FACTORS AFFECTING SUCCESSFUL ADOPTION OF DESTINATION MANAGEMENT SYSTEMS IN SRI LANKAN HOSPITALITY SECTOR

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Degree of Master of Business Administration in Information Technology

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The dissertation was submitted to the Department of Computer Science and Engineering of the University of Moratuwa in partial fulfilment of the requirement for the Degree of Master of Business Administration in Information Technology.

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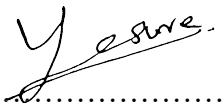

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ABSTRACT

Sri Lanka, as an emerging tourism destination, destination management companies have to cater large tourist arrivals in the future. Large portion of tourism revenue coming through inbound tour operators. Foreign destinations management companies achieve this by using successfully adoption of Destination Management System. Therefore the main purpose of this research study is to identify factors affecting successful adoption of Destination Management Systems.

The conceptual model was built upon combination of constructs in TOE & TAM Frameworks. To empirically validate the conceptual model, a quantitative survey methodology was used. A representative sample of 217 top executives working on Destination Management Companies (DMC) or Tour Operator Companies was selected for this study while the population is DMCs' in western province. Study used single informant method to collect data.

The data were collected using a standardized questionnaire and analyzed using SPSS 26 and SMART PLS-based Structural Equation Modeling (SEM). The study's major findings indicated that technological factors such as relative advantages, compatibility, complexity and as well as organizational factor such as top management support significantly affect adoption of destination management systems in these companies. In order to adopt DMS successfully, author of this study recommends government or Sri Lankan tourism board to initiate awareness program about DMS adoption and its benefits as well as to initiate national ICT framework for Destination Management. The findings also depict top managerial implications and potential future research opportunities in the same field.

Keywords: Destination Management System, Inbound Tour Operating Platform, Hospitality Industry, Travel and Tourism

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LIST OF ABBREVIATIONS

DMC	-	Destination Management Company
DMO	-	Destination Management Organization
DMS	-	Destination Management System
SLTDA	-	Sri Lanka Tourism Development Authority
PCEO	-	Professional Conference, Exhibition and Event Organizers
TAM	-	Technology Acceptance Model
TOE	-	Technology, Organizational & Environmental
TPB	-	Theory of Planed Behavior
TRA	-	Theory of Reasoned Action
PU	-	Perceived Usefulness
PEU	-	Perceived Ease of Use
RA	-	Relative Advantage
TMS	-	Top Management Support
OC	-	Organization Competency
IAD	-	Intention To Adopt
CI	-	Competitive Intensity
SEM	-	Structural Equation Modeling
SN	-	Subjective Norms
SRMR	-	Standardized Root Mean Square Residuals
HTMT	-	HeteroTrait-MonoTrait
KMO	-	Kaiser Mayer Olkin
CR	-	Composite Reliability
CFA	-	Confirmatory Factory Analysis

1. INTRODUCTION

1.1. Background of the study

Tourism brings a tremendous opportunities and countless advantages for any host nation. It contributes to a country's growth and development by generating multiple economic benefits, strengthening the country's brand value, image, and identity. Beyond enticing tourists, the tourism industry contributes greatly to economic growth.

Tourism is a dynamic industry that has grown increasingly competitive on a worldwide scale. Currently there is huge competition with destinations competing directly with others around the world. Here, Destination Management Organizations (DMO) play major role attracting tourist to destination. DMOs have traditionally been thought of as destination marketing organizations. However, several authors (Dore & Crouch, 2003) assert that there is a shift toward an understanding that the DMO's responsibility extends beyond marketing to include other tasks critical to the success of tourism in a competitive and sustainable environment.

A Destination Management Organization (DMO) provides professional services, such as substantial local knowledge, skills, and resources, with a focus on the design and implementation of inbound tourism activities such as tours, transportation, and program logistics (SLTDA, 2020). These businesses provide tourism-related services using a Destination Management System (DMS).

Sri Lanka has emerged to be the best destination to travel in the year 2019 according to a top global travel advisory site (Lonely Planet). As such, the country will encounter an influx of tourists' arrivals in the coming years and the government expects the number to be approximately 3 million in 2019 (EconomyNext, 2019). In this context, it is vital to analyze whether the tourism industry is ready with modern technology to cater to this large numbers effectively in order to capture the maximum benefit to the country in earning foreign exchange. DMS used in Sri Lanka presently give a significant help for the DMOs to work on itineraries and arrange memorable tours to travelers. But in order to achieve targets set by the Tourism Board, it is important to

have a human touch with rapid IT support to grab a tourist from other destinations in the current competitive environment.

This study has done pre survey among 5 major destination management organization in Sri Lanka. Survey consisted with 26 questions. Following factors are identified as major barriers in existing systems towards the journey of becoming comprehensive DMS.

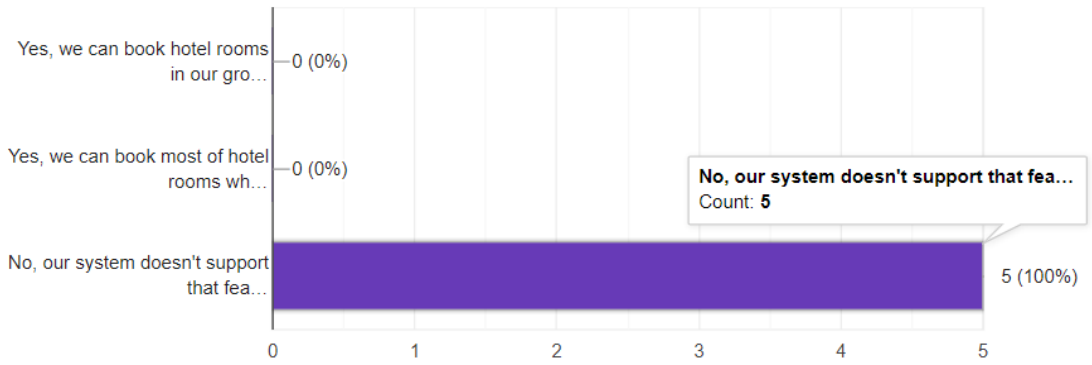

Figure 1: Pre Survey Results - Capability of book hotel room through DMS

Figure 1 state that all respondent respond with that their DMS doesn't support with reserving accommodation via DMS. According to the literature, this is a very important feature in destinations which have high demands. Also DMS deployed in many developed countries support this feature with or without public sector mediation.

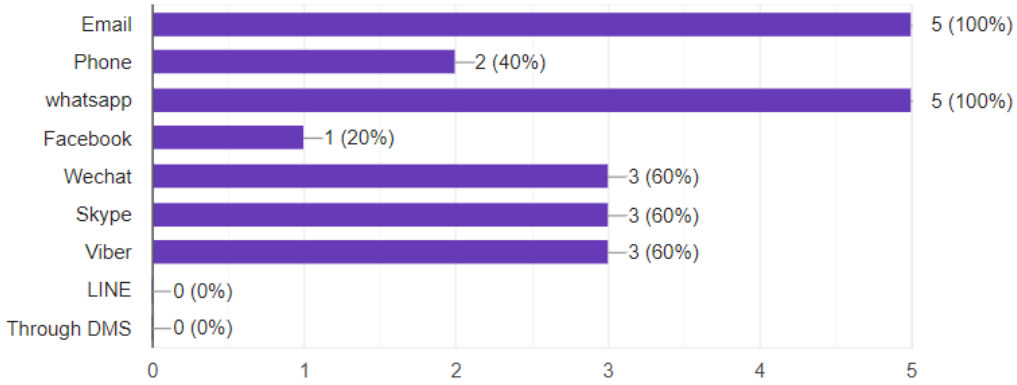

Figure 2: Pre Survey Results - Communication methods in DMC

Though 80% of respondents claim that they have B2B solutions, seems like they don't use DMS as a communication channel to communicate with foreign agents.

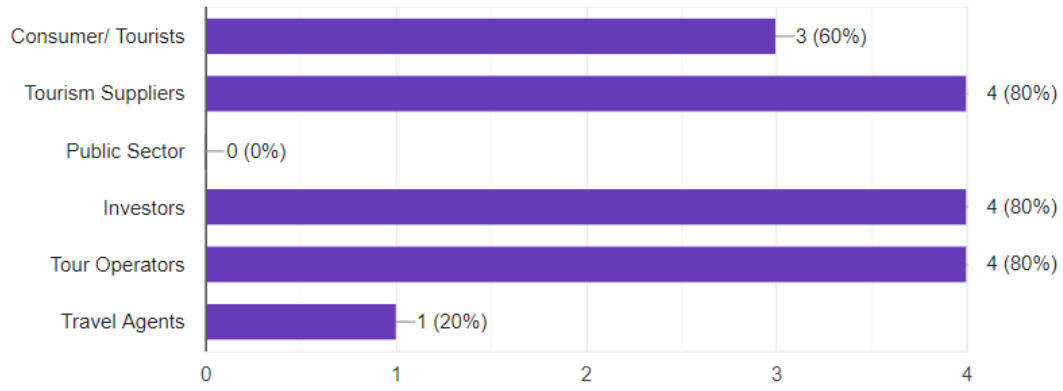

Figure 3: Pre Survey Results - Stakeholder of DMS

Figure 3 depicts stakeholders in DMS in DMOs, according to the respondents, public sector mediation as a stakeholder to the system is zero in Sri Lankan context. Which is very important feature in demanding tourism destination that public sector use DMS as a promotional tool. Also all respondent respond that their DMS doesn't interface with multiple distribution channels such as CRS, GDS, and digital TV. All respondents

respond with that they don't use any new technologies such as augmented reality and virtual reality to promote tourism destinations. Also they mentioned that their DMS doesn't provide comprehensive destination information during their trip via mobile app or any other technology. One respondent gave his feedback as that they cannot pay for site tickets online except Sigiriya.

DMS plays a significant role in attracting tourist for destination. Therefore, it is important for the DMO to adapt comprehensive destination management systems which provide timely, appropriate and accurate data by providing quick bookings, B2B, B2C, GDS, accommodations, events and transport. According to the pilot survey done for the major 5 DMOs in Sri Lanka, we can conclude that there are not comprehensive DMS in Sri Lanka. Therefore, it is vital to identify what are the factors affecting adopting comprehensive DMS in Sri Lankan destination management organizations.

Therefore based on the above background and the considering case studies that are outside of Sri Lanka, the following research problem was derived.

1.2. Problem Statement

What are the factors that affecting successful adoption of DMS in hospitality and tourism sector in Sri Lanka?

In order to address this research problem, the following research questions were developed.

1.3. Research Questions

I. What is the current status of DMS system in Sri Lanka?
II. What are the factors that can affect effective integration of DMS in local destination management companies?
III. How the identified factors influence effective integration of DMS in local destination management companies?

Therefore above research questions lead to the following research objectives.

1.4. Research Objectives

I. To assess the current DMC practices in Sri Lanka
II. To identify the factors that can affect effective integration of DMS in local destination management companies
III. To explain how these factors, influence the intention of DMS adoption.
IV. To provide suggestions to improve the effective DMS adoption in the SL DMCs.

1.5. Scope of the study

We will discuss inbound tourism organizations (DMCs) and professional conference, exhibition, and event organizers in this section. (PCEO) is a corporation that is in charge of all aspects of planning, organizing, and executing meetings, conferences, exhibitions, and events, from thematic oversight and communication to logistics. According to our pilot survey, we saw that most of major DMC companies also operate as PCEO. This study will be focused on DMO and will be carried out in a questionnaire basis report. Therefore, in order to get the clear and correct information study will concern towards the DMO users/stakeholders and some external factors.

1.6. Significance of the study

This study will explore the current adoption scenario for destination management system at DMOs and what kind of adoption carries towards the destination management and how would it be implemented in future as well in order to improve efficiency and destination marketing aspects. By reading the past literature it has been proved many researchers have touched the Destination management system adoption in different context with different aspects such as deploying DMS as a Marketing tool, distribution channel or destination management system. Though there were many literatures found in destination marketing or branding aspects in Sri Lanka, lack of research concerning towards adoption of DMS in destination management

organizations. As a result of it this study brings an empirical novelty by analyzing factors affect successful adoption of DMS in Sri Lankan context

1.7. Organization of the Study

First chapter discuss about destination management systems and how DMS effectively use in other countries to successfully manage tourism arrivals. Also it describe what is the current status of DMS in DMC in Sri Lanka. Second chapter reviews in detail about DMS, its components and types. Chapter three describes the research strategy, hypothesis, conceptual framework, operationalization table and research design. Then chapter four highlight descriptive & inferential statistics obtained based on collected data. Then the final chapter conclude research findings for each objectives and author suggest the recommendation to successfully adopt DMS

2. LITERATURE REVIEW

2.1. Introduction

This section elaborates several studies and concepts regarding the adoption of DMS, how destination management organizations gain various advantages by using the DMS properly and the other way how organizational determinants affect to intention to use of the DMS. Also, it aims to generate the conceptual model and hypothesis by analyzing the previous theories, concepts and models in this chapter.

2.2. Destination management organizations

DMSs are typically controlled by public vacationer associations or destination management organizations (DMOs) charged with the responsibility of supervising and marketing the local tourism industry. DMOs may be entirely public or comprised of public and commercial sector partners. DMS is considered as an online mechanism that enforces the DMO's actions within a destination (Horan & Frew, 2007). The DMO is primarily accountable for managing the overall organization of the travel sector at a destination. DMO's actions include developing a positive image, informing guests, and coordinating with partners (Buhalis, 2003).

Studies found that two parts of DMOs in building up their destinations; adapting to the enhanced IT advancements of the travel trade, and corporating the multiplayers of the tourism sector. Hence, this should be believed to successfully build up the tourism sector (Gretal et al, 2006).

2.3. Destination Management Systems

DMSs are defined as "a collection of computerized information, interactively accessible, about a destination" (Buhalis & Spanda, 2000). According to authors,

comprehensive and efficient DMSs are not only satisfy the demand, but also enhance the long-term competitiveness of destinations.

According to the Willson (2012), online destination management systems (DMSs) are broadly utilized as distribution channel and promoting tools by destination marketing organizations (DMOs) at various stages (for example: country, district, city or other noticeable geological substance) in the advancement and the management of the tourism destinations. They define DMS is a framework using PC and correspondence advancements, particularly the Internet, to satisfy the capacity of a DMO in its essential objectives such as the advancement of the travel industry organizations inside geologically characterized regions, giving complete the travel industry data and choice of the tourism items to potential guests.

2.4. Terminology and definitions for the DMS

When the DMS literature is examined, the absence of a commonly accepted word for DMS is readily apparent. Buhalis and Deimezi (2003) argued that there is no consensus on what these term should imply. The different disagreements between scholars about the name and definition of DMS can be attributed to their differing perspectives on DMS function, points, and capacity, which reflect the way they call these types of systems. Subsequently, DMS related literature has determined various definitions and surprisingly various terms while alluding to the idea of DMS, for instance, a traveler database, a destination database, a destination information system, a guest or vacationer information system or a destination marketing/management system (DMS).

In any case, there are various large concurred facet identified with DMS function and highlights. The following literature demonstrates how various gathering of researchers' conceptualized DMS objectives and capabilities and how this influenced the term used.

2.4.1. DMS as a platform for distributing destination information

According to Chen and Sheldon (1997), the goal of DMS is to create unbiased, trustful and accurate information on the destination. As a result, DMS was called Destination Information Systems (DIS). They defined DIS as follows:

"A inter-organizational system (IOS) which furnishes travelers and travel advisors with simple admittance to far reaching, opportune and precise data on a destination's accommodations, and the alternative of reserving a spot" (1997, p. 151).

According to (Chen & Sheldon, 1997), DMS is an IOS. Moreover, they concentrated on the dissemination of destination information while ignoring other features of DMS as an IOS, such as the necessity for communication and relationship building capabilities, as (Wang & Russo, 2007) pointed out.

2.4.2. DMS as a platform for destination management

Another set of researchers, such as (Buhalis, 2000), (Collins & Buhalis, 2003), and (Horan & Frew, 2007), has taken a broader approach to researching DMS. They investigate DMS as a Destination Management System, which goes beyond the duty of simply marketing the destination. DMS is defined as follows by (Horan & Frew, 2007):

"Destination Management Systems (DMS) are frameworks that combine and circulate an exhaustive scope of the travel industry items through an assortment of channels and stages, for the most part providing food for a particular district, and supporting the exercises of a Destination Management Organizations (DMO) inside that area. DMS endeavor to use a client driven methodology to oversee and promote the destination as a comprehensive element, commonly giving solid destination related data, real-time reservations, and destination management instruments and giving specific consideration to supporting small & independent the tourism providers" (2007, p 63).

Scholars contended that the objective of the Destination Management System is to help the elements of DMO; for example arranging, overseeing and promoting the

destination (Buhalis, 2003). As per these authors' point of view, DMS empowers the dispersion of a thorough variety of information about destination items and administrations, gives web based booking amenities, and assists the trade of local travel industry suppliers.

2.4.3. DMS as a marketing tool

As per (Rita, 2001) and (Richie & Richie, 2002), the prime objective of a DMS is to promote destination items and services with the option of making reservations. Those scholars referred to such a system as a 'Destination Marketing System,' and they investigated DMS from a marketing perspective that is client-centered. For example, (Frew & O'Connor, 1999) characterize DMS as follows:

"It is a framework which utilizes PC and correspondence advances, particularly the Web and the internet, to satisfy the capacity of a DMO in its essential goal - the marketing of the travel industry business inside geological characterized zone, usually consisting a connection to accommodation and marketing capacities" (1999, p. 399).

Assuming a marketing point of view, according to (Wang & Russo, 1999), additionally recognized as "a predominant conveyance channel utilized by destination promoters' to give thorough information of tourism and a choice of the travel industry items to possible guests" (2007, p. 399).

2.5. DMS aims and objectives

The principle focus of DMS is to work as platform for building up the tourism industry as a business in a destination. As per (Horan & Frew, 2007) DMOs use DMS to support their functions related to the destination. DMS empowers DMO to expand profitability and develop the business and intensity of neighborhood public and private the travel industry organizations as well as accomplishing long haul benefits DMS for partners and make financial abundance and occupations for the travel industry destination (Collins & Buhalis, 2003). Hence, DMS is viewed as an apparatus to expand DMOs

and the tourism organizations' capacities and market their organization and improve competitiveness at the destination in the electronic commercial center.

DMS should operate as an expert link between clients, travel companies, and DMOs in order to help DMOs' actions and achieve long haul benefits for varied partners. Likewise, DMS should introduce the destination as an all-encompassing substance showing a destination direction instead of item orientation (Horan & Frew, 2007).

2.6. Components of Destination Management System

Components of the DMS should be formed to recognize goals and to take into account the numerous relationships and components of the DMS in order for the DMS's aim to be fulfilled. When discussing the capabilities of the DMS, researchers presented several component combinations. This is due to the numerous viewpoints they have on the DMS components. Wang & Russo (2007) adopt a marketing perspective, whereas UNCTAD (2005) adopt a management perspective in order to better understand the rationale, function and components of DMS.

The (UNCTAD, 2005) introduced the primary components of DMS by classifying the elements of DMS as per distinctive client gatherings. The Extranet, Intranet, and Public Internet are the three components. These are clustered around a central DMS database.

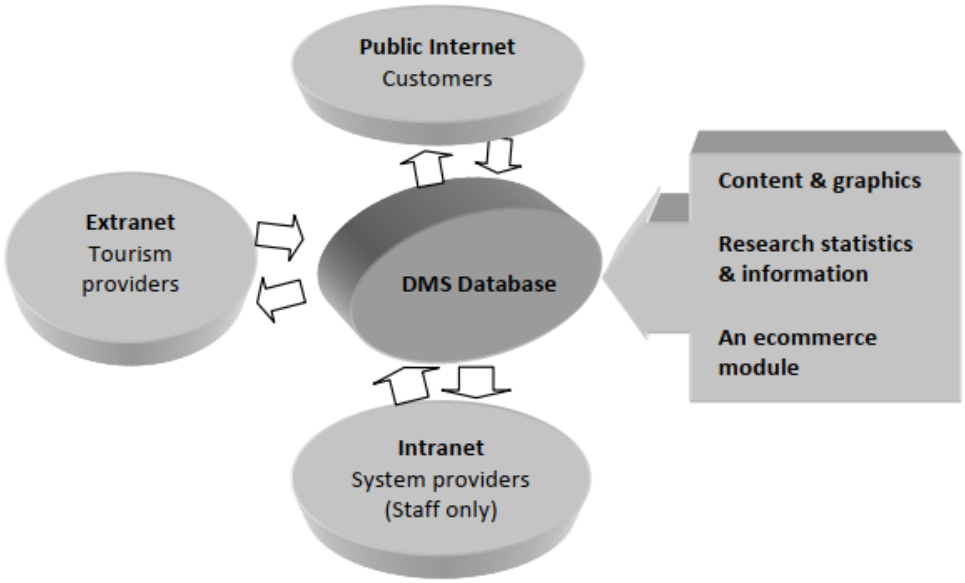

Figure 4: DMS database (UNCTAD, 2005)

2.7. Technology Adoption Models

2.7.1. Technology Acceptance Model (TAM)

There are several theoretical conceptual models, but among those, the Technology Acceptance Model (TAM) is universally regarded as a model that study technology adoption and system use. According to (Hong et al, 2006) this resolves numerous variations in users' behavioral intentions towards the adoption and usage of information technology in a variety of circumstances. TAM entails a user's acceptance of information technology and its use on their work (Au and Zafar, 2008), as well as the factors that influence user acceptance of a wide range of end-user computing technologies (Davis, 1986). This framework makes an attempt to explain the relationship between technological acceptability and adoption, and thus behavioral intent to use it (Autry et al, 2010). Also (Chen et al, 2004) state that key perceived predictors of system use are usability (PU) and perceived ease of use (PEOU)

Perceived usefulness (PU)

(Davis, 1989) defines perceived usefulness as "the extent to which a person believes that using a certain system would improve his or her job performance." This is based on the meaning of the term useful, which states that it is "capable of being employed advantageously." People are often rewarded for good performance in the workplace through increments, promotions, bonuses, and other incentives. A system with a high perceived usefulness is one for which the user perceives a good use-performance relationship exists. Davis (1989), in his investigation of perceived usefulness, proposed a six items estimation apparatus. The six items incorporate the accompanying four items most generally utilized:

- Using (software) improves performance of my work
- Using (software) improves my productivity at work
- Using (software) improves my work adequacy
- overall, I discover the (software) valuable in my work

Perceived ease of use (PEU)

As per the (Davis, 1989), the term "perceived ease of use" refers to "a person's belief that using a certain system would be free of effort." This is consistent with the definition of "ease" as "the absence of difficulty or substantial effort." A user-friendly program is more likely to be adopted by users. (Davis, 1989) proposed following four items that are more frequently used to measure PEU.

- The software is flexible to interact with
- I have no difficulty getting the software to perform what I want it to accomplish.
- I find it simple to learn how to operate the application.
- In general, I find the software is simple to use.

2.7.2. Technological, Organizational & Environmental (TOE) framework

Tornatzky and Fleischer (1990) established the TOE framework to examine firm-level adoption of various information systems or information technology products and services. According to (Hossain and Quaddus, 2011; Oliveira et al, 2010; Ramdani et al, 2009; Zhu et al, 2004), it became a popular theoretical approach on the adoption of information technology. Because TOE incorporates technological, organizational, and environmental variables, it outperforms other adoption models in research on technology adoption, technology use, and value creation from technological innovation. Additionally, it is unrestricted by industry or corporate size (Wen and Chen, 2010). This framework provides a comprehensive picture of user adoption of technology, its implementation, anticipated challenges and impact on value chain activities. And also the factors that influence corporate innovation adoption decisions. As well as developing better organizational skills with technology (Wang et al, 2010; Lin & Lin, 2008).

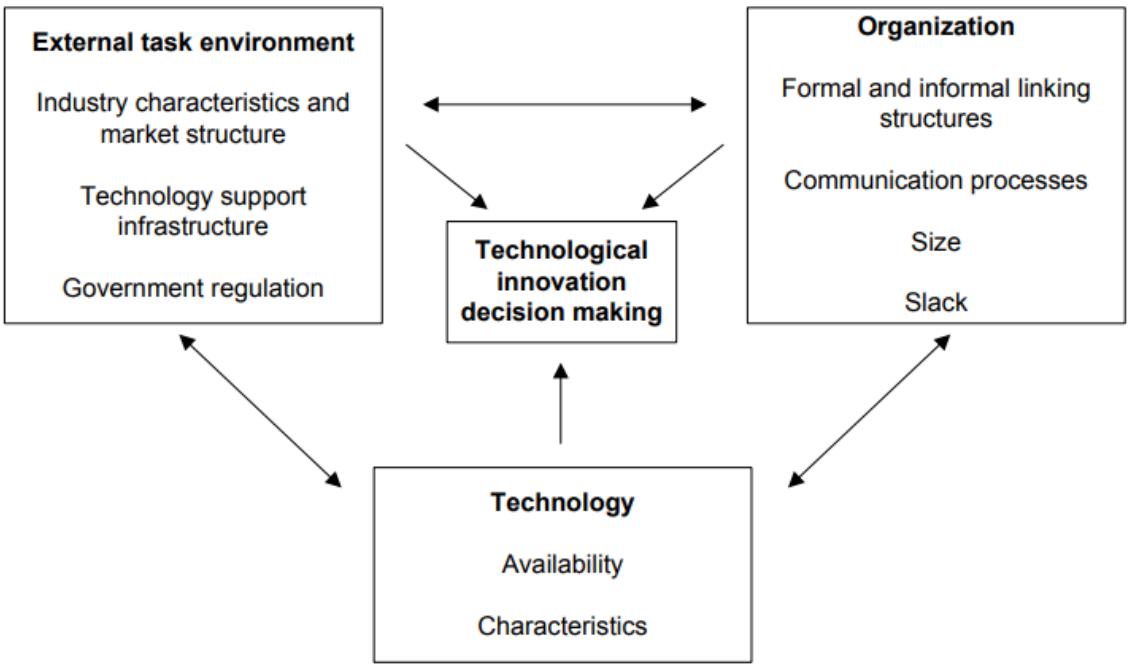

Figure 5: TOE framework (Tornatzky and Fleischer 1990)

TOE framework components

As per (Tornatzky and Fleischer, 1990), there are three types of contexts: Technological, Organizational, And Environmental which may influence the technological innovation adoption and implementation process. These three context of TOE framework are clarified in below.

1. Technological context

The technological context is made up of factors that impact an individual, an organization, and industry's acceptance of innovations (Claycomb et al, 2005). According to studies, system assimilation, traceability, complexity, perceived direct & indirect benefits and normalization are all major factors, however observability is not (Carnaghan & Klassen, 2007).

The "Compatibility**"** factor is important in the adoption of RFID and knowledge management, while it is not important in the adoption of EDI & ERP. As per the (Wang et al, 2010), these technologies depend on the Internet, and the Internet is general to the point that compatibility isn't viewed as a component interested by the adoption of new technology or software. Likewise, the importance of "relative benefit" and "perceived cost" vary according on circumstances. As a result, it provides a snapshot of the variables affecting new technologies.

2. Organizational context

It alludes to illustrative estimates identified with associations like organization's scope, organization's size and administrative convictions, and so on (Salwani et al., 2009). Adoption propensity is affected by informal and formal intra-hierarchical components for correspondence and control; alongside assets and creativity of the association (Dedrick& West, 2003). The huge factors in authoritative setting incorporate monetary assets, organizational design, hierarchical leeway, development limit, information ability, operational ability, key utilization of innovation, trust, mechanical assets, top administration support, support for advancement, nature of

human resources, hierarchical information collection, ability and foundation and hierarchical preparation while monetary limit and techological capability are recognized as unimportant (Jang, 2010; Lee et al., 2010). Organization's size was distinguished as critical in RFID, online business and ERP reception while unimportant in EDI adoption (Lin, 2009). The explanation clarified by the researchers is, firms of all sizes have understood the essential significance of innovation for the achievement of their organizations, accordingly will contribute vigorously on technology advancements to improve their competitive benefits. Additionally, part of top administration responsibility fluctuates from one setting to another (Ramdani et al., 2009). Some organization hierarchical factors are concentrated in setting on EDI by Huang et al. (2008) who distinguished expected power of the accomplice, trust in the accomplice and relationship responsibility with a partner as critical factors while practiced force of the accomplice and reliance on the partner as unimportant factors. Hence, it indicates a comprehensive image of factors affecting ongoing technological advancements.

3. Environmental context

It concentrates on territories in which a organization directs its business tasks, with the need given to outside variables impacting the business like government motivatives and guidelines (Salwani et al., 2009). It incorporates factors identified with industry attributes like contention, relations with purchasers and providers, just as the phases of the business life cycle (DePietro et al., 1990, pp. 169-171). Important factors in environmental context incorporate client command, pressure from the competitors, outside pressure, internal pressure, suppliers' help, trading partner pressure, business reliance, ecological vulnerability, information & network intensity while government law isn't recognized as critical factor (Raymond & Uwizeyemungu, 2007). Hence, it indicates a comprehensive image of factors affecting ongoing technological innovations.

2.7.3. Relationship between TOE framework and intention to adopt technology based systems

We reviewed some studies based on the TOE framework and presented some studies based on this theory. Here we address several related papers which only used the TOE framework to explain the intention to adopt technology based systems. Such as adoption of web platform, e-commerce, business to business (ERP), electronic data exchange (EDI), e-commerce, Knowledge Management System (KMS). The analyzed variables and the relationship between Intentions to adopt are discussed below.

(Kuan & Chau, 2001) studied on EDI adoption with TOE framework. Author used perceived direct benefits & perceived indirect benefit as variables in technological context. Perceived financial cost & perceived technical competence used as variables for organizational context. For the Environmental context perceived industry pressure & perceived government pressure variables were used. Author of that study used factor analysis and logistic regression as method for data analysis.

(Oliveira & Martins 2008) assessed web site adoption using technology readiness, technology integration & security application as variables for technological context. Perceived benefits of electronic correspondence, IT training programs, access to the IT system of the firm. Web site competitive pressure used as environmental variable. Multiple correspondence analysis (MCA), and probit model used to assess the collected data.

(Martins & Oliveira, 2009) conducted research on e-commerce website adoption using TOE. Technology readiness, technology integration & security application were used as variables for Technological context whilst perceived benefits of electronic correspondence, IT training programs, access to the IT system of the firm, internet and email norms were used as organizational context variables. web site competitive pressure, internet competitive pressure and e-commerce competitive pressure were used as environmental variables.

(Pan & Jang, 2008) studied ERP adoption using TOE and IT infrastructure, technology readiness were used as variables for technological context. Firm size & perceived barriers used as organizational variable whilst production and operations

improvement, enhancement of products and services, competitive pressure & regulatory policy were used as environmental variables. Study used FA, and Logistic regression for the method of data analysis.

(Teo et al, 2006) studied B2B e-commerce adoption using Technological, Organizational & Environmental inhibitors. Unresolved technical issues, lack of interoperability and lack of IT expertise and infrastructure were used as tech factors. Difficulties in organizational change, lack of ecommerce strategy, problems in project management, and difficulties in cost benefit assessment and lack of top management support were used as firm level variables while unresolved legal issues, fear and uncertainty were used as environmental variables. Factor analysis, t-tests and discrimination analysis methods were used in data analysis.

(Lee et al, 2009) describes KMS adoption using TOE, for the technology context author used firm IT competency, compatibility , relative advantage and complexity factors. Top management support & hierarchical organizational structure were used to assess organizational aspect whilst relationship with external vendors used as environmental factor.

2.7.4. Relationship between TAM and intention to adopt technology based systems

The TAM is an information systems theory that describes how users going to adopt and use a technology (Davis, 1989). TAM is one of the most powerful extensions to Theory of Reasoned Action (TRA) (Hill, Fishbein, & Ajzen, 1977) and theory of planned behavior (TPB) (Ajzen, 1985), both of them have provided valuable conceptual models to address the dynamics of human social behavior. The key concept is to explain and forecast the adoption and use of the method by the external factors influencing internal attitudes and intentions of users. TAM's objective is to understand the determinants of computer adoption in general and to explain the actions of users through a wide variety of end-user computer technologies.

(Safeena, Date, Hundewale, & Kammani, 2013) studied on adoption of internet banking using combination of TAM and TPB models. According to their analysis

perceived usefulness (PU), perceived ease of use (PEU), perceived behavioral control, subjective norm and attitude has positive effect on intention to use internet banking. Their findings indicate that all factors are significance & there is highly significance in PU when determining intention to use. The researcher conclude that PU is more influential than PEU when explaining intention to use internet banking.

(Wen, Liao, Hong, Pan, & Wu, 2018) investigated relationships between PU, PEU, self-efficacy, and users' preparedness to use an e-book production performance evaluation system using TAM. Users' PU and PEU may have a direct impact on their readiness to embrace an e-book production assessment system, according to the findings. The effect size of PU (0.72) was much larger than that of PEU (0.30).

2.8. Summary

In this chapter authors described current role of DMC and types of DMC. Also it explain DMS term, its role and evolution of DMS as a different tools covering different aspect of DMC requirements. This section also describes objectives of DMS and component of DMS. Then it describes TOE framework, its elements and how it relate to intention to adopt while considering other frameworks such as TAM, TRA, TPB.

3. RESEARCH METHODOLOGY AND CONCEPTUAL MODEL

3.1. Introduction

In order to explore the study and achieve the objectives, this chapter describes the various steps required. First, let's discuss the research philosophy, design and strategy in bringing different theories. Subsequently, the conceptualization of the study, after having moved to develop the hypotheses necessary to address the research questions focused on the literature review. Furthermore, it concerns the operation of key constructs.

Finally, the study shows a research methodology, sampling selection, data collection and how to perform data analysis to achieve the objectives.

3.2. Research Philosophy, Design and Strategy

Research philosophy alludes to an arrangement of convictions and presumptions about the advancement of knowledge. There are four fundamental philosophies, named positivism, realism, interpretivism and pragmatism are sorted by ontology which means how the analyst see the idea of the real world, epistemology which plainly portrays the analyst's perspective on what establishes worthy about the information and axiology depicting the part of qualities in the study (Saunders et al., 2011).

Concerning towards the philosophical traditions, there are two main philosophical traditions that clearly oppose opinions, positivism and social constructionism. According to the positivist custom, the overall social world exists remotely and its properties ought to be estimated through determined target techniques, instead of being subjectively expressed through sensation, reflection or intuition (Sophonthummapharn, 2008).

In agreement with the positivist researcher, the analyst accepts that they are free of what is noticed. Positivism is always called objectivism and the individuals who embrace this practice might be called 'assets' researchers (Saunders et al., 2007).

Therefore, this study included philosophical customs of positivism. There are two ways to reason, inductive and deductive methods. In general, inductive strategy usually passes from specific observations to generalizations and broader theories. On the other hand, a deductive strategy usually works from the most general to the most specific (Sophonthummapharn, 2008). Therefore, this study uses a deductive strategy with quantitative techniques which are for the most part connected with the addressed problem of this study.

3.3. Conceptual Framework & Hypotheses

According to Buhalis& Main (1998), factors influencing adoption include ignorance of the benefits from IT, inadequate management and training, deficient education and training, external decision-making, and lack of financial resources. Also according to Mirchandani&Motwani (2001), relative advantage, compatibility with the business, managerial time, information intensity, competition, knowledge of computers, cost of implementation and enthusiasm of top manager are the main construct that determine the adoption of IT system. Aurelien& Zhao (2014) elaborate key determinants which affect to the decision of DMS adoption as in three categories; organizational, technical and environmental.

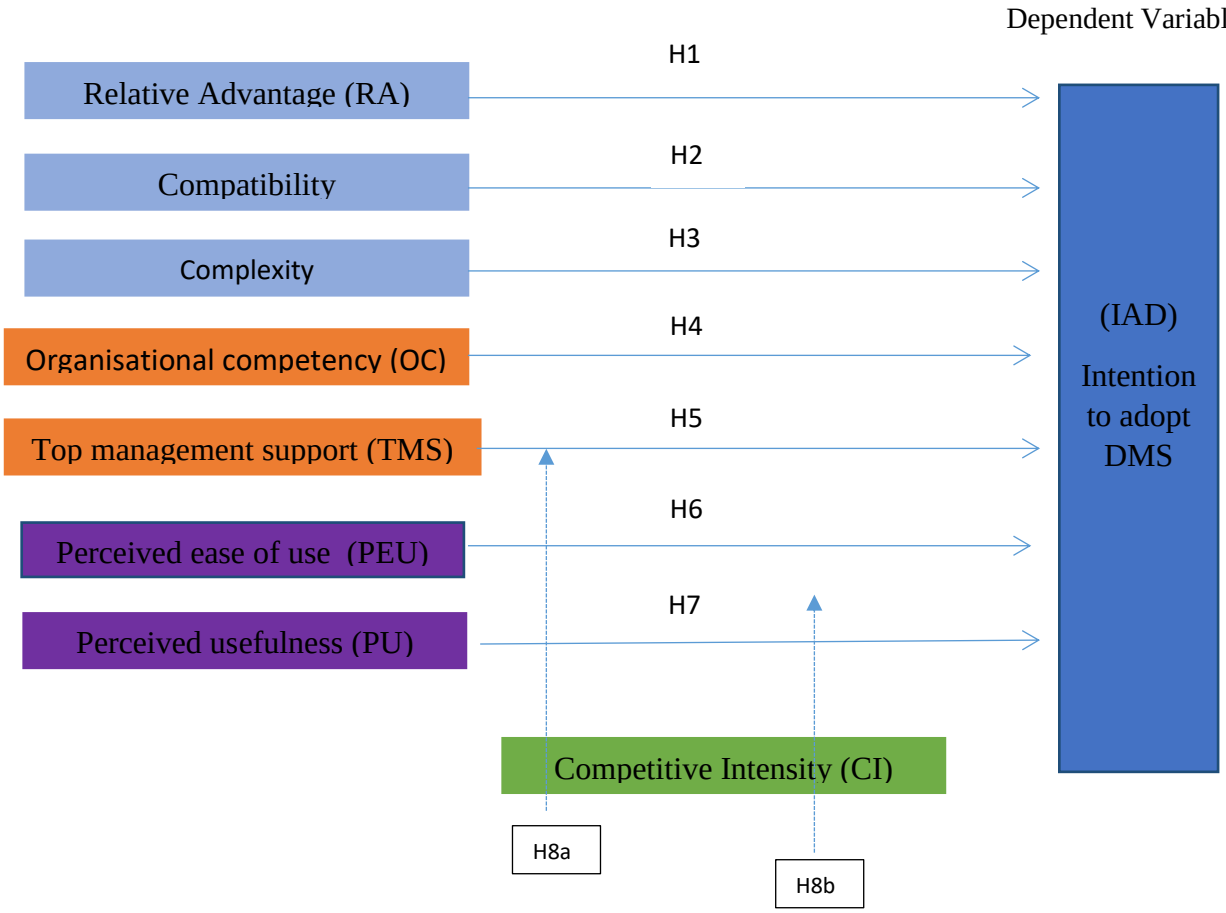

Figure 6: Proposed Conceptual Framework

(Author developed through literature review)

3.4. Hypothesis Development

Mndzebele (2013) investigates whether there is a link between the degree of Electronic Commerce (EC) adoption in B2B context, as well as Business to Consumer (B2C) in the context of hotels in South Africa, using a variety of technological variables (such as relative benefit, compatibility, and complexity). Compatibility and complexity have a positive relationship with the degree of EC adoption, according to the findings.

Extra advantages of a technology over its different options assume a critical part in its adoption in an association. As indicated by Rogers (1983), relative benefit implies that 'how much a technological variable is seen as giving more prominent advantage to

organizations. Adopting cloud computing technologies has gained over different technologies like decreased expense, scalability, adaptability, mobility, and shared assets.

As a result, a favorable positive relationship between technological factors and the intention to adopt Destination Management Systems can be hypothesized.

(H1)= Relative advantage **has a positive relationship towards the intention to adopt the Destination Management System.**

(H2)= Compatibility **has a positive relationship towards the intention to adopt the Destination Management System.**

(H3)= Complexity **has a negative relationship towards the intention to adopt Destination Management System.**

Organization competency is characterized as "the accessibility of the required organizational assets for adoption" (Iacovou et al., 1995, p. 467). Association competency, as utilized in past research on EDI adoption, measures whether an organization has adequate ICT complexity and monetary assets (Swatman & Swatman, 1992).

Information technology adoption literature, like other management disciplines, has recognized the importance of top management support in the initiation, implementation, and adoption of various information technologies. (Salwani et al., 2009) defines it as top executives' beliefs and behaviours on the utility of technology innovation in creating corporate value. Top management support, corporate culture, qualified and competent people, and training are all important factors in ERP adoption, according to (Kouki et al., 2009).

Therefore, based on this evidence, the study formulates the hypothesis that.

(H4)= Organization competency **has a positive relationship towards the intention to adopt the Destination Management System.**

(H5)= Top management supports **have a positive relationship towards the intention to adopt Destination Management System.**

Study of Tseng, Tu, Lee & Wang (2012) show that perceived usefulness is highly significant factor while perceived ease of use is less significant than previous. Perceived usefulness is a successful indicator of clients' mentalities and expectations to utilize DMSs. This implies that clients' requirements for DMSs are all the more firmly identified with perceived usefulness (example: convenience, effectiveness and productivity)

Therefore, it is possible to hypothesize that a positive relationship exists between individual/ personal factors and the intention to adopt CRM.

(H6)= Perceived ease of use **has a positive relationship towards the intention to adopt the Destination Management System.**

(H7)= Perceived usefulness **has a positive relationship towards the intention to adopt the Destination Management System.**

From the beginning phases of study in technology adoption, the job of competitive intensity is perceived as a powerful inspiration (Lippert & Govindarajulu, 2006). According to Huang et al. (2008), competitive intensity, potential power, trust in partner, relationship commitment are significant environmental constructs in EDI adoption.

Competitive intensity is an environmental hostility factor (Zahra & Covin, 1995). It is the circumstance wherein a great deal of rivals are found and less freedom for the organization development. In high competitive intensity, organization had no their own conduct, organization was carry on as the according to the competitors (Dess & Beard, 1984).

At the point when the opposition power was low, then the organization can completely straightforward his conduct. In any case, if the opposition force was high then the firm embraces his procedure as needs be to his rivals. In high intensive market organizations can take proactive exercises with high technological revolutions and furthermore face challenge. They break their cost and advancements wars were played in high intensive markets (Zahra, 1993). Organizations were creative in both items and cycles, systems

in order to investigate markets and have a divergence from their rivals (Shafique, 2015).

Competitive intensity positively moderates the connection between organization assets and organization performance to such an extent that the connections become stronger when competitive intensity is high than when it is low.

Therefore, when the competition intensity high, organization more towards to the new system exploration as same as the adoption decision with them. Also, organizational variables, for example, management support, system compatibility and organizational readiness those all factors also bind with the competition intensity.

Therefore;

(H8a)=Competition Intensity moderates the relationship between the intention to adopt the **Destination Management System** and Organizational readiness.

(H8b)=Competition Intensity moderates the relationship between the intention to adopt the **Destination Management System** and Top Management Support.

3.5. Operationalization Table

Table 1: Operationalization Table

Constructs	Variables	Indicators	Source
Organizational factor	Top management support	• Long-term vision • Optimal management of resources • Cultivation of favorable organizational climate • feedback • Practicing strategy to keep good relationship with customers & partners. • Monitoring • Direction • Authority	(Wang, 2010; Jang, 2010; Ramdani & Lorenzo, 2009; Toe et al., 2009)
	Organizational Competency	• Willingness to move existing to desired one • Staffing & skills technology • Right time to move • Resources-Hardware Software	(Musawa&Wahab, 2012; Oliveira & Martins, 2010)

Technical Factor	Relative Advantage	• Operational efficiency • Customer satisfaction • ROI • Profit • Reduced cost • Scalability • Flexibility • Shared resources	(Roger, 1983; Marston et al., 2011)
	Complexity	• Knowledge and skills • Amount of time taken to perform task • application integration • long mechanism IT Support	(Sonnenwaldet al, 2001)
	Compatibility	• Values that already exist • Patterns of behavior • An organization's and its workers' experiences with the reconcilability of new technology innovation	(Peng et al, 2009; Rogers, 2003)
Personal/Individual Factor	Perceived Usefulness	• Behavioral intention on new system. • Usefulness and effectiveness • Improve job performance • Productivity	(Chen & Tan, 2004; Au & Zafar, 2008; Adams et al., 1992; Chin & Gopal, 1995; Hendrickson &Skerrette, 2020)

	Perceived ease of use	• Easy to understand	(Wu, 2011)
Environmental Factor	Competitive Intensity	• Industry structure and outperforming their competitors • Competitive prices • The similarity between competitors • Products and markets	(Porter & Millar, 1985; Ramdani& Lorenzo, 2009)
Intention to adopt		• Reform is beneficial • Interest • Customer satisfaction • Helpful guidance in performing tasks • Knowledge	(Peres, Correia&Moital, 2011)

3.6. Research Design

The quantitative method will be used in this paper since it enables the collecting of a huge amount of data. The objective of this study is to address the inquiry focused on the TOE determinants which affect to the DMS adoption. Accordingly, this study primarily picks a questionnaire as its principle method for data gathering. Moreover, in this study, the scholar expects to use the survey tools to accumulate all information identified with proposing a model to examine how the Destination Management Organization manages DMS adoption (technical, organizational, environmental & personal) factors and intention to use. The questionnaire has two parts. The first area incorporates individuals' demographic data such as gender, age, position and number of years of experience. The subsequent area incorporates things identified with factors that influence the coordinated between DMS adoption factors (technical, organizational, environmental & personal) and intention to use. Additionally, judgmental sampling was chosen in this study and the Survey based approach was adopted.

3.6.1. Population

The objective of this study is to identify the factors that can affect effective integration of DMS in local destination management companies. For analyzing, the independent variables which is called affecting factors study has selected as targeted population 500 Destination Management Organizations from Western Province Sri Lanka representing small, medium & larger scale.

3.6.2. Selection of study sample

This sample size determination can be justified using Morgan table (Krejcie & Morgan, 1970).

Table 2 : Population Vs Sample

Population	Sample
500	217
Total Sample size	**217**

This study uses judgmental sampling. Quotas were identified and number of companies were determined proportionately to reflect the population. The sample size is proportional to the stratum's population size. The following formula is used to determine sample sizes of strata:

$$n_h = (N_h / N) * n$$

N denotes the entire population size, while n denotes the total sample size.

N_h denotes the population size for stratum *h*

Where n_h is the sample size for stratum *h*

Sample size for each category was determined judgmentally based on few experts working on inbound tourism industry.

Table 3 : Sample size for each category

Size	Population	Sample
Micro	100	43
Small	170	74
Medium	200	87
Large	30	13
	Total Sample size	**217**

Micro, Small, Medium & Large measurement criteria is based on National Policy Framework for SME Development defined by Sri Lankan Ministry of Industry and Commerce.

Table 4 : Criteria to measure Micro, Small, Medium & Large Enterprise

Criteria	Large	Medium	Small	Micro
Annual Turnover	>LKR Mn. 750	LKR Mn. 251 - 750	LKR Mn. 16 - 250	Less than LKR Mn. 15
No. of Employees	> 200	51 - 200	11 - 50	Less than 10

3.6.3. Data collection & analysis

This study was based on a survey. This study incorporated both primary and secondary data sources. The secondary data sources was acquired from relevant print materials and electronic sources in order to enhance the clarity of the problem and goals, conduct a literature study, ascertain the methodology used in prior work, and also to substantiate the findings. Primary data were collected from Destination Management Companies using self-administered Structured Questionnaires.

An online questionnaire created using google form was distributed to collect the data required from Destination Management Companies. Single employee of DMO who engage with the DMS can respond the survey very easily and convenient way. A structured questionnaire essentially comprising of 5 point - Likert scales (Strongly Agree to Strongly Disagree) just as other demographic information in regards to the respondents was used to measure the dimensions (refer to the questionnaire in the Annexure -III).

Raw data collection was gotten from the sample surveys, then data was then loaded into the Statistical Program for Social Sciences (SPSS). This investigation utilized graphic and inferential statistics for the entire data analysis.

The questionnaire's reliability was tested through reliability analysis. Since that time, all factors were investigated to ensure their validity using factor analysis. Later, descriptive statistics such as frequencies, means, mode and standard deviation were used to examine the sample properties. Next, Partial Least Squares with Structural

Equation Modeling known as PLS-SEM were carried out to test the hypotheses and determined utilizing the conceptual model and to quantify the strength of relationship. According to the (Ringle et al., 2014). PLS – SEM techniques can use when sample size is small and parametric assumptions are not required. Also well suited for exploratory type model development.

3.6.4. Validity & Reliability

According to the (Christie et al, 2000), the study's reliability or dependability is defined as the capacity of other researchers to acquire the same results by carrying out the same investigation. To assess data reliability and consistency, a reliability analysis was performed on all variables in the conceptual framework. Cronbach's alpha measures how well elements in a set are positively associated with one another. The Cronbach's alpha value more nearly 1.0, the greater the reliability and validity. Reliability under 0.6 is generally regarded poor. Within the range of 0.7, adequate, and above that, good (Sekaran, 2008).

The Cronbach's alpha value can be composed as a component of the quantity of test items and the mean inter-correlation between the items. The following is the formula for standardized Cronbach's alpha.

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

$\bar{c}$ - Average inter-item covariance among the items,

$\bar{v}$ - Average variance of items.

N is number of items

3.7. Chapter Summary

According to the above discussion, the philosophy of the current research was positivism, which uses quantitative methodology with deductive approach where the researcher and the individuals/ participants were used as the instruments to understand the variables that can impact successful adoption of Destination Management Systems.

The following chapter provides the study's conceptual model and details each idea used in the hypothesis, concluding with a reason for remembering them for the model. This section's essential parts include the operationalization of the factors and the preparedness of the questionnaire to elicit responses from end clients. The methods of data collecting and investigation strategies used in this study were shown in the concluding sections of this chapter.

4. DATA ANALYSIS AND DISCUSSION

4.1. Introduction

This chapter mainly discuss on presentation and analysis of data in relation to the major research objectives, which were set at the beginning of the study. The SPSS (Statistical Package for Social Sciences) version 26 and Smart PLS v3.3.3 are used for data analysis.

Both descriptive and inferential statistical analysis are conducted in order to analyze data. Data purification and reliability and validity of the measurement scales conduct prior to analysis of data in order to obtain accurate result. The first two sections of the chapter provide an overview of the measurement scales' reliability and validity, as well as an analysis of the data set's goodness. The following section explains the descriptive and inferential statistical relationships between the main constructs as hypothesized in the study's conceptual context.

4.2. Analysis of Socio-Demographic

195 correct responses were used in the data analysis after data cleaning. When considering role of survey participants, majority of them are IT Managers and Proprietors. According to Table 5, 24.6% are IT Managers & 24.1% are Proprietors. From the entire sample 11.8% respondent are company president or chairman while 9.2% of them are bearing post of MD, CEO or Director. Table 6 depicts work experience, 45.1% of the respondents are having experience 3-5 years, 16.4% of respondent are having 5-10 years of work experience. Respondents who are having more than 10 years of experience are only 8.7% while remaining 29.7% of them are persons having less than 3 years of experience.

According to Table 7, most of current companies playing multiple roles (Presenza et al, 2005) in tourism industry & data collected for this study prove it. According to data, 45.2% of marked multiple responses are travel agents, 40.60% companies operating as tour operators while remaining 14.20% are functioning as Destination Management Companies. Table 9 depicts that 35.9% of respondent are from small companies, 33.3% from medium companies, and 25.1% from Micro companies while remaining 5.6% are from large companies. From the respondent profile 69% having some kind

of a tour operating platform (Table 8). When considering services offer by companies, it looks like all off large companies offering major tourism operation such as Tour Operation, Meeting Planning, Event Organizing, Manage independent travelers, Meet and great at airports, Local excursions, Sports and recreational activities. Apart from large companies medium scale companies also offering major tour operations.

Table 5 : DMC Job Roles

Job Role	Frequency	Percent	Valid Percent	Cumulative Percent
MD/CEO/Director	18	9.2	9.2	9.2
Chairman/President	23	11.8	11.8	21
Proprietor	47	24.1	24.1	45.1
IT Manager	48	24.6	24.6	69.7
Customer Relationship Manager	25	12.8	12.8	82.6
General Manager	3	1.5	1.5	84.1
Senior Manager	10	5.1	5.1	89.2
Accountant	9	4.6	4.6	93.8
Marketing Manager	6	3.1	3.1	96.9
Operational Manager	6	3.1	3.1	100
Total	195	100	100	

Table 6 : Work Experience

Work Experience	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 3 years	58	29.7	29.7	29.7
3 to 5 years	88	45.1	45.1	74.9
5 to 10 years	32	16.4	16.4	91.3
More than 10 years	17	8.7	8.7	100
Total	195	100	100	

Table 7 : Type of Company

Type Of Company		Responses		Percent of Cases
		N	Percent	
Type Of Company	Tour Operator	106	40.60%	54.40%
	Travel Agent	118	45.20%	60.50%
	DMC	37	14.20%	19.00%
Total		261	100.00%	133.80%

Table 8 : Company having DMS

Have a DMS	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	69	35.4	35.4	35.4
No	126	64.6	64.6	100
Total	195	100	100	

Table 9 : Company Size

Company Size	Frequency	Percent	Valid Percent	Cumulative Percent
Large	11	5.6	5.6	5.6
Medium	65	33.3	33.3	39
Small	70	35.9	35.9	74.9
Micro	49	25.1	25.1	100
Total	195	100	100	

4.3. Reliability and Validity of the Constructs

In the process of measuring perceptions of technological, organizational, environmental & individual aspects comprise of multi-item scales, this study followed the exploratory procedure employed by (Gangwar, Date & Ramaswamy, 2015) in measuring integrated TOE-TAM construct while considering cloud computing adoption.

The first step to take is to verify for consistency by measuring internal consistency. It utilizes correlations of various sub-scales on the same item. Internal Consistency measures whether the construct elements fit together with other elements in the construct (Vishwanthan, 2005).

Cronbach's alpha which obtained from the pairwise correlations between items are generally used to measure internal consistency. Author of this study used valid 195 collected data to obtain Cronbach's alpha using IBM SPSS 26 in order to ensure that the scales' internal consistency is maintained.

According to the table, Cronbach's alpha values are calculated separately for each of the variables of the construct. The alpha values for each variables are observed to delete some items from each variables that would improve Coefficient alpha values. Items with low values of corrected item to total correlation are removed. Cronbach's alpha values are recalculated to reduce sets of items and observed the new corrected item to total correlations if elimination of any item improve the corresponding Cronbach's alpha values. That process of calculating alpha values are repeated until there are no items to be dropped and deleting it no improvement in Cronbach's alpha value in variables.

Table 10 depicts the summary of Cronbach's Alpha values of variables, according to it Cronbach's Alpha value of most of variables was greater than 0.7 except two variables such as organizational competency and compatibility which have Cronbach's alpha values 0.669 and 0.625 respectively. Alpha values equal to or greater than 0.7 provide strong internal consistency for the items on the scale (George & Mallery, 2003). (Taber, 2017, p. 1286) discussed on Characterizing Values of Cronbach's Alpha, according to the Authors there are many researchers who don't consider 0.7 of Cronbach's Alpha as a cutoff value. It can slightly depending on context research carry on. (Griethuijsen et al., 2014) vaguely referred to "the acceptable values of Cronbach's Alpha 0.7 or 0.6". The authors of that study justified and continuing with their data analysis part of the study using the collected data by arguing that "slightly increasing the number of items would lead to acceptable values for Cronbach's alpha" (p.589). This study has 43 items in the scale. After reliability analysis 4 items were dropped to increase reliability of sub scales.

The next step in the scale purification process is to look at the dimensionality of each construct's reduced item scale. The items are factored to achieve this. To extract specified factors, the exploratory factor analysis (Gangwar, Date & Ramaswamy, 2015) method is used. This procedure analyzes whether any groups of strongly connected variables could be used to identify principal factors. The aim of this stage of the analysis is to see if the original variables can be reduced to a fewer, more manageable number of factors, and if they can, if the emergent factors are the same as those found in the literature.

Principle component analysis is conducted using Oblimin with Kaiser Normalization to extract the components. It was conducted upon grouping variables to Technological, Organizational, Environmental & Individual constructs. Individual items which consist with factor loadings greater than the 0.5 were selected to include in dimensions. Some items also have high loadings on multiple factors, according to the factor-loading matrix (cross factor loadings). Those items are taken out of the factor-loading matrix, and the purification process is repeated. The remaining items' Cronbach's alpha values are recalculated under each of the dimensions, and dimensionality is assessed by calculating factor loadings. The original factors maintain their significance after such items are removed from the factor-loading matrix because they have high correlations with the remaining items.

Table 10 : Cronbach's Alpha values of variables

Variables (Cronbach's Alpha)	Items	Cronbach's Alpha if Item Deleted	Items Removed
TMS (0.877)	TMS_1	0.852	TMS8
	TMS_2	0.872	
	TMS_3	0.863	
	TMS_4	0.839	
	TMS_5	0.859	
	TMS_6	0.865	
	TMS_7	0.86	
OC (0.669)	OC_1	0.62	
	OC_2	0.598	
	OC_3	0.651	
	OC_4	0.522	
RA (0.855)	RA_1	0.837	
	RA_2	0.812	
	RA_3	0.833	
	RA_4	0.832	
	RA_5	0.849	
	RA_6	0.848	
	RA_7	0.834	
	RA_8	0.852	

COMPAT (0.625)	COMPAT_1	0.442	
	COMPAT_2	0.482	
	COMPAT_3	0.624	
COMPLEX (0.842)	COMPEX_2	0.769	COMPLEX1
	COMPEX_3	0.817	
	COMPEX_4	0.819	
	COMPEX_5	0.794	
PU (0.765)	PU_3		PU1, PU2
	PU_4		
PEU (0.757)	PEU_1		
	PEU_2		
CI (0.714)	CI_1	0.631	
	CI_2	0.642	
	CI_3	0.659	
	CI_4	0.676	
IAD (0.760)	IAD_1	0.699	
	IAD_2	0.693	
	IAD_3	0.74	
	IAD_4	0.712	
	IAD_5	0.737	

Cronbach's Alpha –Technology

Cronbach's alpha is a reliability coefficient that determines how well items in a collection are positively related to one another. The average inter correlations among the items measuring the concept are used to calculate Cronbach's alpha. The reliability of each variable under the technological construct was tested after it was determined that a measure with an alpha value is greater than the 0.70 can be accepted (Taber, p. 1286, 2017). For each variable, the cutoff value was 0.70. If the figure for any variable was less than 0.70, it was deleted and the overall Cronbach's alpha was recalculated. The coefficient alpha figure for Technology was 0.920, as shown in the table 11.

Table 11 : Cronbach's Alpha –Technology Construct

Cronbach's Alpha (0.920)	Cronbach's Alpha if Item Deleted
RA 1	0.913
RA 2	0.909
RA 3	0.913
RA 4	0.914
RA 5	0.917
RA_6	0.917
RA_7	0.913
RA_8	0.919
COMPEX_2	0.908
COMPEX_3	0.913
COMPEX_4	0.913
COMPEX_5	0.913
COMPAT_1	0.92
COMPAT_2	0.918
COMPAT_3	0.916

Construct validity testifies to how well the results obtained from the use of the measure fit the theories around which the test is designed (Cameron & Miller, 2010). The study examined the dimensionality of the Technology construct using principle component factor analysis. Items under Technology, those after purification, are considerably loaded on to four dimensions, as shown in the table 12. Principal components analysis is undertaken by using Oblimin rotation and observed the extraction of factors to enable a comparison with the factors identified on literature. Furthermore, items have factor loadings higher than the cutoff of 0.5 were eligible to be used in dimensions.

Table 12 : Principal Component Analysis for Technology Construct

Pattern Matrixa			
Items	1	2	3
RA_1	0.750		
RA_2	0.671		
RA_3	0.089		
RA_4	0.100		
RA_5	0.705		
RA_6	0.530		
RA_7	0.832		
RA_8	0.390		
COMPEX_1		0.409	
COMPEX_2		0.509	
COMPEX_3		0.701	
COMPEX_4		0.664	
COMPEX_5		0.645	
COMPAT_1			0.523
COMPAT_2			0.563
COMPAT_3			0.759

Cronbach's Alpha –Organization

The reliability of each variable under the organizational construct was tested after it was determined that a measure with an alpha value of is greater than the 0.70 can be accepted (Taber, p. 1286, 2017). For each variable, the cutoff value was 0.70. If the figure for any variable was less than 0.70, it was deleted and the overall Conbach's alpha was recalculated. The coefficient alpha figure for Technology was 0.880, as shown in the table 13.

Table 13: Cronbach's Alpha –Organizational Construct

Cronbach's Alpha (0.880)	Cronbach's Alpha if Item Deleted
OC 1	0.881
OC 2	0.873
OC 3	0.877
OC 4	0.875
TMS 1	0.864
TMS 2	0.872
TMS 3	0.87
TMS 4	0.854
TMS 5	0.863
TMS 6	0.872
TMS 7	0.867

The study examined the dimensionality of the Organization construct using principle component factor analysis. Items under Organization, those after purification, are considerably loaded on to two dimensions, as shown in the table 14. Principal components analysis is undertaken by using Oblimin rotation and observed the extracted of factors to enable a comparison with the identified factors on literature. Individual items which having factor loadings higher than the cut-off point 0. 5 were qualified to be used in dimensions.

Table 14 : Principal Component Analysis for Organizational Construct

Pattern Matrixa		
Items	Component	
	1	2
TMS_1	0.871	
TMS_6	0.81	
TMS_3	0.806	
TMS_7	0.728	
TMS_4	0.691	
TMS_5	0.594	
TMS_2	0.502	
OC_3		0.439
OC_4		0.838
OC_1		0.786
OC_2		0.465

Cronbach's Alpha – Environmental

The reliability of each variable under the Environmental construct was tested after it was determined that a measure with an alpha value of is greater than the 0.70 can be accepted (Taber, p. 1286, 2017). For each variable, the cutoff value was 0.70. If the figure for any variable was less than 0.70, it was deleted and the overall Cronbach's alpha was recalculated. The coefficient alpha figure for Technology was 0.714, as shown in the table 15.

Table 15 : Cronbach's Alpha –Environmental Construct

Cronbach's Alpha (0.714)	Cronbach's Alpha if Item Deleted
CI_1	0.631
CI_2	0.642
CI_3	0.659
CI_4	0.676

Cronbach's Alpha -- Individual

The reliability of each variable under the Individual factors was tested after it was determined that a measure with an alpha value of is greater than the 0.70 can be accepted (Taber, p. 1286, 2017). For each variable, the cutoff value was 0.70. If the figure for any variable was less than 0.70, it was deleted and the overall Cronbach's alpha was recalculated. The coefficient alpha figure for Technology was 0.799, as shown in the table 16.

Table 16 : Cronbach's Alpha –Individual Construct

Cronbach's Alpha (0.799)	Cronbach's Alpha if Item Deleted
PU_3	0.796
PU_4	0.695
PEU_1	0.754
PEU_2	0.746

Reliability of Scales

To find out if a measure is reliable, the Consistency and Stability Analyzes were conducted. The consistency of the items measures how well they measure the same concept as a group (Panayides, 2013). Cronbach's alpha can be define as a reliability coefficient that determines how well items in a group are related positively. Cronbach's alpha is a measure of how well items measuring a concept correlate with one another. A Cronbach's alpha value near 1 shows that a construct's measures are more internally consistent and reliable.

Cronbach Alpha should be calculated to determine the reliability of a multiple-item variable, according to (Panayides, 2013). With an Alpha Value of 0.70, (Panayides, 2013) stated that the measure is acceptable. If an adapted scale is used in a different context or a new scale is used for the first time, a Cronbach's Alpha coefficient of 0.60 is acceptable. The Cronbach's alpha was calculated based on these facts to determine the reliability of the study's multi-item scales.

After removing some items with poor reliability coefficients and factor loadings, the final purified overall constructs of the Technological, Organizational, Environmental, and Individual scales have a satisfactory level of Cronbrach alpha. Cronbach's Alpha of 0.7 or higher is considered acceptable and satisfactory. As a result, all of the multi-item scales listed above are sufficiently credible for the current study.

Validity of Scales

The scale's ability to measure the concept is defined by its validity (Panayides, 2013). This study established the measurement scales' validity in the following ways:

1. Construct validity

The construct validity of a measure refers to how well the results obtained from using it fit the theories that the test is based on (Panayides, 2013). Following the method suggested by (Churchill Jr, 1979), a principle component analysis is used to determine the underlying structure of the key variables of the constructs as one way to establish the construct validity of the measures (McNeil et al., 2001). This is also useful for

determining which items from previous studies are most suitable for each construct's variable.

Based on principle component factor analysis with oblimin rotation method, the study is tested the variability of the key constructs. As shown in the table 12 & 14 Technological construct items, after purification are significantly loaded on to 4 dimensions of Technology while Organizational items are loaded on to 2 dimensions. Further, as shown in table 15 & 16, items under the Environmental and Individual scales are significantly loaded on to one factor structure separately by underlying their unidimensinality.

Under the correlation analysis (Table) is found that three dimensions of technology construct such as relative advantage, compatibility & complexity are significantly & positively correlated. In addition, when well-validated measures are adopted from established literature, (Sekaran, 2007) claims that there is no need to determine the validity of the measures. The majority of measurement scales in this study are based on TOE, TAM, and Integrated TOE-TAM, which are well-established studies. As a result, the accuracy of measuring scales is also supported by this fact.

2. Content Validity

Though high reliabilities and dimensionality are prerequisites for a scale's construct validity (the extent to which it completely captures the underlying, unobservable construct it is intended to measure), they are insufficient (Churchill Jr, 1979). The scale must meet the fundamental conceptual criterion of "face" or "content" validity, that is, does it appear to measure what it claims to measure? Are important aspects of the unobservable construct being measured captured by the scale items? The content validity of a scale is evaluated qualitatively rather than quantitatively, and it involves observing at two things: 1) how thoroughly the construct to be scaled and its domain have been explained, and 2) how well the scale items reflect the construct's domain (Shahin, 2004). According to (Panayides, 2013), measure's content validity ensures that it contains a sufficient and representative set of items that tap the concept.

A face validity check can at least determine the content validity of a measure, which means that the items intended to measure a concept appear to measure the concept on the face of it look (Panayides, 2013). When designing the measuring scales, the authors consulted a few scholars from local universities as well as domain experts from the tourism industry to ensure that the measures were content valid. The procedures used in developing the instrument met all of these evaluative criteria, as outlined in Chapter 03 under instrument development. As a result, the scale can be called content legitimate.

4.4. Assessment of Sample Adequacy

Kaiser-Mayer-Olkin (KMO) and Bartlett's sphericity tests were performed to investigate sample's adequacy and suitability of a data set. KMO values closer to 1 are deemed better in a KMO measurement (IBM Corporation, 2018). The sample adequacy was accepted, as shown by the KMO value of 0.894. The Bartlett's sphericity test is used to test if the items are interrelated and thus unsuitable for the structure identification. If the significance level is low, factor analysis will certainly be beneficial.

A KMO measurement has a value between 0 and 1, with values closer to 1 deemed better (IBM Corporation, 2018). According to the table 17, the sample adequacy was determined to be acceptable, as evidenced by the KMO value of 0.894. The Bartlett's Sphericity Test is used to assess if the variables are unrelated and thus unsuitable for structure recognition. If the level of significance is low, factor analysis is likely to be beneficial. According to the (IBM Corporation, 2018), significance value need to be less than 0.05 which was obtained in this analysis. The KMO and Bartlett tests were conducted using IBM SPSS 26.

Table 17 : Sample Adequacy Test (KMO Test)

Kaiser-Meyer-Olkin and Bartlett's Test		
KMO Measure of Sampling Adequacy.		0.872
Bartlett's Test of Sphericity	Approx. Chi-Square	2247.09
	df	36
	Sig.	0

4.5. Test of Linearity and Normality of the Data

Skewness and Kurtosis values are measured to observe distribution of the original data. The majority of the scale items are non-normally distributed, according to the results. These findings eventually lead to the conclusion that all scale items are non-normally distributed. In other words, statistical evidence supports the rejection of scale normality.

SPSS 26 was used to summarize the data and perform factor analysis, while SEM (structural equation modelling) was utilized to evaluate the data, validate the inner and outer measurement models, and test hypotheses.

4.6. Descriptive Statistical Analysis

The sample composition, summary of observed results for research constructs and variables, as well as mean values, standard deviation, maximum and minimum values, are all detailed in this section. In addition, where appropriate, graphical presentation methods are used.

4.6.1. Descriptive Analysis of the overall Constructs and Variables

For the purposes of analyzing those constructs and variables, the arithmetic mean of the indicators under each construct and variable is used as the observed value. The same set of construct and variable values is used in both descriptive and inferential

analysis. The indicators' reliability and validity, which were determined earlier, support this method of computation for moving forward with the data analysis.

Technological Factors in DMC in Sri Lanka

In order to understand the how technology used in DMC affect the intention to adopt DMS of tour operating or destination management companies in Sri Lanka more comprehensively, this section describes the descriptive statistics for Technology Construct separately for the overall DMC or Tour Operating Companies, then size of those companies.

For the constructs as well as each dimension of Technology, the fundamental descriptive of minimum, maximum, mean, and standard deviation are computed. The below table 18 presented the summary.

Table 18 : Descriptive Statistics of Technology Construct and Variables

	N	Min	Max	Mean	Std. Deviation
RA	195	2.25	4.75	3.4724	0.51032
COMPLEXITY	195	2.5	4.75	3.5167	0.6166
COMPAT	195	2.33	4.33	3.3761	0.54667
TECHNOLOGY	195	2.49	4.61	3.4551	0.49881

The average level of Technological effect in Sri Lankan DMC is 3.45 out of 5 points (5 point Likert Scale). This means that the average Destination management company technological awareness is 3.65 out of 5 stars (5 point Likert Scale). This means that tour operators have awareness of technology & technology adaptation. Furthermore, the technology has a standard deviation of 0.499 out of 5 points. This means that if a destination management business is chosen from the industry, its level of technological awareness may differ from the tourist sector's average level of technology awareness (mean value=3.45) by 0.499 points on a 5-point Likert scale. This explains why the hospitality & tourism industry average rate of change in technological awareness is around 0.49 out of 5 points.

Furthermore, the lower scale value for the technology construct for a tour operating industry in the sample is 2.49 out of 5 points, while the highest value for the technology construct for a tour operating industry in the sample is 4.61 out of 5 points Likert Scale.

At the variable level of the technology construct, the three variables: relative advantage, compatibility and complexity are important to understand the how it affect to technological awareness of employees in the DMC companies in Sri Lanka.

Relative Advantage

Relative advantages of having technology is the first component of Technology, and it has a mean score of 3.47 out of 5 points (5 point Likert Scale).That means an average DMC concern about relative advantages equal to 3.47 out of 5 points Likert Scale. This indicates that destination management companies in the Sri Lankan hospitality sector are concerned about the relative benefits of technology. Furthermore, the relative advantage dimension's standard deviation is 0.510 out of a possible five points (5 point Likert Scale).This indicates that if a DMC is chosen from the industry, its level of concern about the relative advantage of technology adoption may differ by 0.510 points from the industry average (mean value=3.47) out of 5 points. This explains the rate of change in the tourism industry's relative advantage is around 0.510 out of 5 points.

The lowest scale value for the relative advantage dimension for a DMC in the sample is 2.25 out of 5 points, while the highest value for the relative advantage dimension for a DMC in the sample is 4.75 out of 5 points (5 point Likert Scale).

Complexity

Complexity of adopting technology is the second component of Technology, and it has a average score of 3.52 out of 5 points. That means an average DMC concern about complexity equal to 3.52 out of 5 points. It indicates that destination management

companies in the Sri Lankan hospitality sector are slightly concerned about the complexity of adopting technology. Furthermore, the complexity dimension's standard deviation is 0.617 out of a possible five points (5 point Likert Scale).This indicates that if a DMC is chosen from the industry, its level of concern about the complexity of technology adoption may differ by 0.617 points from the industry average (mean value=3.52) out of 5 points. This explains the rate of change in the tourism industry's complexity is around 0.617 out of 5 points.

The lowest scale value for the complexity dimension for a DMC in the sample is 2.5 out of 5 points, while the highest value for the complexity dimension for a DMC in the sample is 4.75 out of 5 points (5 point Likert Scale).

Compatibility

Compatibility when adopting technology is the third component of Technology, and it has a mean score of 3.38 out of 5 points (5 point Likert Scale).That means an average DMC concern about compatibility equal to 3.38 out of 5 points. It indicates that destination management companies in the Sri Lankan hospitality sector are slightly concerned about the compatibility when adopting technology. Furthermore, the compatibility dimension's standard deviation is 0.547 out of a possible five points (5 point Likert Scale).This indicates that if a DMC is chosen from the industry, its level of concern about the compatibility when adoption of technology may differ by 0.547 points from the industry average (mean value=3.38) out of 5 points. It explains the rate of change in the tourism industry's compatibility is around 0.547 out of 5 points 5 point Likert Scale.

The lowest scale value for the compatibility dimension for a DMC in the sample is 2.33 out of 5 points, while the highest value for the compatibility dimension for a DMC in the sample is 4.33 out of 5 points (5 point Likert Scale).

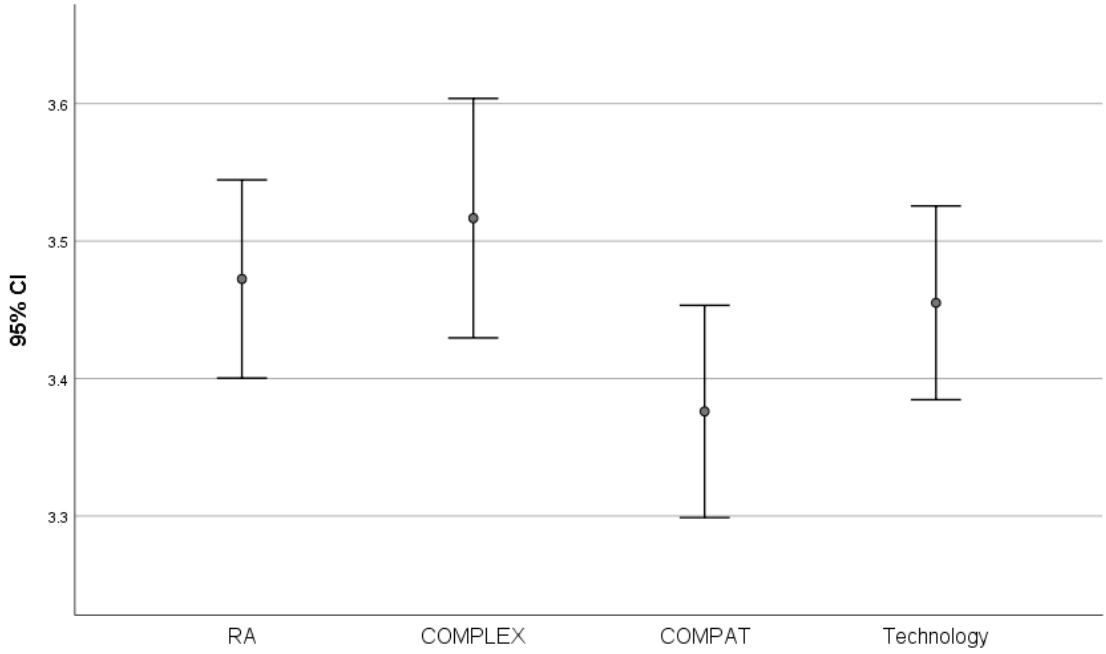

Figure 7: CI graph of Means in Technology

These descriptive statistics indicate that among the Technology construct, the highest level of factor concern by DMC is complexity when adopting technology for the industry which has also the highest value of standard deviation. Next factor is relative advantage while the lowest level of factor is compatibility. This indicates relatively larger deviation from the average DMC to DMC. Results indicate that DMC mostly concern about complexity while purchasing or adopting technology other than thinking about relative advantage. In overall, DMC have concerning considerable level of Technological factors at the tourism sector according to the overall technology construct.

The error graph (figure 7) for 95% intervals indicates this higher variation in complexity component of Technology construct. According to the CI graph of means, true mean for the population may lie on these intervals with 95% confidence.

Organizational Factors in DMC in Sri Lanka

In order to understand the how organizational factors affect the intention to adopt DMS of tour operating or destination management companies in Sri Lanka more comprehensively, this section describes the descriptive statistics for Organizational Construct separately for the overall DMC or Tour Operating Companies, then size of those companies.

The fundamental descriptive of min, max, mean and standard deviation is computed for the constructs as well as each dimension of Organizational. The table 19 presented the summary.

Table 19: Descriptive Statistics of Organization Construct and Variables

	N	Min	Max	Mean	Std. Deviation
TMS	195	2.57	4.71	3.5165	0.56440
OC	195	2.50	4.75	3.3782	0.52781
Organization	195	2.68	4.66	3.4473	0.49298

The average level of organizational effect in Sri Lankan DMC is 3.45 out of 5 points. It means that the average Destination management company organizational effect is 3.45 out of 5 stars. This means that organizational factors in DMC slightly affect adoption of DMS. Furthermore, the organization has a standard deviation of 0.50 out of 5 points. This means that if a destination management company is selected from the industry, its level of organizational effect may deviate by 0.50 points on a 5-point Likert scale from the average level of organizational effect in the tourism sector (mean value=3.45).This explains why the hospitality & tourism industry average rate of change in organizational factors is around 0.50out of 5 points.

The lowest scale value for the organization construct for a tour operating industry in the sample is 2.68 out of 5 points, while the highest value for the organization construct for a tour operating industry in the sample is 4.66 out of 5 points.

At the variable level of the organization construct, the two variables: top management support & organizational competency are important to understand the how it reflect as organizational factor in adoption of DMS in the DMC companies in Sri Lanka.

Top Management Support

Top Management Support when adopting DMS is the first component of organization construct, and it has a average score of 3.52 out of 5 points. That means that top management support of an average company when adopting DMS is equal to 3.56 out of 5 points. It indicates that the decisions of destination management companies in the Sri Lankan hospitality sector have effect from top management support. Furthermore, the top management support dimension's standard deviation is 0.56 out of a possible five points (5 point Likert Scale).This indicates that if a DMC is chosen from the industry, its level of effect from top management support may differ by 0.56 points from the industry average (mean value=3.52) out of 5 points. This explains the rate of change in the DMC in a tourism industry's top management support is around 0.56 out of 5 points Likert Scale.

Further, the lowest scale value for the top management support dimension for a DMC in the sample is 2.57 out of 5 points, while the highest value for the top management support dimension for a DMC in the sample is 4.71 out of 5 points (5 point Likert Scale).

Organizational Competency

Organizational Competency while adopting DMS is the second component of organization construct, and it has a mean score of 3.38 out of 5 points (5 point Likert Scale). That means that Organizational Competency of an average company when adopting DMS is equal to 3.38 out of 5 points. It indicates that the organizational decisions of destination management companies in the Sri Lankan hospitality sector have effect from Organizational Competency. Furthermore, the Organizational Competency dimension's standard deviation is 0.53 out of a possible five points (5

point Likert Scale).This indicates that if a DMC is chosen from the industry, its level of effect from Organizational Competency may differ by 0.53 points from the industry average (mean value=3.38) out of 5 points. It explains the rate of change in the DMC in a tourism industry's Organizational Competency is around 0.53 out of 5 points (5 point Likert Scale).

Further, the lowest scale value for the organizational competency support dimension for a DMC in the sample is 2.50 out of 5 points, while the highest value for the organizational competency dimension for a DMC in the sample is 4.75 out of 5 points (5 point Likert Scale).

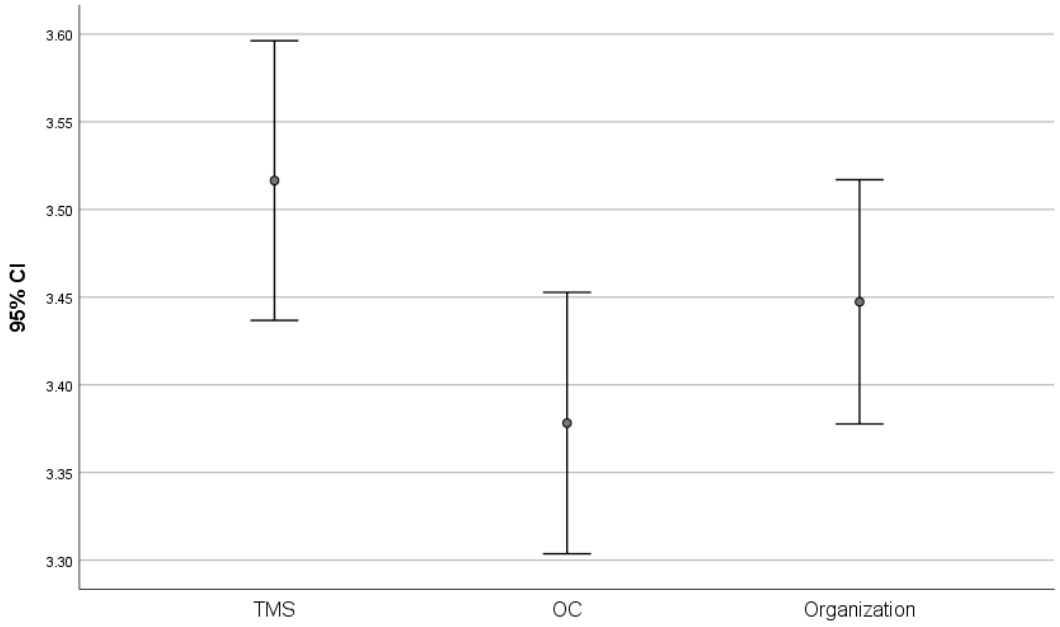

Figure 8 : CI graph of Means in Organizational Factors

These descriptive statistics indicate that among the Organization construct, the highest level of factor concern by DMC is top management support when adopting DMS for the company which also has the highest value of standard deviation. Next factor is organizational. This indicates relatively larger deviation from the average DMC to DMC. Results indicate that DMC mostly concern about top management support while purchasing or adopting technology than the organizational competency. In overall,

DMC have concerning considerable level of organizational factors at the tourism sector according to the overall organization construct.

The error graph (figure 8) for 95% intervals indicates this higher variation in complexity component of Technology construct. According to the CI graph of means. According to the CI graph of means, true mean for the population may lie on these intervals with 95% confidence.

Environmental Factors in DMC in Sri Lanka

In order to understand the how environmental factors affect the intention to adopt DMS of tour operating or destination management companies in Sri Lanka more comprehensively, this section describes the descriptive statistics for Environmental Construct separately for the overall DMC or Tour Operating Companies, then size of those companies.

The basic descriptive of min, max, mean and standard deviation is computed for the constructs as well as each dimension of Environmental .The below table 20 presented the summary.

Table 20 : Descriptive Statistics of Environment Construct and Variables

	N	Min	Max	Mean	Std. Deviation
CI	195	2.50	4.75	3.4603	0.52940

The average level of environmental effect in Sri Lankan DMC is 3.46 out of 5 points. This means that the average Destination management company environmental effect is 3.46 out of 5 stars. This means that environmental factors in DMC slightly affect adoption of DMS. Furthermore, the environment construct has a standard deviation of 0.53 out of 5 points. This suggests that if a destination management company is chosen from the industry, its environmental impact may vary by 0.53 points on a 5-point Likert scale from the tourism sector's average (mean value=3.46). This explains why the hospitality & tourism industry average rate of change in environmental factors is around 0.53 out of 5 points.

Further, the lowest scale value for the environment construct for a tour operating industry in the sample is 2.50out of 5 points, while the highest value for the environment construct for a tour operating industry in the sample is 4.75 out of 5 points (5 point Likert Scale).

Individual Factors in DMC in Sri Lanka

In order to understand the how employees individual factors affect the intention to adopt DMS of tour operating or destination management companies in Sri Lanka more comprehensively, this section describes the descriptive statistics for individual construct separately for the overall DMC or Tour Operating Companies, then size of those companies.

The basic descriptive of min, max, mean and standard deviation is computed for the constructs as well as each dimension of individual .The below table 21 presented the summary.

Table 21 : Descriptive Statistics of Environmental Construct and Variables

	N	Min	Max	Mean	Std. Deviation
PU	195	2.00	5	3.4205	0.67357
PEU	195	2.00	5	3.5436	0.66920
Individual	195	2.00	5	3.4821	0.59013

The average level of individual effect in Sri Lankan DMC is 3.48 out of 5 points. This means that the average Destination management company employee individual effect is 3.48 out of 5 stars. This means that individual factors in DMC slightly affect adoption of DMS. Furthermore, the organization has a standard deviation of 0.59 out of 5 points. It means that if a destination management company is chosen from the industry, its level of individual effect can differ by 0.59 points on a 5 point Likert scale from the tourism sector's average level of individual effect(mean value=3.48). This explains why the hospitality & tourism industry average rate of change in individual factors is around 0.59 out of 5 points (5 point Likert Scale).

Further, the lowest scale value for the individual construct for a tour operating industry in the sample is 2 out of 5 points, while the highest value for the individual construct for a tour operating industry in the sample is 5 out of 5 points.

At the variable level of the organization construct, the two variables: Perceived Usefulness and Perceived Ease of Use very are important to understand the how it reflect as individual factor in adoption of DMS in the DMC companies in Sri Lanka.

Perceived Usefulness

As the first component of the perceived usefulness in individual construct, it has an average score of 3.42 out of 5 points. That means that perceived usefulness of employees working on an average company is equal to 3.42 out of 5 points. It indicates that perceived usefulness of employees affect the DMS adoption of DMC in Sri Lanka. Furthermore, the perceived usefulness dimension's standard deviation is 0.67 out of a possible five points. It indicates that if a DMC is chosen from the industry, its level of employees' perceived usefulness may differ by 0.67 points from the industry average (mean value=3.42) out of 5 points. This explains the rate of change in the DMC in a tourism industry's perceived usefulness is around 0.67 out of 5 points.

Further, the lowest scale value for the perceived usefulness dimension for a DMC in the sample is 2.0 out of 5 points, while the highest value for the perceived usefulness dimension for a DMC in the sample is 5.0 out of 5 points (5 point Likert Scale).

Perceived Ease of Use

Perceived ease of use is the second component of individual construct, and it has a mean score of 3.54 out of 5 points (5 point Likert Scale). That means that Perceived ease of use of an employee in an average company is equal to 3.54 out of 5 points (5 point Likert Scale). This indicates that Perceived ease of use (PEU) of DMS users affect the DMS adoption of DMC in Sri Lanka. Furthermore, the perceived ease of use dimension's standard deviation is 0.67 out of a possible five points (5 point Likert

Scale).This indicates that if a DMC is chosen from the industry, its level of effect from Perceived ease of use may differ by 0.67 points from the industry average (mean value=3.54) out of 5 points. This explains the rate of change in the employee perceived ease of use in DMC is around 0.67 out of 5 points.

Further, the lower scale value for the perceived ease of use dimension for a DMC in the sample is 2.0 out of 5 points, while the highest value for the perceived ease of use dimension for a DMC in the sample is 5.0 out of 5 points (5 point Likert Scale).

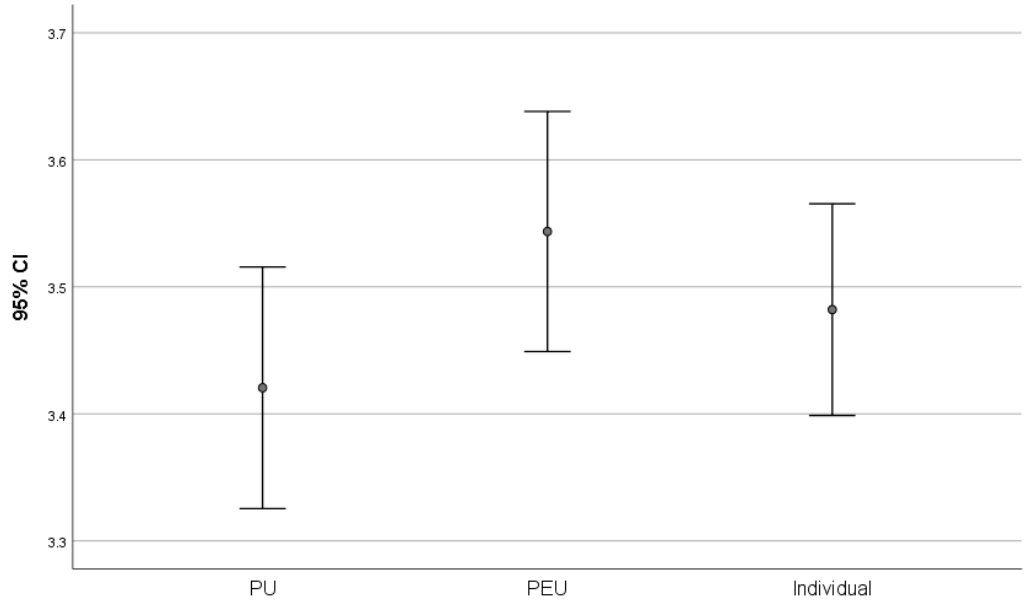

Figure 9 : CI graph of Means in Individual Factors

These descriptive statistics indicate that among the individual aspects, perceived usefulness has highest level of effect when adopting DMS for the company. Next factor is perceived usefulness. Both has considerable value of standard deviation. This indicates relatively larger deviation from the average DMC to DMC. Results indicate that perceived individual factors affect the purchasing or adopting DMS. In overall, DMC have concerning considerable level of individual factors at the tourism sector according to the overall individual construct.

The error graph (figure 9) for 95% intervals indicates that higher variation in both PU and PEU. According to the CI graph of means, true mean for the population may lie on these intervals with 95% confidence.

4.7. Inferential Statistical Analysis of the Data

4.7.1. Structural Equation Modelling

Further analysis is conducted using SEM (Structural Equation Modelling) with the help of tool smartPls v3.3.SEM is a strong second-generation multivariate technique for evaluating outcomes with multiple variables, allowing simultaneous evaluation of measurement properties and theoretical (structural) relationships and also unobservable latent variables with multiple relationships (Akteret el, 2016).

4.7.2. Partial Least Squares (PLS)

The PLS method is a variance-based second generation SEM analysis methodology that is used when a complicated structural model is applied with large number of latent variables, skewed data, a limited sample size, and multi-collinearity.The goal of PLS is to maximize variance explained from observed or unobserved variables. As a result, covariance based SEM techniques are suitable for theory testing, whereas PLS is most suitable for explaining complex relationships (Fornell & Bookstein, 1982).

4.7.3. Assessment of Measurement Model

Convergent Validity Assessment

Construct Validity refers to the verification of the actual construct a test measures. Convergent Validity is a subtype of Construct Validity that is used to verify whether or not a certain construct truly tests the specified construct. According to (Ab Hamid et al, 2017), it determines whether two measurement instruments that measure the same constructs are connected with one another. Also the observed indicator's factor loading estimates, CR, and AVE must be considered in order to develop convergent validity. According to (Ringle et al, 2014), CR and AVE values should be calculated to obtain convergent validity. These values must be more than 0.7 and 0.5, respectively. As a consequence, convergent validity is established, as shown in Table 22.

Table 22 : Convergent Validity

	Composite Reliability(CR)	Average Variance Extracted (AVE)
COMPAT	0.791	0.558
CI	0.823	0.539
COMPLEX	0.896	0.685
TMS	0.896	0.591
OC	0.787	0.554
PEU	0.893	0.806
PU	0.895	0.811
RA	0.888	0.533
TMS_IAD_CI	1	1
OC_IAD_CI	1	1
IAD	0.839	0.566

Assessment of Discriminant Validity

Significant feature of the data analysis is the distinction between two separate construct's measurement models. Discriminant validity is used to identify if a set of measurement instruments assesses a certain construct or whether the measurements are more linked to another construct (Hair et al, 2009).

The following methods can be used to determine a construct's discriminant validity. Those are measuring cross-loading of indicator, measuring correlation ratio of Heterotrait-Monotrait (HTMT) and calculating values for Fornell-Larcker 45 criterion as stated by (Ab Hamid et al, 2017) . When Cross-Loadings are used to assess discriminant validity, the indicator's factor loading estimates must be bigger than the factor loading values for other constructs. Estimates of factor loading should be more than 0.7, based on the general acceptability criteria (Ab Hamid et al, 2017). Many studies have indicated that factor loadings should have been greater than 0.5 for better results (Truong & McColl, 2011; Hulland, 1999), while Chen and Tsai (2007) recommends 0.5 as acceptable cut-off margin for a loadings in the tourism sector. So based on this, we have chosen 0.6 as cut-offs for factor loadings.

As shown in Table 23, all measurement instruments loaded into a single latent construct with an estimated factor loading greater than 0.6.As a consequence, the discriminant validity can be considered established.

Table 23: Cross-Loading of indicator

	CI	COMPAT	COMPLEX	IAD	OC	PEU	PU	RA	TMS
CI_1	0.821	0.481	0.549	0.684	0.375	0.449	0.543	0.694	0.481
CI_2	0.733	0.413	0.536	0.419	0.307	0.499	0.394	0.586	0.491
CI_3	0.685	0.457	0.36	0.429	0.417	0.318	0.269	0.391	0.357
CI_4	0.69	0.577	0.407	0.494	0.493	0.483	0.5	0.516	0.41
COMPAT_1	0.565	0.714	0.403	0.454	0.447	0.352	0.335	0.449	0.354
COMPAT_2	0.561	0.71	0.426	0.491	0.561	0.471	0.485	0.5	0.423
COMPAT_3	0.586	0.813	0.504	0.461	0.461	0.402	0.527	0.516	0.504
COMPEX_2	0.508	0.565	0.891	0.65	0.591	0.524	0.531	0.521	0.507
COMPEX_3	0.537	0.538	0.79	0.564	0.566	0.546	0.497	0.558	0.533
COMPEX_4	0.474	0.316	0.783	0.548	0.366	0.589	0.575	0.518	0.607
COMPEX_5	0.469	0.423	0.842	0.483	0.41	0.436	0.549	0.519	0.571
IAD_1	0.516	0.574	0.512	0.808	0.503	0.427	0.526	0.637	0.533
IAD_2	0.767	0.658	0.512	0.742	0.364	0.428	0.537	0.662	0.431
IAD_4	0.373	0.465	0.566	0.783	0.441	0.446	0.641	0.695	0.527
IAD_5	0.376	0.473	0.579	0.669	0.486	0.424	0.559	0.562	0.547
OC_1	0.555	0.522	0.349	0.457	0.783	0.414	0.441	0.466	0.407
OC_3	0.303	0.44	0.503	0.381	0.638	0.44	0.443	0.489	0.461
OC_4	0.443	0.534	0.483	0.483	0.802	0.479	0.565	0.542	0.462
PEU_1	0.506	0.481	0.661	0.51	0.527	0.897	0.488	0.69	0.575
PEU_2	0.559	0.488	0.567	0.516	0.542	0.899	0.515	0.703	0.533
PU_3	0.479	0.523	0.651	0.625	0.659	0.387	0.886	0.62	0.629
PU_4	0.591	0.577	0.558	0.519	0.524	0.605	0.915	0.532	0.594
RA_1	0.476	0.55	0.666	0.639	0.668	0.393	0.858	0.734	0.537
RA_2	0.572	0.557	0.568	0.524	0.568	0.587	0.582	0.874	0.605
RA_3	0.501	0.497	0.693	0.554	0.534	0.825	0.49	0.741	0.577
RA_4	0.523	0.462	0.604	0.556	0.556	0.86	0.535	0.742	0.602
RA_5	0.559	0.648	0.498	0.643	0.337	0.418	0.477	0.655	0.413
RA_6	0.569	0.442	0.526	0.455	0.348	0.509	0.389	0.608	0.489
RA_7	0.366	0.461	0.592	0.504	0.399	0.458	0.573	0.728	0.538
TMS_1	0.354	0.447	0.585	0.598	0.391	0.406	0.633	0.656	0.828
TMS_2	0.207	0.293	0.454	0.428	0.423	0.241	0.448	0.402	0.661
TMS_3	0.513	0.43	0.58	0.577	0.379	0.49	0.465	0.6	0.773
TMS_4	0.523	0.537	0.549	0.548	0.603	0.521	0.814	0.796	0.878
TMS_5	0.514	0.531	0.556	0.545	0.556	0.679	0.449	0.433	0.749
TMS_6	0.474	0.268	0.551	0.488	0.34	0.505	0.502	0.449	0.705

The Fornell-Lacker criterion is the next criterion used to assess discriminant validity. The latent construct's AVE is contrasted to the relationships with other variables in this situation. The square root value of AVE of a construct must be greater than all of the correlations that construct has with other constructs in order for discriminant validity to be established (Ab Hamid et al, 2017; Chin, 1998).

According to table 24, there are minor discrepancies between the COMPAT and CI, IAD and PU, according to this report. The differences are minor, with values of 0.069 and 0.036, respectively. As a consequence, it can be neglected (Ab Hamid et al, 2017).Furthermore, there is adequate evidence in the past studies to demonstrate that the COMPAT and CI, as well as the IAD and PU, are two different constructs that are crucial in defining the IAD (Gangwar, Date, & Ramaswamy, 2015). Simultaneously, SmartPLS 3.3 does not identify this trivial dispute as a failure of discriminant validity. As a consequence, despite a slight disagreement in empirical evidence, the discriminant validity of the scale can be considered established, with the literature taking precedence. As a result, the researcher performed the study using the current measurement model since, as previously stated according to the Cross-Loading of indicator method, the discriminant validity of the data measurement model has already been established.

Table 24 : Fornell-Larcker Criterion

	COMPAT	CI	COMPLEX	IAD	OC_IAD_CI	OC	PEU	PU	RA
COMPAT	0.75								
CI	0.819	0.735							
COMPLEX	0.593	0.64	0.828						
IAD	693	0.607	0.567	0.718					
OC_IAD_CI	0.128	0.04	0.143	0.031	1				
OC	0.726	0.629	0.579	0.603	0.129	0.744			
PEU	0.541	0.596	0.689	0.618	0.031	0.591	0.898		
PU	0.609	0.594	0.683	0.745	0.156	0.645	0.562	0.9	
RA	0.711	0.686	0.673	0.584	0.148	0.659	0.782	0.851	0.73

4.7.4. Assessment of Structural Model

The Inner Structural Model is examined once the Outer Measurement Model has been verified for reliability and validity. This review requires a check the predictive potential of the proposed model. Also the relationships between the established constructs. Additionally, it examines the interconnections among the established constructs. A few measurements, including the Coefficient of Determination (R2), the Path Coefficient and T-Statistic, the Predictive Relevance of the model (Q2), the Effect Size (f2), and the Model Fit indices determined to evaluate the Inner Structural Model.

Coefficient of Determination Estimation

The R^2, which is also known as the coefficient of determination, is used to determine the overall effect magnitude. It furthermore explores the variation which is accepted as endogenous inside the structural model's theoretical framework. It finally evaluates the model's predictive accuracy to determine how effective it is. The R^2 score that is greater than or equal to 0.75 is considered significant by the acceptance criteria. For R2 values of 0.50 are considered moderate. The relationship is considered weak if the R 2 value is less than or equal to 0.26. (Hair et al, 2010). The value of R2 was 0.86, which is higher than the significant level of 0.75, according to the study's findings. This suggests that the chosen constructs could explain for 86 percent of the variation in DMS adoption intentions (IAD). Hence it means that there is another set of construct measurements that will explain 14 percent of the variance in IAD.

Path Coefficient (β) and T-Statistic Estimation

In PLS, the path coefficient value is identical to the standardized coefficient (β - value) in regression. This value indicates the significance of the tested hypothesis. Additionally, if we apply a unit variation to the independent construct, the β value denotes the explained variance in the dependent variable. If that variance is higher, the

bigger the effect on the dependent variable that is significant (Hussain et al, 2018). In order to determine the significance on β value, T-statistics test was used in this study. In order to understand the significance of the study hypothesis, 2000 subsamples were used and bootstrapping techniques were used with SmartPLS software.

Hypothesis Testing

Table 25 : Path Coefficient (β) and T-Statistics Values

Relationship			Hypothesis	β - Value	T - Statistic	p - Value	Status
RA	→	IAD	H1	0.725	5.351	<0.001	Accepted
COMPAT	→	IAD	H2	0.369	6.318	<0.001	Accepted
COMPLEX	→	IAD	H3	-0.134	1.991	0.047	Accepted
OC	→	IAD	H4	-0.114	2.306	0.021	**Accepted but negative**
TMS	→	IAD	H5	0.263	3.297	<0.001	Accepted
PEU	→	IAD	H6	0.158	2.831	0.005	Accepted
PU	→	IAD	H7	-0.044	0.61	0.542	Rejected
OC * CI	→	IAD	H8a	-0.183	3.27	<0.001	**Accepted but negative opposed to the expected direction**
TMS * CI	→	IAD	H8b	0.063	1.245	0.213	Rejected

H1 hypothesized that RA has a positive correlation with the IAD. H1 is significant and empirically validated based on the observed results (β=0.725, T=5.351, p<0.001). That means relative advantage has direct positive impact on Intention to adapt DMS. The next hypothesis H2 proposed that COMPAT has direct positive relationship in determining IAD. The results obtained for H2 (β=0.369, T=6.318, p<0.001) show that relationship is significant which means that compatibility has a direct positive relationship when determining IAD. In the hypothesis H3, The path COMPLEX -> IAD is significance & empirically supported according to results (β=-0.134, T=1.991, p=0.047) which implies that complexity has a negative impact towards the intention

to adopt Destination Management System. The path OC -> IAD has negative relationship according to obtained results (β=-0.114, T=2.306, p=0.021). Since the relationship is significant, hypothesis H4 accepted, but negative opposed to the expected direction.

In the H5 hypothesis, it proposed positive relationship among TMS and IAD. Obtained results (β=0.263, T=3.297, p<0.001). This indicates that there is a strong link between top management support and DMS adoption intentions.

Hypothesis H6 stated that perceived ease of use (PEU) and intention to adopt (IAD) have a positive relationship. According to the obtained results (β=0.158, T=2.831, p=0.005), H6 is significant and empirically supported. Next hypothesis H7, with the path PU->IAD which proposed perceived usefulness has direct positive impact to intention to adopt. That hypothesis rejected due to low significance in the obtained results (β=-0.044, T=0.61, p=0.542).

Hypothesis H8a (relationship between OC -> IAD (β=-0.183, T=3.27, p<0.001)) proposed that the connection between the intention to adopt the Destination Management System and organizational competency is moderated by competitive intensity. This hypothesis accepted due to its significance but relationship is negative opposed to the expected direction.

Final Due to the poor significance of the obtained results(β= 0.063, T=1.245, p= 0.213), hypothesis H8b, which stated that Competition Intensity moderates the connection between the intention to use the Destination Management System and Top Management Support, is also rejected.

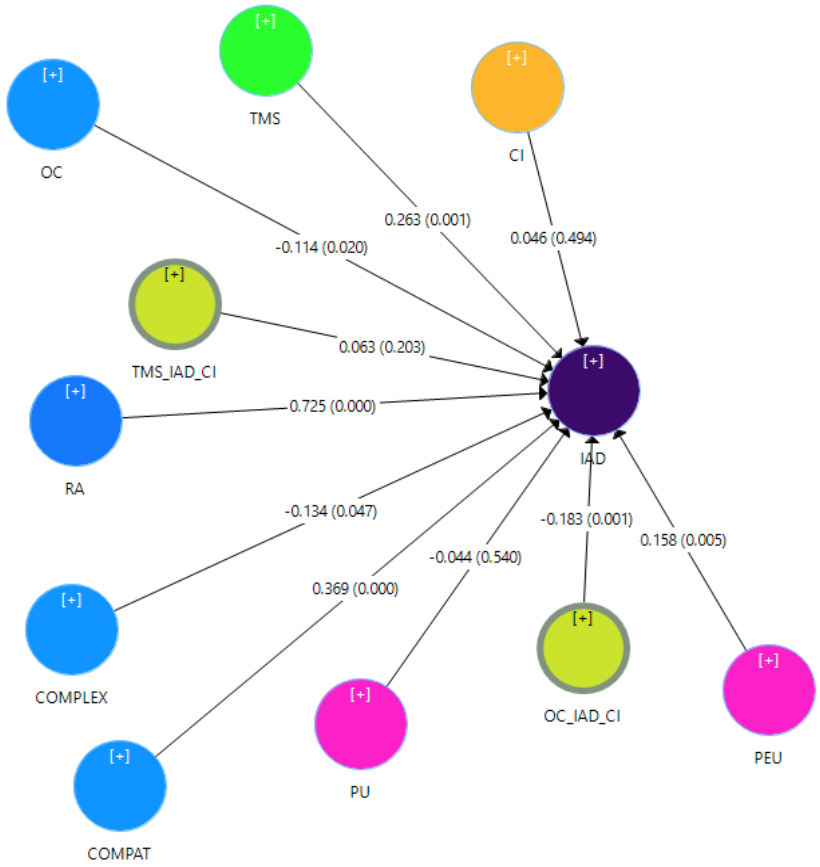

Figure 10 : Proposed Conceptual Model – Path Analysis Results

Effect Size (f^2)

The f^2 Effect-Size is a quantitative method used to describe the magnitude of the experimenter effect. That means the magnitude of influence on a relationship and it is independent of sample size and dimensionless. According to (Jacob Cohen, 1988), values greater than 0.35 for the conventional acceptance criterion describe in indicate a strong effect, values greater than 0.15 indicate a medium effect, and values less than 0.02 indicate a weak effect.

Table 26 below indicate overall effect sizes of paths. According to obtained results in this research H1 has medium effect and a highly significant p-value. This means that RA has significant impact on IAD. H2 hypothesis has gotten strong effect and high significant due to f^2 is greater than the 0.35 and p-value is less than 0.001. This means

that COMPAT has a great impact on IAD. Hypothesis H3 has week effect on IAD means that complexity has small impact on Intention to adopt DMS. In the H5, there is small effect on TMS-> to IAD while there is a higher significance in p-values that indicate there is moderate impact on top management support to Intention to adopt DMS.

Table 26 : Effect Size

Relationship			Hypothesis	β - Value	p - Value	Effect Size (f^2)	Effect
RA	→	IAD	H1	0.725	<0.001	0.256	Medium
COMPAT	→	IAD	H2	0.369	<0.001	0.584	Strong
COMPLEX	→	IAD	H3	-0.134	0.047	0.018	Week
OC	→	IAD	H4	-0.114	0.021	0.032	Small
TMS	→	IAD	H5	0.263	<0.001	0.125	Small
PEU	→	IAD	H6	0.158	0.005	0.069	Small
PU	→	IAD	H7	-0.044	0.542	0.002	Week
OC * CI	→	IAD	H8a	-0.183	<0.001	0.094	Small
TMS * CI	→	IAD	H8b	0.063	0.213	0.012	Week

4.8. Assessment of Model Fit

According to (Hair et al, 2017), while disclosing model fit in PLS-SEM, researchers should be extremely careful. Hence the suggested criteria are typically ineffective for PLS-SEM because they are still in the early phases of their study. As a result, SmartPLS does not recommend that these model fit requirements be reported or used in PLS-SEM outcome evaluations.

4.8.1. Normal Fit Index & Standardized Root Mean Square Residuals

According to the (F. F. Chen, 2007), the Standardized Root Mean Square Residuals (SRMR) index is calculated by taking the mean value of the standardized residuals between the observed and hypothesized covariance matrices. This assesses the proposed model's approximate model fit. If the SRMR is less than 0.08, the model is considered to have a good fit, according to the acceptance criteria (Hu & Bentler,

1998). According to Table 27, SRMR value of this research is 0.107 which has value greater than general acceptance criteria value 0.08. This means that goodness of model fit was very lower.Chi-Square value obtained was 3402.82.

Table 27 : Model Fit

Index	Estimated Model
SRMR	0.107
d_ULS	3.995
d_G	4.383
Chi-Square	3402.823
NFI	0.492

Furthermore, the SRMR value obtained in this research model is 0.078 which demonstrate the goodness of model fit. According to the results, the Chi-Square value was 3402.823. Apart form that according to the (Bentler & Bonett, 1980), the Normal Fit Index (NFI) was an initial fit measurements which was used in literature of structural equation modeling (SEM).

The value of NFI lie on between 0 and 1, with a number closer to 1 indicating a better fit to the model. According to the (Kroonenberg & Lohmoller, 1990), value greater than or equal to 0.9 considered as good model fit. The complexity of the model is not penalized by NFI. That is, the greater the number of parameters in the model, the better the model fit. As a result, when the number of parameters is small, it is not recommend to measure model fit. There are few parameters in this study as well, making it more difficult to fulfill the model fit requirements by achieving an NFI value of 0.9. NFI value of this study is 0.492 means that it has average model fit.

4.9. Discussion of Findings

Objective 1

Current status of DMS system in DMO in Sri Lanka

Current DMS practices were assessed using pre survey and expert interviews. According to the gathered data DMOs' having DMS in their organizations, but there is an issue in effectiveness having them. (Buhalis & Spada, 2000) proposed a model which was based on different interest of seven type stakeholders such as tourism suppliers, the public sector, tourists, tour operators, investors and travel agents to ensure long-term sustainable DMS. Although it is difficult, coordination and cooperation between parties must be achieved. In order to successfully adopt DMS, these categories of stakeholders must also be satisfied using DMS. In Sri Lankan context, major aim of DMS is to show case information about destination to world. But having feature of communicating stakeholders through the system lead to increase effectiveness of adopting DMS while obtaining benefits such as promotional, economic benefits, reliability of information, ability to strategic alliances, speedy transactions, standardization of DMS and etc.

According to obtained results from 5 large scale DMO in Colombo area, there was no public sector mediation as a stakeholder for the DMS. According to the (Buhalis & Spada, 2000), DMOs may be a complete public sector or a private and public sector partnership. But in Sri Lanka most of DMOs are from private sector and also they act as tour operators and travel agents as well. A DMO may be voluntary or a non-profit organization whose mission is to increase tourist visits to a certain location (Gretzel et al. 2006). Since most of DMOs are from private sector without public sector mediation, reliability of information about destination is matter. It will affect to tourism arrival of that destination as well as for the country.

Another major issue of the current DMS is unable to reserve accommodation and tickets for a destination**.** One respondent said that ticket booking facility only available at sigiriya. Though DMOs having DMS, overseas agents and clients' communication

conduct through famous 3rd party tools such as email, phone, WhatsApp, Facebook, WeChat, skype, viber except through the DMS. Apart from that Sri Lankan DMS are behind in the technology when it is compare to the Singapore, China which countries having national ICT framework for tourism.

Objective 2

Factors that can affect effective integration of DMS in local destination management companies.

According to the data analysis, figure 11 which is empirically validated model depicts the factors that are significant and it can affect intention to adoption of DMS. All Technological and Organizational factors have significance influence on IAD while only perceived ease of use influence the IAD under individual constructs. Under environmental construct CI moderate the relationship between OC -> IAD.

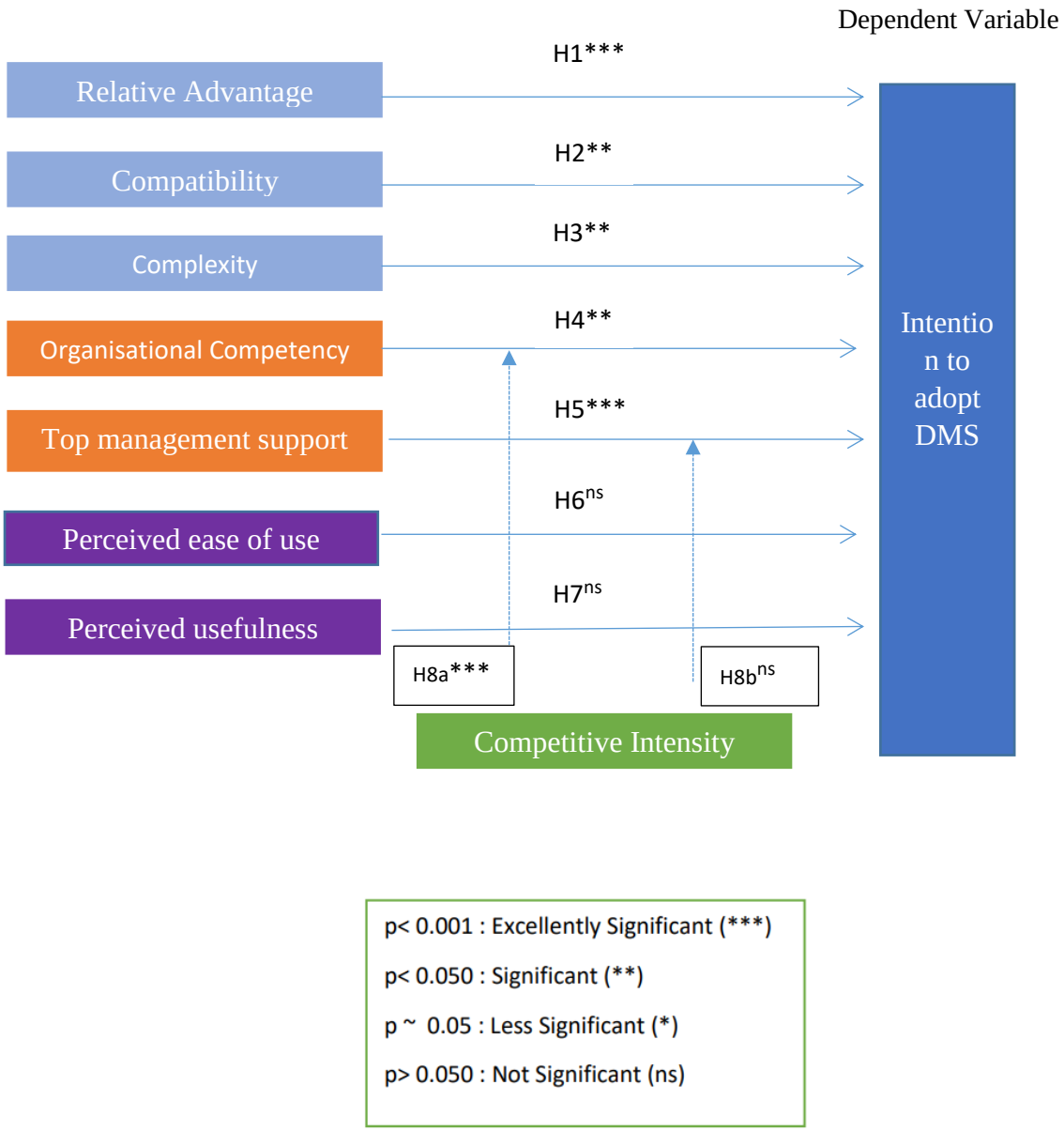

Figure 11: Empirically validated Model

Objective 3

How the identified factors influence effective integration of DMS in local destination management companies?

Technological Influence on IAD

H1: Relative advantage has a positive relationship towards the intention to adopt the Destination Management System. This relationship is significant and empirically supported with the (Mndzebele, 2013) Electronic Commerce (EC) adoption in context of hotels in South Africa. Knowing advantages of adopting DMS or relative technologies such as Operational efficiency, customer satisfaction, ROI, profit, reduced cost, scalability, flexibility, shared resources can lead to adopt DMS successfully. So the executives and organizations having understanding about benefits can lead to adopt DMS effectively.

H2: Compatibility has a positive relationship towards the intention to adopt the Destination Management System. This relationship is significant which means that compatibility has a direct positive relationship when determining IAD. It is consistent with KMS adoption results conduct by (Peng et al., 2009). When implementing new software, managers should evaluate factors of change management, such as whether an organization's and its employees' existing values, behaviors, and experiences are compatible with the new technology.

H3: Complexity has a negative relationship towards the intention to adopt Destination Management System. This relationship is significant and consistent with the study of (Sonnenwald et al., 2001). Employees involved in the adoption process should have a comprehensive understanding of the complexity involved in developing a new DMS or migrating to a new one. To effective adoption of DMS, it should be integrated with different system in different stakeholders. Management is often concerned about how new software will be deployed with existing knowledge, skills, and personnel. Also they hope reduced time to perform task from the system. Since complexity influence

IAD adoption inversely, every aspects of complexities should identified and conveyed to the team.

Organizational Influence on IAD

H4: Organization competency has a positive relationship towards the intention to adopt the Destination Management System. This relationship has significance influence on IAD. Hence the hypothesis accepted but negative opposed to the expected direction. This results is contradict with study on ERP adoption by **(**Salwani et al., 2009). Though the concept was derived from similar technology adoption due to a lack of study in the field of DMS adoption, circumstances may vary. An interview with an expert revealed that when an organization's competency increases, it tends to hire more people to provide superior service to its clients, with the human touch being the most important factor.

H5: Top management supports have a positive relationship towards the intention to adopt Destination Management System. This relationship is significant and consistent with the study conduct on ERP adoption by **(**Kouki et al, 2009). Top management executives having long-term vision, plan to manage resources optimal through the system, practicing strategy to keep good relationship with customers & partners and also giving continuous feedback, monitoring, direction, authority to employees are more likely to adopt DMS effectively.

Environmental Influence on IAD

H8a: Competitive Intensity moderates the relationship between the adoption intention of the Destination Management System and Organizational competency. This relationship has significance influence on IAD. Hence the hypothesis accepted but negative opposed to the expected direction. This results is contradict with (Shafique, 2015) but the context is different as described in the H4. Since we observe opposite

relationship between OC and IAD, competitive intensity influence on that relationship further. Effective adoption of DMS include more integrations among the system and DMS systems will follow the same standards among DMO throughout the country. Hence it may be lead to difficulty of differentiate their organization from rivals.

Individual Factors Influence on IAD

H6: Perceived ease of use has a positive relationship towards the intention to adopt the Destination Management System. This relationship is significant and consistent with study conducted by (Wu, 2011). Proposing easily understandable system which ease employee daily office work has chance to adopt by DMOs.

4.10. Chapter Summary

The outcomes of the data analysis process are presented in this chapter, which primarily comprises of reliability and validity testing, descriptive and inferential statistical analysis. Tests of reliability and validity established that the measuring scales are suitable for data analysis. SPSS 26 was used to summarize the data. Factor analysis and structural equation modelling were used to examine collected data. Then they were used to validate measurement model and to test the hypothesis accepted or rejected. The concluding section of the chapter contains findings and discussions. This section summarized and interpreted the statistical outputs in the order in which the three research objectives were accomplished.

5. CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

Conclusion

According to data analysis, 69.2% respondents who are executives in Destination Management Company or tour operator companies has intention to adopt destination management system. Majority of respondents have expressed their perceptions about Top Management Support, Relative Advantages, Compatibility, and Complexity. This reveals that what are the major factors affect when successfully adopting destination management system. According to the research, companies having good top management support, employees having good understanding of advantages having Destination management systems more likely to have intention to adopt the DMS. According to the data obtained by sample, 35.4% of respondent already adopted DMS for their company. Since there is a large percentage of organizations not adopted DMS yet and most of already adopted systems in micro, small and medium scale companies not having features stated in literature. According to the industry experts 2-3% of large scale companies serving larger portion of inbound tourism market. Hence we can identify that there is a significant problem here. Recommendations to overcome this issue is addressed in recommendation section.

Travel & Tourism contributes to 5.7% of GDP Sri Lanka. As a tourism board of Sri Lanka, they need to promote inbound tourism in order to increase tourism revenue. Statistics revealed that Sri Lanka gained the huge revenue from tourism through inbound tour operators & Destination management companies when it compare with individual backpackers. According to the literature, there are many foreign DMC & tour operators getting advantages by using Destination Management Systems. So it is highly recommend that in order to increase adoption destination management systems by DMC, Sri Lanka tourism board has to play major role as a mediator and need to supply underline infrastructure for the stakeholders in tourism industry and conduct training or introductory sessions on advantages of having DMS as well as the

complexities such as integration issues. Also it is recommend to consider following findings & recommendations as well.

5.1. Empirical Findings and Recommendations

One of objective of this research to identify current DMC practices in Sri Lanka. Pre survey has done to achieve some of the objectives of this research, Also few industry professionals interviewed to assess the current practices in DMC. Following findings were gathered from pre survey as result of one of objective of this research.

According to the industry professionals there is no company using comprehensive DMS in Sri Lanka. But most of large scale companies purchased standard software. Even though many of others use different systems by different vendors, they are not covering full operational areas of what DMC should have to practice on. According to the results of pre survey there are only few locations or destinations where you can book tickets online. There is no integrated system to book hotel rooms for foreigners via DMS. Most of the foreign partners doesn't have access to DMS. The communications happens through other third party tools like WhatsApp, Viber, email, WeChat & etc. So the delay in response can lead to miss prospectus foreigner to Sri Lanka.

According to the findings, DMS adoption is influenced by three significant factors from three main stakeholders.

First one is due to the lack of National ICT framework defined or implemented in the tourism industry. Since effectiveness of DMS adoption depends on successful integration of various systems of different stakeholders, DMOs cannot adopt comprehensive DMS for their organizations in the current context. Though Sri Lanka is one of the key destination in IT service providing in Asia and also there are worldwide recognized travel & DMC software such as TravelBox product developed by Sri Lankan IT company, These comprehensive systems unable to deploy effectively in Sri Lankan DMOs due to lack of underline infrastructure and responsible mediation body appointed by government.

To overcome said issue, author of this study recommends to government or tourism board to play major role and act as an intermediary service provider by collaborating with ICTA. Also Government need to establish national ICT framework for destination management and hospitality sector and also government need to enforce DMOs to adhere to the standards given in the framework while adopting DMS.

Second factor is software vendors should clearly identify goals defined by Sri Lanka tourism board and national ICT framework and develop software according to it. Vendors should implement more comprehensive features by considering for future smart destination management systems. According to the gathered data from experts' interviews, vendors should consider following features in order to implement more comprehensive system. DMS enables significant DMO servicing capabilities for optimal resource management and allocation, resulting in increased operational efficiency. With full profile management capabilities, the resource management platform effectively manages various resources centrally. It should automate and centrally manage tour guides, itinerary, transfer vehicles, chauffeur, service suppliers, and any other key resources for DMO operation. DMS supports both product loading and dynamic inventories via third-party linkages of partners, allowing DMOs to provide a wider range of products. Accommodation, transportation, tours, excursions, generic products and bundles or customized packages are all included. DMS allows suppliers to connect to DMOs, allowing Channel Managers to expand their options by giving a huge pool of inventory for all land products such as hotels, tours, generic products, and etc. Ground handling tasks should streamlined with the destination management software solution, which automates transfer timings to speed up airport transfers and meet and greet protocols, while automated handling fee-based business rules are in place to automatically bill clients for additional services. Also it should provide significant accounting features to operate DMO business's financial side and gives necessary data to feed into third-party accounting systems. This covers calculating commission, fees and the automation of customer and supplier payments and cost management, payment cancellation, reconciliation, and automated ledger creation.

Third factor is mainly regarding with DMO behaviors and attitudes which is one of main objective of this research. The empirical findings of the study and the author's recommendations are listed below.

Having understanding about technological factors can motivate to adopt DMS.

Relative advantage obtained higher significance & medium effect on intention to adopt. Top executives needs to have better understanding about what are the benefits that they can obtained for the company through adoption process. Another factor compatibility has high significance and strong effect. This means that compatibility is highly influence the intention to adopt. According to the data analysis top executives highly consider about keeping current DMS practice means that if adoption of new DMS is not consistence with current DMS practices, it is most likely to reject by the company. So author of this study recommends that if Software Company plan to propose new DMS for destination Management Company or Tour Operator in Sri Lanka, it is better that they get support of change management professional in the adoption process. Since the current practices of DMC are mostly depend of human touch with less IT support, change management professionals need to be very careful about features that they are going to change. Complexity is a significant factor which need to consider in adoption process. For DMS to operate in a successful way, it has to integrate different systems, 3rd party services & their partner systems. So the top executives very careful about these integration issues that could come up in the deployment. Because these integrations could incur higher cost and complexity affecting negatively in the adoption process.

Top Management Support is a significant factor under organizational construct

Top management is the group of people who take the decision whether or not to acquire the DMS. According to the analysis top management support has an impact on intention to adopt DMS. According to the literature, organization competency has a significance impact on intention to adopt. According to this study it was accepted but negative opposed to the expected direction. Due to the context circumstances may vary. An interview with an expert revealed that when an organization's competency

increases, it tends to hire more people to provide superior service to its clients, with the human touch being the most important factor.

Hence author recommends government or SLTDA to conduct training sessions for the top management regarding perceived benefits of DMS adoption, things to consider when adopting DMS, how to lead the adoption process, what are the major investment when adopting DMS and how to invest on DMS while keeping good relationship with customers while keeping human involvement minimum.

Competitive Intensity doesn't moderate the tested relationship between TMS -> IAD and OC -> IAD

According to the findings, competitive intensity doesn't moderate relationship between top management support to intention to adopt as well as the relationship between organizational competency and intention to adopt. According to literature there is positive relationship between competitive intensity and intention to adoption via directly or indirectly. It means that as competitors use software as a strategic weapon, other companies face intense competition and are under pressure to embrace software in order to retain a competitive advantage. According to Industry professionals, most of the large & medium scale companies try to achieve competitiveness by increasing human capacity. Increasing human capital is not the solution in most cases and author of this study recommends government or tourism board of Sri Lanka to explain actual benefits of DMS and how to achieve competiveness using DMS while keeping human capital at minimum to keep customer satisfaction and human touch good level.

5.2. Limitations & Future Research Opportunities

Despite its positive impact on the Sri Lankan hotel sector and travel industry, this study has certain limitations. One of the primary constraints is related to data collection and sampling. Current study has collected data from employees who worked for DMC/Tour Operator in western province. Therefore, the current study's findings cannot be generalized to the other DMC which are outside the Western Province. Therefore, future research could be conducted on a representative sample of DMC/Tour Operators from all provinces in Sri Lanka. Furthermore, future research may focus on the perspectives of other stakeholders, such as investors, tourism boards, and other government bodies.

Since the study adopted single key informant method. Due to pandemic situation, industry professional are interviewed using telephone call with 20 minutes time duration. So author was unable to have proper face to face interview with industry professional. Also this study is used TOE framework with using TAM construct.

Numerous research based on the TOE framework also have many limitations, according to the literature. As per the (Dedrick and West, 2003; Low et al., 2011), the TOE framework is merely a classification variables; it contains no significant constructs. Additionally, it lacks an integrated conceptual framework or a well-developed theory. Hence stronger framework is required to study on technology adoption for organization. According to (Wang et al., 2010), the TOE framework's key constructs are ambiguous, and its variables may vary depending on the context and other factors. Therefore, additional variables should be included to enrich the TOE framework, such as the social, cognitive, and managerial capabilities of change management, as well as government promotion and other factors, as well as important factors of country based on context, such as government policy and regulation. Therefore author of this study recommend to use different variables and relationships in each context.

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APPENDIX A: DESCRIPTIVE STATISTICS

Report

Company Size		Tour Operation	Meeting Planning	Event Organizing	Manage independent travelers	Meet and great at airports	Local excursions	Sports and recreational activities
Large	% of Total Sum	5.6%	10.9%	12.0%	22.9%	5.9%	12.6%	16.1%
	% of Total N	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%
	N	11	11	11	11	11	11	11
Medium	% of Total Sum	33.3%	50.5%	45.7%	35.4%	34.9%	48.3%	46.4%
	% of Total N	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
	N	65	65	65	65	65	65	65
Small	% of Total Sum	35.9%	32.7%	31.5%	20.8%	33.9%	21.8%	25.0%
	% of Total N	35.9%	35.9%	35.9%	35.9%	35.9%	35.9%	35.9%
	N	70	70	70	70	70	70	70
Micro	% of Total Sum	25.1%	5.9%	10.9%	20.8%	25.3%	17.2%	12.5%
	% of Total N	25.1%	25.1%	25.1%	25.1%	25.1%	25.1%	25.1%
	N	49	49	49	49	49	49	49
Total	% of Total Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total N	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	N	195	195	195	195	195	195	195

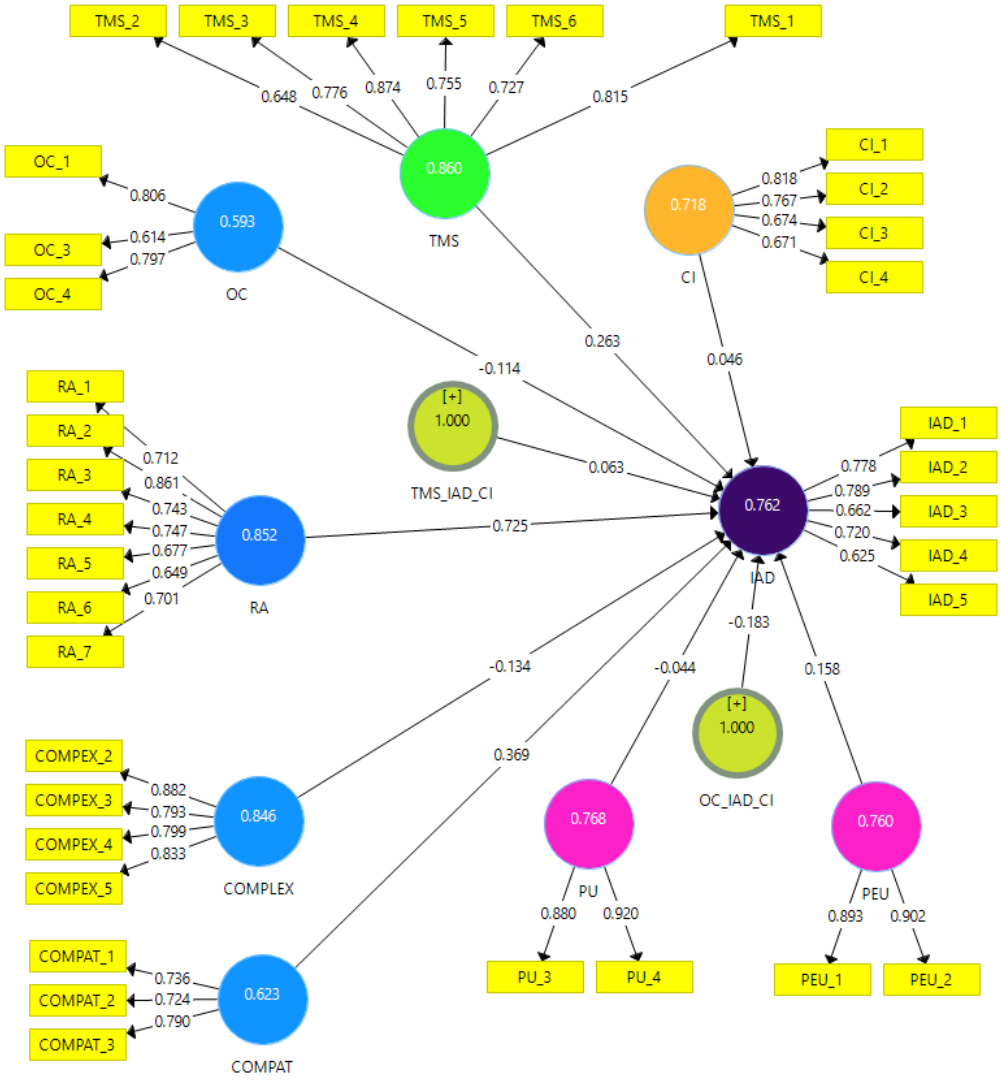
	Descriptives		Statistic	Std. Error
TMS	Mean		3.4923	0.03834
	95% Confidence Interval for Mean	Lower Bound	3.4167	
		Upper Bound	3.5679	
	5% Trimmed Mean		3.4671	
	Median		3.5	
	Variance		0.287	
	Std. Deviation		0.53541	
	Minimum		2.63	
	Maximum		4.75	
	Range		2.13	
	Interquartile Range		0.88	
	Skewness		0.591	0.174
	Kurtosis		-0.663	0.346
OC	Mean		3.3782	0.0378
	95% Confidence Interval for Mean	Lower Bound	3.3037	
		Upper Bound	3.4528	
	5% Trimmed Mean		3.3422	
	Median		3.25	
	Variance		0.279	
	Std. Deviation		0.52781	
	Minimum		2.5	

	Maximum		4.75	
	Range		2.25	
	Interquartile Range		0.75	
	Skewness		0.829	0.174
	Kurtosis		0.018	0.346
RA	Mean		3.4724	0.03655
	95% Confidence Interval for Mean	Lower Bound	3.4004	
		Upper Bound	3.5445	
	5% Trimmed Mean		3.4526	
	Median		3.5	
	Variance		0.26	
	Std. Deviation		0.51032	
	Minimum		2.25	
	Maximum		4.75	
	Range		2.5	
	Interquartile Range		0.75	
	Skewness		0.529	0.174
	Kurtosis		-0.551	0.346
COMPLEX	Mean		3.5405	0.04091
	95% Confidence Interval for Mean	Lower Bound	3.4598	
		Upper Bound	3.6212	
	5% Trimmed Mean		3.5171	
	Median		3.6	
	Variance		0.326	
	Std. Deviation		0.57126	
	Minimum		2.8	
	Maximum		4.8	
	Range		2	
	Interquartile Range		0.8	
	Skewness		0.667	0.174
	Kurtosis		-0.445	0.346
COMPAT	Mean		3.3761	0.03915
	95% Confidence Interval for Mean	Lower Bound	3.2989	
		Upper Bound	3.4533	
	5% Trimmed Mean		3.3808	
	Median		3.3333	
	Variance		0.299	
	Std. Deviation		0.54667	
	Minimum		2.33	
	Maximum		4.33	
	Range		2	
	Interquartile Range		0.67	

	Skewness		0.026	0.174
	Kurtosis		-0.476	0.346
PEU	Mean		3.5436	0.04792
	95% Confidence Interval for Mean	Lower Bound	3.4491	
		Upper Bound	3.6381	
	5% Trimmed Mean		3.5235	
	Median		3.5	
	Variance		0.448	
	Std. Deviation		0.6692	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		0.569	0.174
	Kurtosis		-0.221	0.346
PU	Mean		3.3462	0.03933
	95% Confidence Interval for Mean	Lower Bound	3.2686	
		Upper Bound	3.4237	
	5% Trimmed Mean		3.3262	
	Median		3.25	
	Variance		0.302	
	Std. Deviation		0.54918	
	Minimum		2	
	Maximum		4.75	
	Range		2.75	
	Interquartile Range		0.75	
	Skewness		0.653	0.174
	Kurtosis		-0.084	0.346
CI	Mean		3.4603	0.03791
	95% Confidence Interval for Mean	Lower Bound	3.3855	
		Upper Bound	3.535	
	5% Trimmed Mean		3.4459	
	Median		3.5	
	Variance		0.28	
	Std. Deviation		0.52944	
	Minimum		2.5	
	Maximum		4.75	
	Range		2.25	
	Interquartile Range		0.75	
	Skewness		0.379	0.174
	Kurtosis		0.18	0.346
IAD	Mean		3.439	0.03771

	95% Confidence Interval for Mean	Lower Bound	3.3646	
		Upper Bound	3.5133	
	5% Trimmed Mean		3.4182	
	Median		3.4	
	Variance		0.277	
	Std. Deviation		0.52653	
	Minimum		2.4	
	Maximum		4.8	
	Range		2.4	
	Interquartile Range		0.8	
	Skewness		0.403	0.174
	Kurtosis		0.012	0.346

APPENDIX B: FACTOR LOADINGS DERIVED FROM SMART PLS



APPENDIX C: SURVEY QUESTIONNAIRE

Factors Affecting Successful Adoption of Destination Management Systems in Sri Lankan Hospitality Sector

I am a postgraduate student of the Department of Computer Science and Engineering, University of Moratuwa. As partial fulfillment of the Master of Business Administration(MBA) in IT program, currently, I am engaged in a research study on;

"Factors Affecting Successful Adoption of Destination Management Systems(DMS) in Sri Lankan Hospitality Sector".

I would appreciate if you, as a professional working on Destination Management Company/ Inbound Tour Agent / Tour Operator Company could spare about 10 to 15 minutes of your precious time to complete and submit the below questionnaire. Your complete response will be very important and helpful for me to conduct my research study.

All the information you provide will remain completely anonymous and confidential and will be used solely for academic purposes only.

Thank you for taking the time to assist me in my educational endeavors. I recognize the value of your time and gratefully appreciate your commitment in completing this questionnaire. Please do not hesitate to contact me if you have any concerns regarding this.

Thank You,

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Department of Computer Science & Engineering
University of Moratuwa
Sri Lanka
https://www.linkedin.com/in/yasura/

*Required

Demographic Information

1. 1. What is your job role? *

Mark only one oval.

- ◯ MD/CEO/Director
- ◯ Chairman /President
- ◯ Proprietor
- ◯ IT Manager
- ◯ Customer Relationship Manager
- ◯ General Manager
- ◯ Senior Manager
- ◯ Accountant
- ◯ Marketing Manager
- ◯ Operational Manager
- ◯ Other: _____

2. 2. Years of experience you have in tourism industry? *

Mark only one oval.

- ◯ Less than 3 years
- ◯ 3 to 5 years
- ◯ 5 to 10 years
- ◯ More than 10 years

3. 3. What is the best way to introduce your company? *

Tick all that apply.

- ☐ Tour Operator
- ☐ Travel Agent
- ☐ Destination Management Company (DMC)
- Other: ☐ _____

4. 4. What are the services offer from your company? *

Tick all that apply.

- [ ] Tour Operation
- [ ] Meeting Planning
- [ ] Event Organizing
- [ ] Manage independent travellers
- [ ] Meet and great at airports
- [ ] Local excursions
- [ ] Sports and recreational activities

Other: [ ] _____

5. 5. Does your company have Destination Management System (DMS) or any other Tour Operating Platform? *

Mark only one oval.

- ◯ Yes
- ◯ No

*Note :- Criteria to determine company size

Criteria	Large	Medium	Small	Micro
Annual Turnover	> Rs. Mn. 750	Rs. Mn. 251 - 750	Rs. Mn. 16 - 250	Less than Rs. Mn. 15
No. of Employees	> 200	51 - 200	11 - 50	Less than 10

6. 6. Please specify your company size according criteria mention above? *

Mark only one oval.

- ◯ Large
- ◯ Medium
- ◯ Small
- ◯ Micro

Answer the questions considering the experience on Top Management Support

Consider how you analyze Top Management Support regarding the new DMS System adoption process of your Organization.

7. 7. Top management clearly identify the long term benefits of adopting DMS before deployment. *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

8. 8. Management consider optimal management of resources through the system *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

9. 9. Management consider how adoption of new system affect to organizational behaviors, climate, policies & practices. *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

10. 10. It is better to gain user feedback by the Top Management regarding the new DMS system once fully adopted *

Mark only one oval.

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly agree

11. 11. Top management giving full support for practicing strategy to keep good relationship with partners & customers. *

Mark only one oval.

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly agree

12. 12. The top management monitor the efficiency or effectiveness of new DMS system once it fully adopted by the company *

Mark only one oval.

- Strongly Disagree
- Disagree
- Neither Agree or Disagree
- Agree
- Strongly Agree

13. 13. The top management direct the relevant DMS system users in the total adoption process from the current system to new DMS. *

Mark only one oval.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

14. 14. The Top management provide require resources and authorities (Hardware and software) in order to adopt from the current system to new DMS. *

Mark only one oval.

- Strongly Disagree
- Disagree
- Neither Agree or Disagree
- Agree
- Strongly Agree

Answer considering the experience on Organizational Competency.

Consider how you analyze the "Organizational Competency" regarding the new DMS System adoption process of your Organization.

15. 15. We believe in our all DMS users with in motivational willingness towards the new DMS system adoption scenario. *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

16. 16. Our staff members (DMS users) all are in full of knowledge and skills regarding the new DMS system. *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

17. 17. We believe this is a right time to migrate from the existing system to new DMS system. *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

18. 18. We have the resources that we need to forward with the new DMS system (Software and Hardware) *

Mark only one oval.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neither Agree or Disagree
- ◯ Agree
- ◯ Strongly Agree

19. 19. Consider how you analyze the "Relative Advantages" regarding the new DMS System adoption process of your Organization. Answer considering the experience on "Relative Advantages". *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Adopting new DMS can increase the operational efficiency	◯	◯	◯	◯	◯
Customers' satisfaction is believed to be increase after adoption of DMS.	◯	◯	◯	◯	◯
Adopting new DMS can increase the return on investment (ROI).	◯	◯	◯	◯	◯
DMS adoption can increase the profitability of our business.	◯	◯	◯	◯	◯
Adopting new DMS can reduce operational cost.	◯	◯	◯	◯	◯
Adoptine new DMS helps to cater large number of customers in future.	◯	◯	◯	◯	◯
Adopting new DMS can cater future requrements quickly.	◯	◯	◯	◯	◯
Adopting new DMS enable access to data & information quickly.	◯	◯	◯	◯	◯

20. 20. Consider how you analyze the "Complexity" regarding the new DMS System adoption process of your Organization. Answer considering the experience on "Complexity" *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
We believe it is easy to put new DMS into practice with existing knowledge & skills of users					
We believe Adoption of new DMS system will not take too much time from my normal duties.					
Adoping new DMS require integration of other systems to make it more comprehensive.					
It doesn't take too long to learn how to adopt for new DMS system to make it worth the effort.					
The DMS related IT support tools are not much difficult to use.					

21. 21. Consider how you analyze the "Compatibility " regarding the new DMS System adoption process of your Organization. Answer considering the experience on "Compatibility". *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
New DMS fits our need in keeping relationship with customers.	◯	◯	◯	◯	◯
The philosophy of the new DMS is consistent with our company value.	◯	◯	◯	◯	◯
The practice of new DMS is consistent with our previous practices when considering last 3 years.	◯	◯	◯	◯	◯

22. 22. Consider how you analyze the “Perceived Usefulness” regarding the new DMS System adoption process of your Organization. Answer considering the experience on “Perceived Usefulness". *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
I believe that new DMS System adoption useful in my job.					
Adopting new DMS system enhance my effectiveness on the job.					
Adopting new DMS system increases the performance of my job.					
New DMS system adoption increases my productivity.					

23. 23. Consider how you analyze the “Perceived Ease of use” regarding the new DMS System adoption process of your Organization. Answer considering the experience on “Perceived Ease of use. *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Adopting new DMS system make easy my daily office work.					
Adopting new DMS system is very clear and understandable for me.					

24. 24. Consider how you analyze the "Competitive Intensity" regarding the new DMS System adoption process of your Organization. Answer considering the experience on "Competitive Intensity". *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
It is easy for our customers to find an alternative supplier offering same products.					
Price competition is highly intense.					
There are many firms offering products/services similar to ours in the market.					
Firms in our tourism industry are innovate new products/packages/services to compete with each others.					

25. 25. Consider how you analyze the "Intention to adopt" regarding the new DMS System adoption process of your Organization. Answer considering the experience on "Intention to adopt". *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
I think positively about new DMS system.	◯	◯	◯	◯	◯
I plan to participate new DMS system learning courses in future in order to gain the knowledge about it.	◯	◯	◯	◯	◯
I intend to advise other employees (DMS users) to learn about more and more about new DMS system in order to enjoy the new system.	◯	◯	◯	◯	◯
I feel more interesting towards the adopting new DMS system in order to satisfy the customers more and more.	◯	◯	◯	◯	◯
I feel it is easy to adapt to the new DMS system because of the useful guidance in performing our tasks.	◯	◯	◯	◯	◯