G), the Durbin-Watson Statistics value is (0.529). The value of Durbin-Watson Statistics is not close to 2. Then the residuals are not randomly distributed.

4.8.3 Test of Constant of variance

According to Field, (2009), homoscedasticity means there should be an equal variance among each residual at each of the independent variable. Furthermore, Field, (2009) noticed that, if there is any unequal variance among residuals there is a problem called heteroscedasticity. According to the behavior of the fitted versus Residual graph (Appendix J), there is no pattern visualized. So it is clear that the variance of residuals is equally distributed. It can be concluded that the errors are not facing the problem of heteroscedasticity and homoscedasticity situation was there.

4.8.4 Test of Mean value of the residuals (Error mean closed to zero)

In this assumption, all the residuals should be close to zero and there should not be an enormous variety of plots. According to the figure labeled as Residuals versus Observation order (Appendix J), the error means are closed to zero because the residuals are within the range of +1 to -2. Almost all the data plots have been plotted very closer to zero. Hence, the researcher concluded that there is a favorable mean in errors in this model.

4.8.5 Influential Observation

According to the (Appendix J) figure label as graph residuals versus observation order, the mean value of the residuals must be close to zero. The range of standardized residuals is indicated by Influential observations. The accepted range of standardized residuals should lie between -2 to +2. According to the figure labeled as Residuals versus Observation order (Appendix J), the error means are closed to zero because the residuals are within the range of +1 to -2. Furthermore, there are no values beyond within the range of +2 to -2, so there are not any unusual observations within the dataset.

4.9. Test of Multicollinearity

Multicollinearity means having a high correlation phenomenon between two or more predictor variables in multiple regressions since the multiple regression has more than one predictor variables (Garson, 2012). There are different ways of identifying the multicollinearity effect; it is by looking at the highest coefficients of the correlation matrix. But luckily, using software we can get variance inflation factor (VIF) and tolerance value. The common rule of thumb is if the VIF value is greater than 10 then there is a high multicollinearity effect. So the VIF value should be less than 5, which means the variables are suffering from multicollinearity problem but not severe (Field, 2009).

Table 4. 12: Problem of Multicollinearity

Model	Variable	VIF
Model 4	Source credibility	1.000

Source: (Survey Data, 2020)

Table 4.12, shows the values of VIF to identify the problem of multicollinearity. According to the table, it can be seen that all the VIF values of dimensions in model 4 are less than 5 (VIF < 5). Therefore it can be concluded that the predictor variables are suffering from a multicollinearity problem but not severe (See Appendix G).

4.10 Developing the Fitted Regression Model

According to our fitted model, only one independent variable is there, so researchers can't apply the equation of multiple linear regressions in this situation. However, can be applied the equation of simple linear regression as follows;

Equation 01: Equation of Simple Linear Regression

$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_1$

Y_i = Cloud supply chain management usage intention

β_0, β_1 = Regression Coefficients

X_1 = Source credibility

According to the final Simple Linear Regression a result following the fitted model was developed by the researcher (See Appendix G).

C-SCM usage intention = 1.241 + 0.690 Source credibility

According to the fitted regression equation, the constant term or the β0 is 1.241. This emphasizes that it is expected to have 1.241 C-SCM usage intention when there is no effect of source credibility. As far as, 0.690 is the regression coefficient of source credibility. This means that C-SCM usage intention can be increased by 0.690 units respectively if source credibility increasing by 1 unit while keeping other factors as constants. (See Appendix G).

4.11 Hypothesis Testing Results

The final results of multiple regression analysis as follows,

Table 4. 13: Results of Regression Analysis

Model	P-Value	Coefficient
Model 4	0.000	0.690

Source credibility		
Excluded Variables		
Perceived usefulness	0.774	-0.036
Attitude	0.624	-0.039
Argument advantage	0.286	0.109

Source: (Survey Data, 2020)

H1 - The argument advantage has a positive impact on the cloud supply chain management (C-SCM) usage intention.

Based on the results of regression analysis in Table 4.13 the output p-value of argument advantage is (0.286) which is greater than the critical p-value (0.05). Hence, there aren‟t enough evidence to reject H_0 (H_0: Argument advantage does not impact on cloud supply chain management (C-SCM) usage intention, H_1: Argument advantage does impact on cloud supply chain management (C-SCM) usage intention) and it can be concluded that argument advantage does not impact on cloud supply chain management (C-SCM) usage intention of tea export companies from manufacture's perspective in Sri Lanka at 95% level of confidence. Hence the 1st hypothesis is rejected (H1). Because to understand the argument advantage must have a good understanding of the new technology but the lack of such people in the tea export companies and the lack of knowledge about the new technology have made this variable insignificant in this context.

H2 - Source credibility has a positive impact on cloud supply chain management (SCM) usage intention.

According to Table 4.13 since the output p-value (0.000) is less than the critical p-value (0.05) there are enough evidence to reject H_0 (H_0: Source credibility does not impact on cloud supply chain management (C-SCM) usage intention). Therefore, it can be concluded that source credibility does impact on cloud supply chain management (C-SCM) usage intention of f tea export companies from the manufacture's perspective in Sri Lanka at a 95% level of confidence. Moreover, it can be confirmed that source credibility positive impact on cloud supply chain management (C-SCM) usage intention of tea export companies from the

manufacture's perspective in Sri Lanka since the regression coefficient is 0.690. (β = + 0.690).

H3 - Perceived usefulness has a positive impact on cloud SCM usage intention.

As per Table 4.13, the output p-value of perceived usefulness is (0.774) which is greater than the critical p-value (0.05). Hence, there aren‟t enough evidence to reject H_0 (H_0: perceived usefulness does not impact on cloud supply chain management (C-SCM) usage intention, H_1: perceived usefulness does impact on cloud supply chain management (C-SCM) usage intention) and it can be concluded that perceived usefulness does not impact on cloud supply chain management (C-SCM) usage intention of tea export companies from manufacture's perspective in Sri Lanka at 95% level of confidence. Hence the 3rd hypothesis is rejected (H3). Because to understand the perceived usefulness must have a good understanding of the new technology but the lack of such people in the tea export companies has made this variable insignificant in this context.

H4 - Attitude has a positive impact on cloud SCM usage intention.

Furthermore, according to Table 4.13 since the output p-value of attitude is (0.624) which is greater than the critical p-value (0.05). Hence, there aren‟t enough evidence to reject H_0 (H_0: attitude does not impact on cloud supply chain management (C-SCM) usage intention, H_1: attitude does impact on cloud supply chain management (C-SCM) usage intention) and it can be concluded that attitude does not impact on cloud supply chain management (C-SCM) usage intention of tea export companies from manufacture's perspective in Sri Lanka at 95% level of confidence. Hence the 4th hypothesis is rejected (H4). The lack of people in the tea exports companies who are well versed in the new technology and can implement the technology software has made this variable insignificant.

4.12 Discussion

The present study was conducted to investigate the factor's impact on cloud supply chain management (C-SCM) usage intention towards tea export companies in Sri Lanka. For that, the researcher developed four hypotheses, and three were rejected. It was revealed through the findings that source credibility has an impact on cloud supply chain management (C-SCM) usage intention and argument advantage,

perceived usefulness and attitude have not to impact on cloud supply chain management (C-SCM) usage intention in Sri Lankan Tea Export Industry.

ELM suggests that argument advantage and peripheral cues are directly associated with attitude and belief change (Bhattacherjee & Sanford, 2006). Generally, speaking before potential adopters decide to adopt an innovation, they tend to analyze what specific types of relative advantages are important to them (Mayer et al., 1995). Moreover, argument advantage has been found as a positive effect on cloud supply chain management (C-SCM) usage intention obtained from the enterprises in Taiwan (Lin & Lin, 2018). According to the regression analysis results, the researcher found that argument advantage has not to impact on cloud supply chain management (C-SCM) usage intention of tea export companies in the Sri Lankan context. Therefore, if tea export manufacturers in Sri Lanka feel that argument advantages are not high than their expected level they will switch their adoption of cloud technology. As well as the other two dimensions namely: perceived usefulness and attitude which are not significant in the current context. According to Amoako-Gyampah (2007) studies have recommended that perceived usefulness influences attitudes toward using a system. Furthermore, perceived usefulness has a strong impact on system usage intention due to the fact it is a measure of user‟s subjective assessments of the utility provided through a new Information Technology (IT) (Gefen et al., 2003). Prior research on information and communication technology utilization has published that perceived usefulness significantly affects behavioral intention (Alwahaishi & Snášel, 2013). Moreover, perceived usefulness has been found as a positive effect on cloud supply chain management (C-SCM) usage intention obtained from the enterprises in Taiwan (Lin & Lin, 2018). But according to the regression analysis results, the researcher found tea export manufacturers in Sri Lanka feel that perceived usefulness is not high than their expected level they will switch their adoption of cloud technology.

A positive attitude will result in usage intention if beneficial outcomes are expected Ozok et al. (2014) and the relationship between the system provider issuer and the end user‟s attitude toward new technology (Brown et al., 2016). Potential users identify cloud SCM structures as being useful because they trust that using the system will extend their work productiveness and improve their overall performance as well as a positive attitude that will result in usage intention (Lin & Lin, 2018). But in this

study's regression analysis results, the researcher found tea export manufacturers in Sri Lanka feel that attitude is not high than their expected level they will switch their adoption of cloud technology.

In this study, only one variable impact on cloud supply chain management (C-SCM) usage intention is source credibility. It measures understanding attributes such as trustworthiness, expertness, and attractiveness (Patzer, 1983). Higher stages of perceived source credibility will be associated with significantly greater levels of perceived message usefulness (Sussman & Siegal, 2003). Bhattacherjee and Sanford (2006) found that source credibility has a significant impact on IT usage intention in document management system (DMS) acceptance by administrators and staff personnel at L‟viv City Hall in Ukraine and Lin and Lin (2018) found that source credibility has a positive significant impact on cloud supply chain management (C-SCM) usage intention in obtained from the enterprises in Taiwan. As well as in this regression analysis results, the researcher found that source credibility has a positive impact on cloud supply chain management (C-SCM) usage intention of tea export company in the Sri Lankan context because analysis P-Value (0.000) and regression coefficient is 0.690 ($\beta = + 0.690$). Therefore, if tea export manufacturers in Sri Lanka feel that source credibility is high than their expected level they will switch their adoption of cloud supply chain management technology.

4.13 Chapter Summary

This chapter focuses on the presentation and analysis of data from research studies. As per the results of the analysis, the researcher found source credibility has an impact on cloud supply chain management (C-SCM) usage intention of tea export companies in the Sri Lankan context. Finally, the dependent variable of cloud supply chain management (C-SCM) usage intention is regressed onto only one independent variable of source credibility. The succeeding chapter provides directions for future researchers along with a proper conclusion for the study.

CHAPTER FIVE
CONCLUSION

5.1 Introduction

The purpose of this chapter is to provide a clear conclusion for the whole study concerning the established research objectives. Further, this chapter discusses the practical and theoretical implications of the current research findings. Finally, primarily based on the results of the study, the researcher gives suggestions for future researchers.

5.2 Conclusion

Cloud technology in the manufacturing industry is a popular research topic in the world. Thus, Sri Lankan tea export companies face difficulties when getting orders from their buyers due to the high-cost factor involvement. Hence, companies are looking for ways to reduce their cost due to meet the competition in the market concerning other low-cost countries such as Kenya, China, and Bangladesh (Silva et al., 2012). If companies are involving the high cost of production can be affected badly and also sometimes it can lead to shutting down their companies as well as losing the jobs of many people. Therefore, one of the critical objectives of companies is to produce and distribute finished goods and services in a cost-effective manner and a minimum total cost (Giannakis et al., 2019). In the above backdrop, cloud computing can be recognized as a useful technology that can lead the supply chains to gain financial benefits as well as operational benefits (Dhaka & Jain, 2015). But the Sri Lankan tea export industry has not yet turned to cloud technology. Hence the researcher tries to find out what is the effect of the factors on cloud supply chain management usage intention to tea export companies. During the past period, when

moving with considerable advances in Information Technology (IT) and digital communication platforms can be seen as a growing awareness that supply chain performance could be improved with the successful adoption of different kinds of newest technologies (Giannakis et al., 2019). But there are only a few researches had been done in the Sri Lankan context. The first objective is to investigate the most important cloud supply chain management (C-SCM) usage intention dimensions; therefore, the researcher conducted a mean analysis to identify the importance of cloud supply chain management (C-SCM) usage intention dimensions from the manufacturer's perspective. Accordingly, the objective of the study was achieved by identifying the most and least important dimensions and thereby can be concluded that the cloud supply chain management (C-SCM) usage intention should much consider the source credibility of tea export companies rather than the other factors.

Most research finds out IT usage intention using the Elaboration Likelihood Model (Bhattacherjee & Sanford, 2006; Jin et al., 2009; Lin & Lin, 2018; Sussman & Siegal, 2003). Most of the researchers use argument advantage, source credibility, perceived usefulness, and attitude as variables that affect the IT usage intention (Bhattacherjee & Sanford, 2006; Lin & Lin, 2018). Some research use trust is a mediating variable in this model (Lin & Lin, 2018; Salo & Karjaluoto, 2007; Zhou, 2012) but this research did not use a mediating variable because any C-SCM research not conducted in the Sri Lankan context, hence researcher use the old ELM model conduct in this research. Prior researches find out that the above four variables (Argument advantage, source credibility, perceived usefulness, and attitude) have a positive impact on IT usage intention. By the regression analysis, the researcher achieved only the third objective of investigating whether there is an impact of source credibility on the user's intention to use cloud SCM in the tea export companies in Sri Lanka. Dimensions of cloud supply chain management (C-SCM) usage intention, further the results recorded three dimensions (Argument advantage, perceived usefulness, and attitude) were insignificant in this context because this context differs from other contexts (different knowledge, cultures, religions, customs, and beliefs) and only one group in the supply chain is studied. As well as the most important factors influencing the use of IT usage intention are argument advantage and perceived usefulness (Bhattacherjee & Sanford, 2006; Jin et al., 2009; Lin & Lin, 2018; Sussman & Siegal, 2003). Lin and Lin (2018) found that the cloud supply chain's intention has a positive effect on argument

advantage and perceived usefulness. But these two variables are insignificant in this research. Because to understand the argument advantage and perceived usefulness must have a good understanding of the new technology but the lack of such people in the tea export companies and the lack of knowledge about the new technology have made this variable insignificant in this context. And all so companies that intend to practice cloud technology must radically change this myopic attitude by adopting a new one which entails real-time sharing of facts as well as collaboration with all the supply chain stakeholders (Toka et al., 2013). Therefore, attitude has significant impact of IT usage intention (Bhattacherjee & Sanford, 2006; Lin & Lin, 2018). Attitude have positive impact of cloud supply chain (Lin & Lin, 2018) then they will switch their adoption of cloud supply chain management technology. But in this research attitude is insignificant, because the lack of people in the tea export companies who are well versed in the new technology and can implement the technology software has made this variable insignificant. Finally, based on the findings of this study, it can be concluded that to achieve high cloud supply chain management (C-SCM) usage intention should enhance the source credibility further. This study lends support to an informational influence view of cloud supply chain management adoption as it relates to receiving advice in organizational contexts. In the study, it was found that consultants varied in the degree to which they were influenced to adopt specific pieces of advice based on their perceptions of the source credibility of that advice. Therefore, if tea export manufacturers in Sri Lanka feel that source credibility is high than their expected level they will switch their adoption of cloud supply chain management technology.

5.3 Implication of the Research

Generally, most of the research studies exhibit theoretical and practical implications based on the findings of the study. The theoretical and practical implications of the present study are shown below**.**

5.3.1 Theoretical Implications

The present study examined the various scales which can measure the cloud supply chain management (C-SCM) usage intention. Thereby, this research supports the reader to understand different models developed by several authors to measure cloud supply chain management (C-SCM) adoption in the general manufacturing industry

because cloud manufacturing is a part of the industry 4.0 context (Rauch et al., 2016; Sundarakani et al., 2019). The elaboration likelihood model (ELM) developed by Petty & Cacioppo, (1986) was a famous model that had been used for many research studies related to the IT usage intention. Further, this study induces readers to identify the most influential dimensions for cloud supply chain management (C-SCM) usage intention in this context. And also contribute to the existing body of knowledge of the cloud supply chain management literature in the Sri Lankan context since there is scant literature in this context. Prior researches find out that the above four variables (Argument advantage, source credibility, perceived usefulness, and attitude) have a positive impact on IT usage intention (Bhattacherjee & Sanford, 2006; Jin et al., 2009; Lin & Lin, 2018; Sussman & Siegal, 2003). But in this research condition is satisfied under the correlation test, there was no association between two independent variables (argument advantage and perceived usefulness) and dependent variable (cloud supply chain management (C-SCM) usage intention). Two independent variables (source credibility and attitude) show the association with the dependent variable (cloud supply chain management (C-SCM) usage intention). According to the multiple linear regression analysis, under the backward elimination approach, the final fitted model is comprised of one independent variable (source credibility). Hence, this study not proves the validity of the existing theories and scales in this context while implies to future researchers that the importance of newly developed models especially for this context since the existing models is not much reliable in Sri Lanka.

5.3.2 Practical Implications

The Sri Lankan tea export industry has 346 tea export companies (Sri Lanka Tea Board, 2019). And also there can be seen as a high competition between all the companies. Today all organizations try to move to the industry 4.0 context as well as global customers are very smart in this context. Therefore, in a competitive market, it is important to retain their current cloud subscribers while satisfying them. Although previous findings have shown that the intentions of cloud supply chain management practices affect argument advantage and perceived usefulness, this finding reveals that only source credibility affects the intentions of the use of cloud supply chain management in Sri Lankan tea exporters. By analyzing this research in tea export Companies; managers will be able to moderate their strategies to uplift the SCM. Additionally, it will provide insight to managers to identify the most and least

important factors when developing the cloud computing concept in the context of supply chain management to attract more benefits to the tea export industry in the country.

5.4 Suggestions for Future Research

This research is cross-sectional where it gathered data over a specific period. Therefore, it would be better if the future researcher can be done over different periods. It will give more understanding about the factors cause for cloud supply chain management (C-SCM) usage intention. For future researchers, it is better to apply this measurement model in different contexts to ensure the reliability and validity of these models to measure the significance of the model. And also future researchers can test several other measurement models that are specialized for cloud supply chain management (C-SCM) usage intention in the current context and the manufacturer's perspective. This research conducted one route of the elaboration likelihood model (central route). Hence future researchers can use other routes (peripheral route) in their research.

The researcher collected data by using a self-administered questionnaire in this research. Future researchers can use the interview method to get the feeling of the contributors. Hence, it is recommended to use mixed methods to get a complete understanding of the cloud supply chain management usage intention. Future researchers can extend this research by investigating more new factors that can be affecting cloud supply chain management usage intention. For example, the impact of trust (Lin & Lin, 2018). In this study, the cloud supply chain management usage intention was measured by the manufacturer‟s perspective only. But in future studies can be expanded further by measuring cloud supply chain management usage intention from all supply chain partner‟s perspectives. It will support establishing research findings more significantly and researchers can measure the exact cloud supply chain management usage intention of the tea export company.

5.5 Chapter Summary

This chapter provides a clear conclusion for the whole study concerning the established research objectives. This chapter discusses the practical and theoretical implications of current research findings. The researcher found that source credibility

has an impact on cloud supply chain management (C-SCM) usage intention of tea export companies in the Sri Lankan context. Finally, the researcher makes suggestions for future researchers based primarily on the results of the study.

REFERENCE

Ajzen, I., & Fishbein, M. (1975). A Bayesian analysis of attribution processes. *Psychological Bulletin*, *82*(2), 261–277. https://doi.org/10.1037/h0076477

Akbaripour, H., Houshmand, M., & Valilai, O. F. (2015). Cloud-Based Global Supply Chain: A Conceptual Model and Multilayer Architecture. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, *137*(4), 1–6. https://doi.org/10.1115/1.4030887

Alwahaishi, S., & Snášel, V. (2013). Consumers‟ acceptance and use of information and communications technology: A UTAUT and flow-based theoretical model. *Journal of Technology Management and Innovation*, *8*(2), 61–73. https://doi.org/10.4067/s0718-27242013000200005

Amoako-Gyampah, K. (2007). Perceived usefulness, user involvement, and behavioral intention: an empirical study of ERP implementation. *Computers in Human Behavior*, *23*(3), 1232–1248. https://doi.org/10.1016/j.chb.2004.12.002

Aral, S., Brynjolfsson, E., & Van Alstyne, M. (2012). Information, technology, and information worker productivity. *Information Systems Research*, *23*(3 PART 2), 849–867. https://doi.org/10.1287/isre.1110.0408

Babiceanu, R. F., & Seker, R. (2016). Big Data and virtualization for manufacturing cyber-physical systems: A survey of the current status and future outlook. *Computers in Industry*, *81*(2015), 128–137. https://doi.org/10.1016/j.compind.2016.02.004

Baker, J. (2012). *The Technology – Organization – Environment Framework*. *1*, 231–245. https://doi.org/10.1007/978-1-4419-6108-2

Basnayake, B., & Gunaratne, L. (2002). Estimation of Technical Efficiency and Its

Determinants in the Tea Small Holding Sector in the Mid Country Wet Zone of Sri Lanka. *Sri Lankan Journal of Agricultural Economics*, *4*(0), 137–150. https://doi.org/10.4038/sjae.v4i0.3488

Ben-daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management : a literature review. *International Journal of Production Research*, *7543*. https://doi.org/10.1080/00207543.2017.1402140

Ben-Daya, M., Hassini, E., & Bahroun, Z. (2019). Internet of things and supply chain management: a literature review. *International Journal of Production Research*, *57*(15–16), 4719–4742. https://doi.org/10.1080/00207543.2017.1402140

Bhattacherjee, A., & Sanford, C. (2006). Influence Processes for Information Technology Acceptance : An Elaboration Likelihood Model1. *MIS Quarterly*, *30*(4), 805–825.

Brown, S. A., Massey, A. P., & Ward, K. W. (2016). Handle mergers and acquisitions with care: The fragility of trust between the IT-service provider and end-users. *European Journal of Information Systems*, *25*(2), 170–186. https://doi.org/10.1057/ejis.2015.10

Buyya, R., Yeo, C. S., & Venugopal, S. (2008). Market-oriented cloud computing: Vision, hype, and reality for delivering IT services as computing utilities. *Proceedings - 10th IEEE International Conference on High-Performance Computing and Communications, HPCC 2008*, 5–13. https://doi.org/10.1109/HPCC.2008.172

Cao, Q., Schniederjans, D. G., & Schniederjans, M. (2017). Establishing the use of cloud computing in supply chain management. *Operations Management Research*, *10*(1–2), 47–63. https://doi.org/10.1007/s12063-017-0123-6

Cegielski, C. G., Allison Jones-Farmer, L., wu, Y., & Hazen, B. T. (2012). Adoption of cloud computing technologies in supply chains: An organizational information processing theory approach. *The International Journal of Logistics Management*, *23*(2), 184–211. https://doi.org/10.1108/09574091211265350

Central Bank Annual Report. (2018). *National Output, Expenditure, and Income 2.1*.

Central Bank of Sri Lanka. (2019). National Output, Expenditure, and Income. In the *Annual Report 2019*. https://doi.org/10.1063/1.2132316

Central Bank of Sri Lanka Statistics Department. (2019). *Economic and social statistics of Sri Lanka*.

Chakravarty, A., Grewal, R., & Sambamurthy, V. (2013). Information Technology Competencies, Organizational Agility, and Firm Performance : Enabling and. *Information Systems Research*, *Vol. 24*(June 2014), 976–997.

Dakshina Tharanga, C. H. M., & Perera, I. (2018). *Factors determining the intention to adopt cloud computing by finance companies in Sri Lanka*. 70–80. https://doi.org/10.31705/icbr.2018.9

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

de Vass, T., Shee, H., & Miah, S. J. (2018). Internet of things for improving supply chain performance: A qualitative study of Australian retailers. *ACIS 2018 - 29th Australasian Conference on Information Systems*, 1–10. https://doi.org/10.5130/acis2018.bc

Dhaka, R., & Jain, B. (2015). Implementation of Cloud Computing In Supply. *International Journal for Research in Applied Science & Engineering Technology*, *3*(Vii), 11–15.

Durowoju, O. A., Chan, H. K., & Wang, X. (2011). The impact of security and scalability of cloud service on supply chain performance. *Journal of Electronic Commerce Research*, *12*(4), 243–256.

Ellis, S., Morris, H. D., & Santagate, J. (2015). IoT-Enabled Analytic Applications Revolutionize Supply Chain Planning and Execution (White Paper). *International Data Corporation (IDC) White Paper, November*. https://www.savi.com/wp-content/uploads/IDC-IoT-enabled-analytics-applications_final.pdf

Field, A. (2009). DISCOVERING STATISTICS USING SpSS THIRD EDITION. In *SAGE Publications Ltd* (THIRD EDIT). https://doi.org/10.1007/978-0-387-68969-2_13

Ganewatta, G., & Edwards, G. W. (2000). *The Sri Lanka Tea Industry : Economic Issues and Government Policies This paper is prepared for the 44 the Annual Conference of Australian Agricultural and Resources Economics Society, University of Sydney, January 2000*, 23–25. https://ageconsearch.umn.edu/bitstream/123648/1/Ganewatta.pdf

Ganewatta, G., Waschik, R., Jayasuriya, S., & Edwards, G. (2005). Moving up the processing ladder in primary product exports: Sri Lanka"s "value-added" tea industry. *Agricultural Economics*, *33*(3), 341–350. https://doi.org/10.1111/j.1574-0864.2005.00073.x

Garrison, G., Wakefield, R. L., & Kim, S. (2015). The effects of IT capabilities and delivery model on cloud computing success and firm performance for cloud supported processes and operations. *International Journal of Information Management*, *35*(4), 377–393. https://doi.org/10.1016/j.ijinfomgt.2015.03.001

Garson, G. D. (2012). Testing statistical assumptions: Blue Book Series. *Asheboro: Statistical Associate Publishing*, 12, 15, 16–20, 24, 31, 41–43, 44, 46–48, 50. https://www.researchgate.net/profile/Jurandy_Penitente-Filho/post/What_is_the_best_statistical_method_to_correlate_immunohistochemestry_and_rt-pcr/attachment/59d61d9879197b807797853c/AS:271755204071424@1441802897825/download/assumptions.pdf

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarter*, *27*(1), 51–90. https://doi.org/10.1017/CBO9781107415324.004

Gesimba, R. M., Langat, M. C., Liu, G., & Wolukau, J. N. (2005). The Tea Industry in Kenya; The Challenges and Positive Developments. In *Journal of Applied Sciences* (Vol. 5, Issue 2, pp. 334–336). https://doi.org/10.3923/jas.2005.334.336

Giannakis, M., Spanaki, K., & Dubey, R. (2019). A cloud-based supply chain management system: effects on supply chain responsiveness. *Journal of Enterprise Information Management*, *32*(4), 585–607. https://doi.org/10.1108/JEIM-05-2018-0106

Grant, D., & Yeo, B. (2018). A global perspective on tech investment, financing, and ICT on manufacturing and service industry performance. *International Journal of Information Management*, *43*(June), 130–145. https://doi.org/10.1016/j.ijinfomgt.2018.06.007

Ho, S. Y., & Bodoff, D. (2014). The effects of web personalization on user attitude and behavior: An integration of the elaboration likelihood model and consumer search theory. *MIS Quarterly: Management Information Systems*, *38*(2), 497–520. https://doi.org/10.25300/MISQ/2014/38.2.08

Hogan, M., Liu, F., Sokol, A., & Tong, J. (2011). NIST Cloud Computing Standards Roadmap – Version 1.0. In *National Institute of Standards and Technology Special Publication 500-291* (Issue 3). https://doi.org/10.1007/978-3-319-04519-1_6

Icek, A. (1991). The Theory of Planned Behavior Organizational Behavior and Human Decision Processes. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211.

Jayaratne, P., Styger, L., & Perera, N. (2011). *Sustainable supply chain management : using the Sri Lankan tea industry as a pilot study Sustainable supply chain management : using the Sri Lankan tea industry*. *1*, 1–22.

Jin, X. L., Cheung, C. M. K., Lee, M. K. O., & Chen, H. P. (2009). How to keep members using the information in a computer-supported social network. *Computers in Human Behavior*, *25*(5), 1172–1181. https://doi.org/10.1016/j.chb.2009.04.008

Kasturiratne, D., & Poole, N. (2006). Creating Value for Competitive Advantage in Supply Chain Relationships: The Case of the Sri Lankan Tea Industry. *Paper Prepared for Presentation at the 99th EAAE Seminar 'Trust and Risk in Business*

Networks', Bonn, Germany.

Koufaris, M., & Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers. *Information and Management*, *41*(3), 377–397. https://doi.org/10.1016/j.im.2003.08.004

Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management in Indian agriculture. *Industrial Marketing Management*, *29*, 65–83. https://doi.org/10.1017/UPO9788175968462.008

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information and Management*, *40*(3), 191–204. https://doi.org/10.1016/S0378-7206(01)00143-4

Lin, A., & Chen, N.-C. (2012). Cloud computing as an innovation: Perception, attitude, and adoption. *International Journal of Information Management*, *32*(6), 533–540. https://doi.org/10.1016/j.ijinfomgt.2012.04.001

Lin, C., & Lin, M. (2018). The determinants of using cloud supply chain adoption. *Industrial Management and Data Systems*, 1–17. https://doi.org/10.1108/IMDS-12-2017-0589

Lindner, M., Chapman, C., Clayman, S., Henriksson, D., & Elmorth, E. (2010). The Cloud Supply Chain : A Framework for Information, Monitoring, Accounting, and Billing. *2nd International ICST Conference on Cloud Computing*.

Lu, Y., Cao, Y., Wang, B., & Yang, S. (2011). A study on factors that affect users" behavioral intention to transfer usage from the offline to the online channel. *Computers in Human Behavior*, *27*(1), 355–364. https://doi.org/10.1016/j.chb.2010.08.013

Mahmood, Z., & Hill, R. (2011). *Cloud Computing for Enterprise Architectures*.

Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J., & Ghalsasi, A. (2011). Cloud computing - The business perspective. *Decision Support Systems*, *51*(1), 176–189. https://doi.org/10.1016/j.dss.2010.12.006

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). *An Integrative Model of Organizational Trust Author (s): Roger C . Mayer, James H . Davis and F. David Schoorman Source : The Academy of Management Review, Vol . 20, No. 3 (Jul ., 1995), pp. 709-734 Published by Academy of Management Stable UR* (Vol. 20, Issue 3). Academy of Management. https://www.jstor.org/stable/258792

Mell, P., & Grance, T. (2011). The NIST Definition of Cloud Computing. *NIST Special Publication 800-145*, 675–685. https://doi.org/10.1007/978-981-13-1056-0_66

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive Statistics and Normality Tests for Statistical Data. *Annals of Cardiac Anaesthesia*, *22*(1), 67–72. https://doi.org/10.4103/aca.ACA

Novais, L., Maqueira, J. M., & Ortiz-Bas, Á. (2019). A systematic literature review of cloud computing use in supply chain integration. *Computers and Industrial Engineering*, *129*(November 2018), 296–314. https://doi.org/10.1016/j.cie.2019.01.056

Nuskiya, A. F. (2017). Factors Influencing Cloud Computing Adoption in. *Journal of Information Systems & Information Technology (JISIT)*, *2*(1), 21–41.

Ozok, A. A., Wu, H., Garrido, M., Pronovost, P. J., & Gurses, A. P. (2014). Usability and perceived usefulness of personal health records for preventive health care: A case study focusing on patients‟ and primary care providers‟ perspectives. *Applied Ergonomics*, *45*(3), 613–628. https://doi.org/10.1016/j.apergo.2013.09.005

Patzer, G. L. (1983). Source credibility as a function of communicator physical attractiveness. *Journal of Business Research*, *11*(2), 229–241. https://doi.org/10.1016/0148-2963(83)90030-9

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, *19*(C), 123–205. https://doi.org/10.1016/S0065-2601(08)60214-2

Pranata, I., Skinner, G., & Athauda, R. (2012). A holistic review of trust and reputation management systems for digital environments. *Int J Comput Inf Technol*, *01*(01), 44–53. http://ijcit.com/archives/volume1/issue1/Paper010106.pdf

Priyadarshinee, P., Jha, M. K., & Raut, R. (2014). Cloud Computing Adoption in SMEs : A Literature Review. *Proceedings of the 12th AIMS International Conference on Management*, 1–5.

Ranasinghe, W. T., Thaichon, P., & Ranasinghe, M. (2017). An analysis of product-place co-branding: the case of Ceylon Tea. *Asia Pacific Journal of Marketing and Logistics*, *29*(1), 200–214. https://doi.org/10.1108/APJML-10-2015-0156

Rauch, E., Seidenstricker, S., Dallasega, P., & Hämmerl, R. (2016). Collaborative Cloud Manufacturing: Design of Business Model Innovations Enabled by Cyberphysical Systems in Distributed Manufacturing Systems. *Journal of Engineering (United Kingdom)*, 12. https://doi.org/10.1155/2016/1308639

Rogers, E. M. (2003). *Diffusion of innovations*.

Salo, J., & Karjaluoto, H. (2007). A conceptual model of trust in the online environment. *Online Information Review*, *31*(5), 604–621. https://doi.org/10.1108/14684520710832324

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (Fifth edit). Pearson Education Limited Edinburgh.

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach, 7th Edition*. John Wiley & Sons Ltd. All.

Seng, L. C., & Yew, L. K. (2019). RFID Technology Adoption Rate in Warehousing: A Study of Manufacturing Companies in Johor. *International Journal of Trend in Scientific Research and Development*, *Volume-3*(Issue-3), 144–153. https://doi.org/10.31142/ijtsrd21681

Shamsuzzoha, A., Toscano, C., Carneiro, L. M., Kumar, V., & Helo, P. (2016). ICT-based solution approach for collaborative delivery of customized products.

Production Planning and Control, *27*(4), 280–298. https://doi.org/10.1080/09537287.2015.1123322

Silva, S. K. P. N., Perera, H. S. C., & Samarasinghe, G. D. (2012). Viability of Lean Manufacturing tools and techniques in the apparel industry in Sri Lanka. *Applied Mechanics and Materials*, *110–116*, 4013–4022. https://doi.org/10.4028/www.scientific.net/AMM.110-116.4013

Sri Lanka Export Development Board. (2019). *Industry Capability Report Tea* (Issue December 2019).

Sri Lanka Tea Board. (2019). *All Exporter Registration Information*.

Stamm, A., Jost, C., Kreiss, C., Meier, K., Pfister, M., Schukat, P., & Speck, H. A. (2006). *Strengthening Value Chains in Sri Lanka's Agribusiness: A way to reconcile competitiveness with socially inclusive growth?*

Sundarakani, B., Kamran, R., Maheshwari, P., & Jain, V. (2019). *framework Designing a hybrid cloud for a supply chain network of Industry 4. 0 : a theoretical framework*. https://doi.org/10.1108/BIJ-04-2018-0109

Sussman, S. W., & Siegal, W. S. (2003). Informational influence in organizations: An integrated approach to knowledge adoption. *Information Systems Research*, *14*(1), 47–65. https://doi.org/10.1287/isre.14.1.47.14767

Taylor, S., & Todd, P. (1995). Assessing IT usage: The role of prior experience. *MIS Quarterly: Management Information Systems*, *19*(4), 561–568. https://doi.org/10.2307/249633

Thasfiha, M., Arachchige, U., & Dissanayaka, D. K. (2020). Sri Lankan Tea Industry. *Journal of Research Technology and Engineering*, *1*(1), 2–8.

Tiwari, A., & Jain, M. (2013). *Analysis of Supply Chain Management in Cloud Computing*. *5*, 152–155.

Tjahjono, B., Esplugues, C., Ares, E., & Pelaez, G. (2017). What does Industry 4.0 mean to Supply Chain? *Procedia Manufacturing*, *13*, 1175–1182. https://doi.org/10.1016/j.promfg.2017.09.191

Toka, A., Aivazidou, E., Antoniou, A., & Arvanitopoulos-Darginis, K. (2013). *E-Logistics and E-Supply Chain Management : Applications for Evolving Business*. *January*. https://doi.org/10.13140/2.1.2717.2800

Tu, M. (2018). An exploratory study of the internet of things (IoT) adoption intention in logistics and supply chain management a mixed research approach. *International Journal of Logistics Management*, *29*(1), 131–151. https://doi.org/10.1108/IJLM-11-2016-0274

Venkatesh, Morris, V., Davis, M., & GB Davis, F. (2009). *Aug . 2009 - TECHNOLOGY ACCEPTANCE MODEL - Research Front Map - Science ... Aug . 2009 - TECHNOLOGY ACCEPTANCE MODEL - Research Front Map - Science ... Page 2 of 7*. 1–7.

Venkatesh, V., & Davis, F. D. (2016). *Studies Linked references are available on JSTOR for this article : A Theoretical Extension of the Technology Acceptance Model : Four Longitudinal Field Studies*. *46*(2), 186–204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). Angiogenesis induced by mast cell secretion in rat peritoneal connective tissue is a process of three phases. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.1006/mvre.1994.1019

Vorst, J. G. A. J. van der, Beulens, A. J. M., & Beek, P. van. (2000). Modeling and simulating multi-echelon food systems. *European Journal of Operational Research*, *122*, 354–366. https://doi.org/10.1145/1735813.1735818

Wang, E. S. T., & Yu, J. R. (2016). Means-end chain approach for exploring the motivation of ready-to-drink tea consumers. *Asia Pacific Journal of Marketing and Logistics*, *28*(3), 384–395. https://doi.org/10.1108/APJML-08-2015-0121

Wu, Y., Cegielski, C. G., Hazen, B. T., & Hall, D. J. (2013). Cloud computing in support of supply chain information system infrastructure: Understanding when to go to the cloud. *Journal of Supply Chain Management*, *49*(3), 25–41. https://doi.org/10.1111/j.1745-493x.2012.03287.x

Xu, X. (2012). From cloud computing to cloud manufacturing. *Robotics and*

Computer-Integrated Manufacturing, *28*(1), 75–86. https://doi.org/10.1016/j.rcim.2011.07.002

Yang, H., & Yoo, Y. (2004). It‟s all about attitude: Revisiting the technology acceptance model. *Decision Support Systems*, *38*(1), 19–31. https://doi.org/10.1016/S0167-9236(03)00062-9

Yang, J. J., Li, J., Mulder, J., Wang, Y., Chen, S., Wu, H., Wang, Q., & Pan, H. (2015). Emerging information technologies for enhanced healthcare. *Computers in Industry*, *69*, 3–11. https://doi.org/10.1016/j.compind.2015.01.012

Yang, Z., Cai, S., Zhou, Z., & Zhou, N. (2005). Development and validation of an instrument to measure user perceived service quality of information presenting web portals. *Information & Management*, *42*(4), 575–589. https://doi.org/10.1016/j.im.2004.03.001

Zhang, C., Tan, G. W., Robb, D. J., & Zheng, X. (2006). Sharing shipment quantity information in the supply chain. *Omega*, *34*(5), 427–438. https://doi.org/10.1016/j.omega.2004.12.005

Zhang, Q., Cheng, L., & Boutaba, R. (2010). Cloud computing: State-of-the-art and research challenges. *Journal of Internet Services and Applications*, *1*(1), 7–18. https://doi.org/10.1007/s13174-010-0007-6

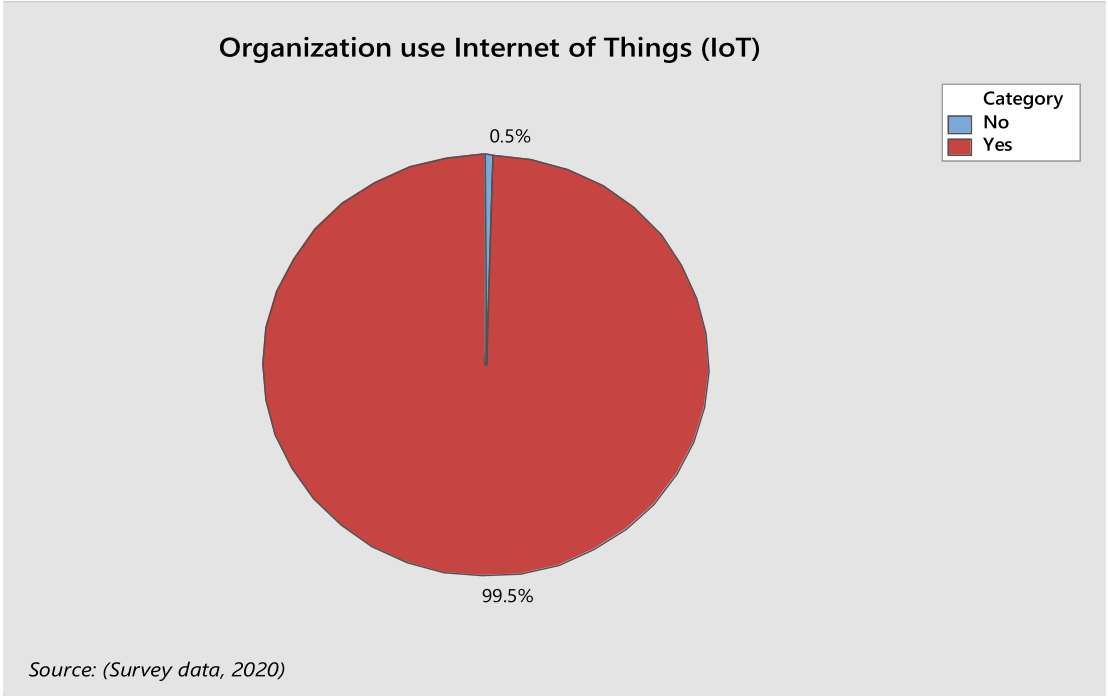
Zhou, K., Liu, T., & Zhou, L. (2015). Industry 4.0: Towards future industrial opportunities and challenges. *2015 12th International Conference on Fuzzy Systems and Knowledge Discovery, FSKD 2015*, 2147–2152. https://doi.org/10.1109/FSKD.2015.7382284

Zhou, T. (2012). Understanding users‟ initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, *28*(4), 1518–1525. https://doi.org/10.1016/j.chb.2012.03.021

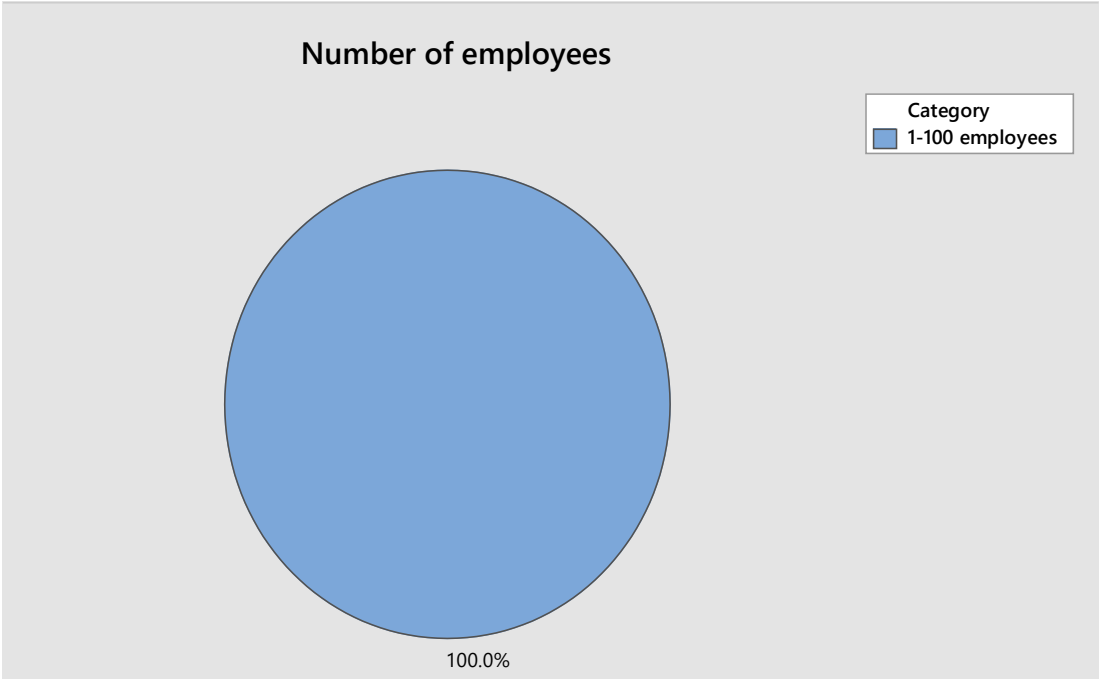
Zissis, D., & Lekkas, D. (2012). Addressing cloud computing security issues. *Future Generation Computer Systems*, *28*(3), 583–592. https://doi.org/10.1016/j.future.2010.12.006

APPENDIX

Appendix A: Sample Profile (Final Survey)



Source: (Survey data, 2020)



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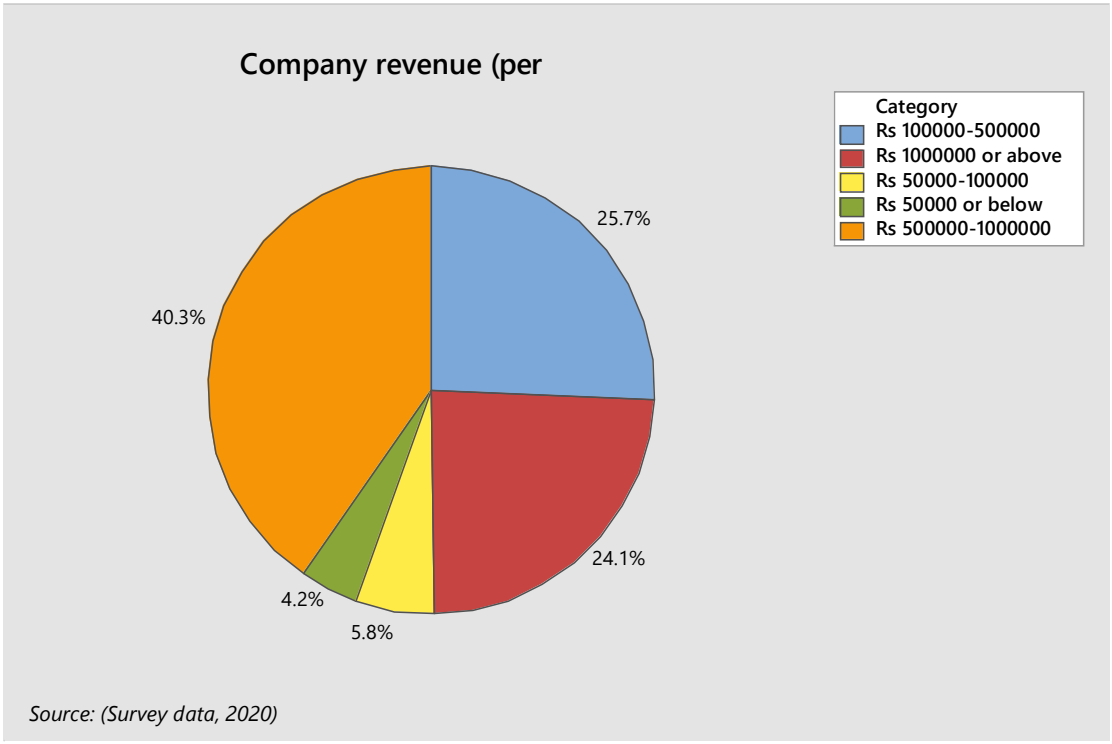

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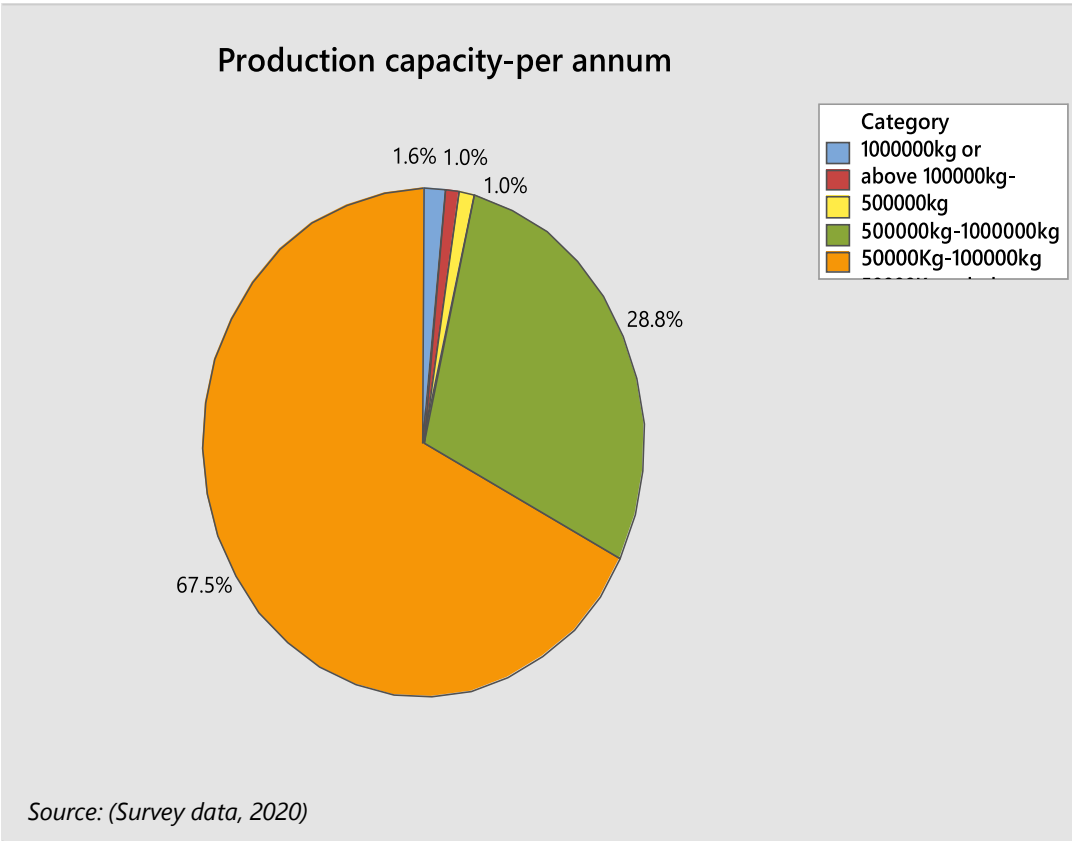

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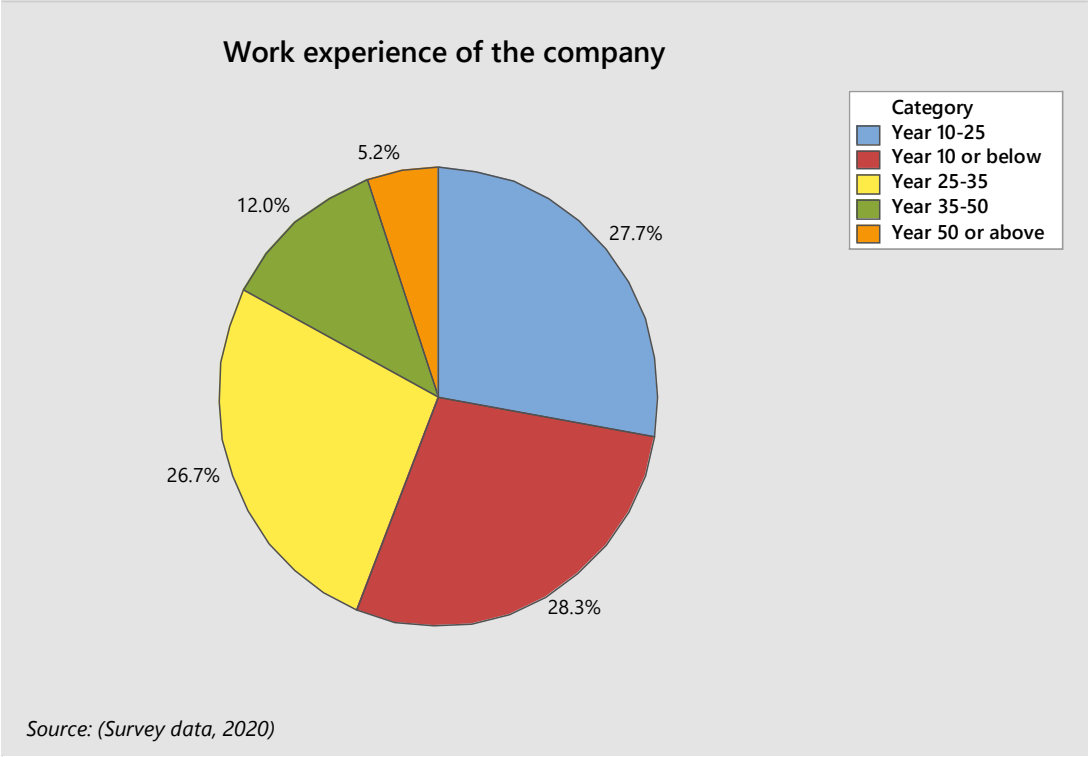


Source: (Survey data, 2020)

Appendix B: Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Usage_intention	191	1.50	7.00	4.6754	.82876
Argument_advantage	191	3.75	7.00	5.8547	.50929
Source_credibility	191	1.67	7.00	5.2317	.76833
Perceived_usefulness	191	2.00	7.00	5.7775	.52899
Attitude	191	1.33	7.00	5.2710	.79299
Valid N (listwise)	191				

Appendix C: Reliability Analysis

Reliability of Cloud supply chain management (SCM) usage intention with 4 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.818	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Intention 1	14.65	6.585	.425	.902
Intention 2	13.56	7.353	.676	.767
Intention 3	13.91	6.166	.784	.704
Intention 4	13.98	6.126	.786	.702

Reliability of Cloud supply chain management (SCM) usage intention with 3 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.902	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Intention 2	9.51	3.746	.694	.949
Intention 3	9.86	2.750	.872	.800
Intention 4	9.93	2.716	.877	.796

Reliability of Cloud supply chain management (SCM) usage intention with 2 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.949	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Intention 3	4.72	.991	.903	.
Intention 4	4.79	.977	.903	.

Reliability of Argument advantage with 4 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.736	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Argument advantage 1	17.53	2.577	.494	.696
Argument advantage 2	17.62	2.574	.497	.694
Argument advantage 3	17.60	2.557	.495	.695
Argument advantage 4	17.51	2.451	.632	.618

Reliability of Source credibility with 3 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.717	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Source credibility 1	10.26	3.447	.466	.720
Source credibility 2	10.24	1.963	.651	.484
Source credibility 3	10.89	2.667	.546	.617

Reliability of Source credibility with 2 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.720	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Source credibility 2	4.81	.925	.570	.
Source credibility 3	5.46	1.281	.570	.

Reliability of Perceived usefulness with 4 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.771	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Perceived usefulness 1	17.25	2.937	.372	.829
Perceived usefulness 2	17.37	2.549	.710	.644
Perceived usefulness 3	17.42	2.782	.594	.707
Perceived usefulness 4	17.29	2.575	.660	.670

Reliability of Perceived usefulness with 3 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.829	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Perceived usefulness 2	11.51	1.399	.709	.742
Perceived usefulness 3	11.57	1.405	.729	.723
Perceived usefulness 4	11.43	1.446	.628	.824

Reliability of Attitude with 3 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.722	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude 1	10.46	2.397	.651	.490
Attitude 2	10.70	3.789	.354	.825
Attitude 3	10.47	2.408	.660	.477

Reliability of Attitude with 2 items:

Reliability Statistics

Cronbach's Alpha	N of Items
.825	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude 1	5.35	1.101	.702	.
Attitude 3	5.36	1.125	.702	.

All Variable of Cloud supply chain management (SCM) usage intention

Reliability Statistics

Cronbach's Alpha	N of Items
.861	17

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Intention 2	87.55	57.280	.476	.854
Intention 3	87.90	55.080	.527	.852
Intention 4	87.97	55.241	.510	.853
Argument advantage 1	86.80	59.508	.356	.859
Argument advantage 2	86.89	58.646	.441	.856
Argument advantage 3	86.87	60.089	.296	.861
Argument advantage 4	86.78	58.909	.449	.856

Source credibility 1	87.26	56.350	.610	.849
Source credibility 2	87.24	52.318	.622	.847
Source credibility 3	87.88	55.471	.515	.852
Perceived usefulness 1	86.83	59.656	.303	.861
Perceived usefulness 2	86.95	58.987	.431	.856
Perceived usefulness 3	87.01	59.700	.368	.858
Perceived usefulness 4	86.87	58.830	.430	.856
Attitude 1	87.34	53.877	.564	.850
Attitude 2	87.58	56.371	.530	.852
Attitude 3	87.35	52.512	.669	.844

Appendix D: Validity Analysis

The validity of Cloud supply chain management (SCM) usage intention

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	319.299
	df	1
	Sig.	.000

The validity of Argument advantage

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.682
Bartlett's Test of Sphericity	Approx. Chi-Square	183.150
	df	6
	Sig.	.000

The validity of Source credibility

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	73.970
	df	1
	Sig.	.000

The validity of Perceived usefulness

KMO and Bartlett's Test

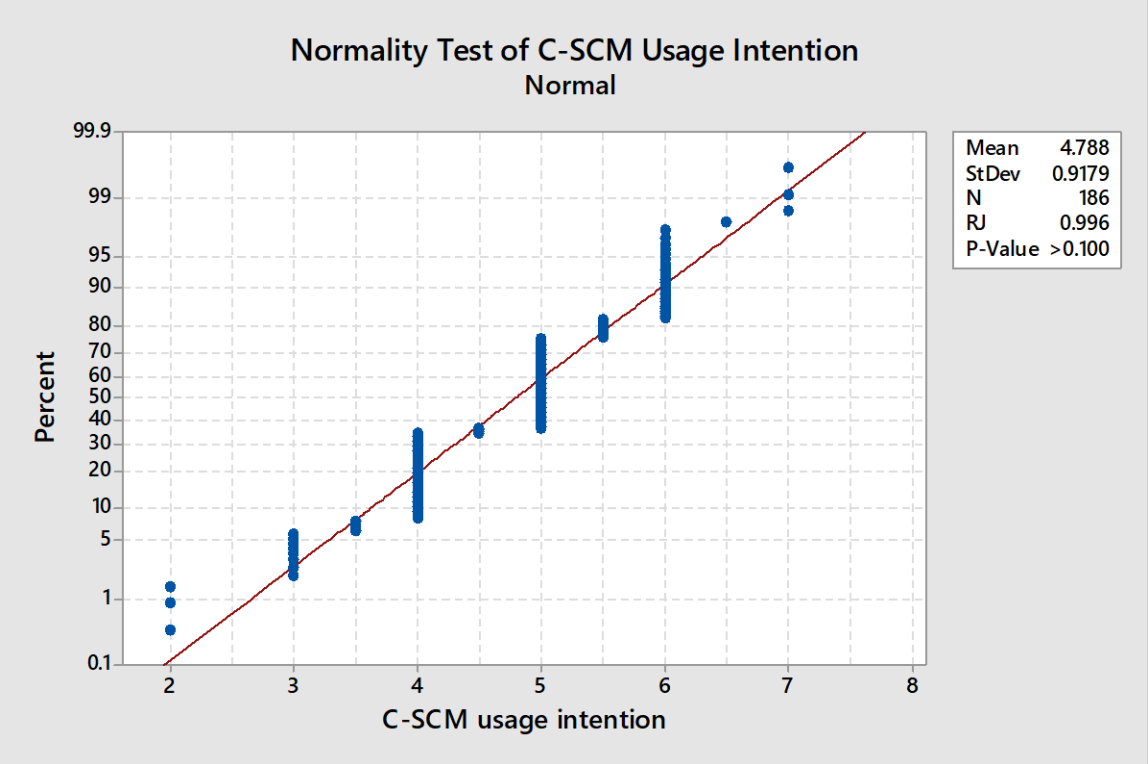
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.707
Bartlett's Test of Sphericity	Approx. Chi-Square	221.765
	df	3
	Sig.	.000

Validity of Attitude

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	128.073
	df	1
	Sig.	.000

Appendix E: Test of Normality



Appendix F: Correlation Analysis

Correlations

		IN	AA	SC	PU	AT
IN	Pearson Correlation	1	.091	.678**	.047	.491**
	Sig. (2-tailed)		.216	.000	.524	.000
	N	186	186	186	186	186
AA	Pearson Correlation	.091	1	.049	.611**	.258**
	Sig. (2-tailed)	.216		.507	.000	.000
	N	186	186	186	186	186
SC	Pearson Correlation	.678**	.049	1	.038	.730**
	Sig. (2-tailed)	.000	.507		.607	.000
	N	186	186	186	186	186
PU	Pearson Correlation	.047	.611**	.038	1	.206**
	Sig. (2-tailed)	.524	.000	.607		.005
	N	186	186	186	186	186
AT	Pearson Correlation	.491**	.258**	.730**	.206**	1
	Sig. (2-tailed)	.000	.000	.000	.005	
	N	186	186	186	186	186

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix G: Multiple Regression Analysis

Significance of Parameters

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.642	.713		.901	.369	-.764	2.048		
	AA	.149	.133	.079	1.120	.264	-.113	.411	.596	1.678
	SC	.716	.083	.703	8.614	.000	.552	.880	.444	2.251
	PU	-.036	.125	-.020	-.288	.774	-.283	.211	.622	1.607
	AT	-.037	.080	-.039	-.465	.643	-.196	.121	.414	2.415
2	(Constant)	.566	.661		.857	.393	-.738	1.870		
	AA	.127	.108	.067	1.170	.244	-.087	.341	.892	1.122
	SC	.717	.083	.705	8.665	.000	.554	.881	.446	2.244

	AT	-.039	.080	-.041	-.491	.624	-.197	.118	.417	2.399
	(Constant)	.614	.652		.941	.348	-.673	1.901		
3	AA	.109	.102	.058	1.070	.286	-.092	.311	.998	1.002
	SC	.687	.055	.675	12.444	.000	.578	.796	.998	1.002
	(Constant)	1.241	.288		4.308	.000	.672	1.809		
4	SC	.690	.055	.678	12.507	.000	.581	.799	1.000	1.000

a. Dependent Variable: IN

Coefficient of Determination

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.681[a]	.464	.452	.67951	
2	.681[b]	.464	.455	.67779	
3	.680[c]	.463	.457	.67639	
4	.678[d]	.459	.457	.67665	.529

a. Predictors: (Constant), AT, PU, AA, SC

b. Predictors: (Constant), AT, AA, SC

c. Predictors: (Constant), AA, SC

d. Predictors: (Constant), SC

e. Dependent Variable: IN

Appendix H: Results of Analysis of Variance (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	72.289	4	18.072	39.140	.000[b]
1	Residual	83.573	181	.462		
	Total	155.862	185			
	Regression	72.250	3	24.083	52.424	.000[c]
2	Residual	83.611	182	.459		
	Total	155.862	185			
	Regression	72.140	2	36.070	78.842	.000[d]
3	Residual	83.722	183	.457		
	Total	155.862	185			
	Regression	71.616	1	71.616	156.414	.000[e]
4	Residual	84.246	184	.458		
	Total	155.862	185			

a. Dependent Variable: IN

b. Predictors: (Constant), AT, PU, AA, SC

c. Predictors: (Constant), AT, AA, SC

d. Predictors: (Constant), AA, SC

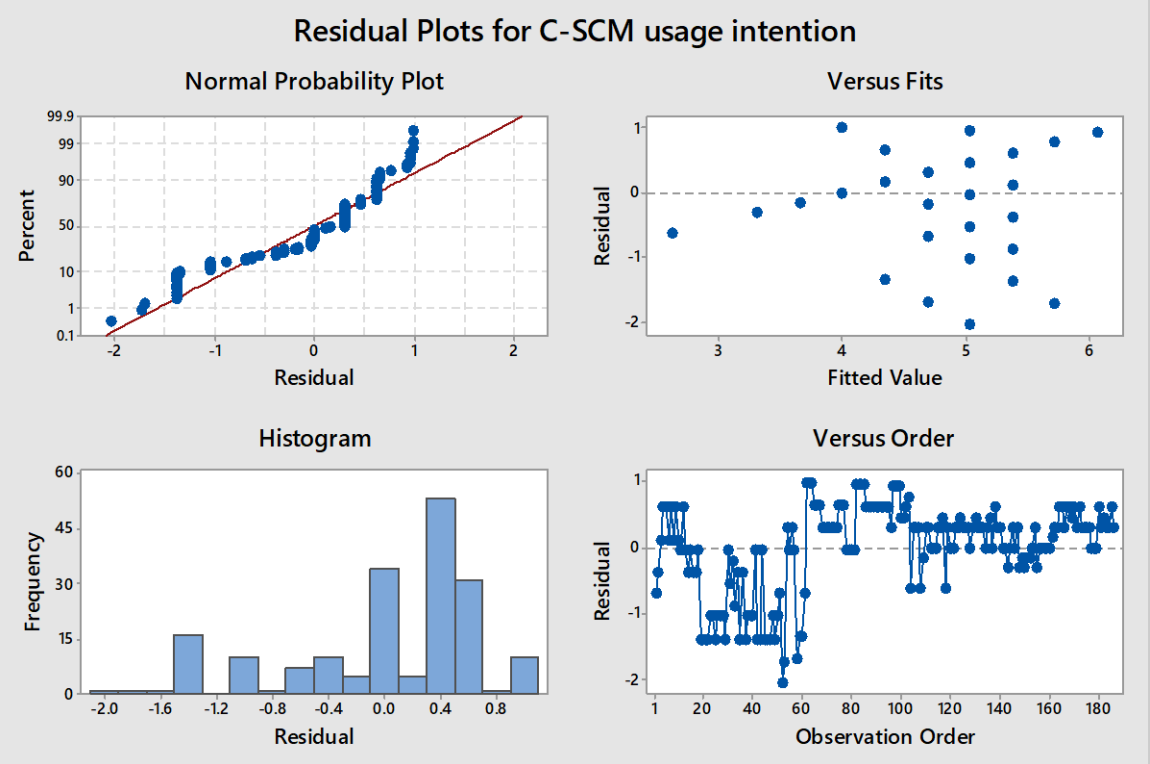
e. Predictors: (Constant), SC

Appendix I: Normality of Residuals

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Standardized Residual	186	.0000000	.99729364	-.981	.178	.178	.355
Valid N (listwise)	186						

Appendix J: Residuals Plots



Appendix K: Final Survey Questionnaire

Survey Questionnaire

(Cloud Supply Chain Management Usage Intention)

Department of Business Management

Sabaragamuwa University of Sri Lanka

Belihuloya

www.sab.ac.lk

I am a final year undergraduate of the Department of Business Management, Faculty of Management Studies at the Sabaragamuwa University of Sri Lanka. The purpose of this questionnaire is to determine the cloud supply chain management usage intention of Tea Export Company in Sri Lanka. The information that you provide in this survey, will greatly help me in an in-depth study of research. Any information obtained in connection with this study will be retained as confidential. I would be obliged if you co-operate with me in filling the questionnaire.

Thank You,

S.H.Srimal.

Contact Number: +94713204415

Section: A

The following company information is necessary for the validation of the questionnaire.
All responses will be kept confidential.

Please circle the response.

A1. Does your organization use the Internet of Things (IoT) and its enabling technologies:

(1) Yes
(2) No

A2. The number of employees:

(1) 1-100 employees
(2) 100-250 employees
(3) 250-500 employees
(4) 500-1000 employees
(5) More than 1000 employees

A3. Company revenue (per month):

(1) Rs. 50000 or below
(2) Rs. 50000-100000
(3) Rs. 100000-500000
(4) Rs. 500000-1000000
(5) Rs. 1000000 or above

A4. Production capacity-per annum (Tea Packets, Tea Bags, Tea in Bulk, Instant Tea, Green Tea, Flavored Tea etc.):

(1) 50000Kg or below
(2) 50000Kg-100000kg
(3) 100000kg-500000kg
(4) 500000kg-1000000kg
(5) 1000000kg or above

A5. Work experience of the company:

(1) Year 10 or below
(2) Year 10-25
(3) Year 25-35
(4) Year 35-50
(5) Year 50 or above

Section: B

This section B is related to certain aspects of a seven-point Likert scale was used to evaluate each of the measured constructs, for each of the following statements,

Please circle the number which best reflects your opinion of such statements.

	Statements	**Strongly Disagree**	**Disagree**	**Slightly Disagree**	**Neutral**	**Slightly Agree**	**Agree**	**Strongly Agree**
		1	**2**	**3**	**4**	**5**	**6**	**7**
	Argument advantage							
AA1	Cloud SCM services provide immediate access to hardware resources (e.g. coordinate planes; share information with suppliers).	1	2	3	4	5	6	7
AA2	Cloud SCM services make it easier for firms to scale up services to client demand (e.g. faster time to market).	1	2	3	4	5	6	7
AA3	Cloud SCM services drive job toward new possibilities.	1	2	3	4	5	6	7
AA4	Overall, cloud SCM services provide persuasive advantages.	1	2	3	4	5	6	7
	Source credibility							
SC1	Cloud SCM services companies provide helpful information on their websites.	1	2	3	4	5	6	7
SC2	Cloud SCM service companies have good reputations.	1	2	3	4	5	6	7
SC3	Cloud SCM service companies are credible.	1	2	3	4	5	6	7
	Perceived usefulness							
PU1	Using cloud SCM services in the job will increase productivity (e.g. make my work faster).	1	2	3	4	5	6	7
PU2	Using cloud SCM services in the job will improve performance (e.g. make my	1	2	3	4	5	6	7

	work better).							
PU3	Using cloud SCM services in the job will make it more effective (e.g. help make better decisions).	1	2	3	4	5	6	7
PU4	I find cloud SCM services to be useful in the job.	1	2	3	4	5	6	7
	Attitude							
AT1	Using cloud SCM services in the job is a good idea.	1	2	3	4	5	6	7
AT2	Using cloud SCM services in the job will be pleasant.	1	2	3	4	5	6	7
AT3	Overall, I like the idea of using cloud SCM service in the job.	1	2	3	4	5	6	7
	Intention							
IN1	I intend to use cloud SCM services in job more often in the near future.	1	2	3	4	5	6	7
IN2	I intend to use cloud SCM services for more of job responsibilities.	1	2	3	4	5	6	7
IN3	I intend to use cloud SCM services more often with customers.	1	2	3	4	5	6	7
IN4	I intend to use cloud SCM services more often with suppliers.	1	2	3	4	5	6	7

Your co-operation in providing this information will be greatly appreciated.

(Thank You for Completing the Questionnaire)