

# **Readiness of the hospitality industry to adopt on-line marketing technology in Mpumalanga**

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## ABSTRACT

The study examines the readiness of the hospitality industry in Mpumalanga, South Africa to adopt online marketing technologies by considering what online marketing technologies are currently adopted in the industry, what online marketing technologies are available and whether there is a readiness to adopt online marketing technologies by determining what factors enable or disable owners to accept online marketing technologies. It determines how online, Internet, digital, virtual, and e-marketing technologies and trends are conceptualised within literature, identifies factors which can contribute in predicting online marketing technology adoption readiness, identifies the drivers and barriers (both physical and psychological) to businesses to adopt online marketing technologies and constructs an online marketing technology adoption readiness framework from available literature. Non-probability sampling in the form of purposive sampling within the population was used to gather a sample of this population. A purposive sample of 103 respondents was selected for the quantitative research (questionnaires) and 7 for the qualitative research (semi-structured interview) based on the definition of the hospitality industry. Homogenous purposive non-probability sampling was used as it was anticipated that knowledgeable experts, i.e. owners, senior managers, directors and IT managers within the hospitality industry, i.e. guest houses, guest farms, lodges, and hotels, in the Cosmos area of Mpumalanga would provide reliable results. It was determined that 33% of respondents make use of the OMT enablers considered for this study and 50% of respondents make use of the OMTs. It is concluded that most of the digital technologies and OMTs are available to the respondents' exposure, as well as the necessary infrastructure and that neither customer pressure, technology maturity, industry standardisation, nor geographical location are reasons that businesses will not invest in digital technologies or OMT's. From the qualitative study respondents indicated that if customers do not make use of the technology, the hospitality businesses won't either. Some barriers to technology adoption matched those from the literature study. A correlation study and linear regression was conducted between all listed constructs in the proposed OMT adoption readiness framework. To validate the proposed framework, a multiple regression was conducted to determine how the constructs collectively contribute in predicting OMT adoption readiness. The limitations and implications for further research are that results cannot be generalised to the broader hospitality industry in Mpumalanga or South Africa, owing to the use of a non-probability purposive sample. It is recommended that future studies focus on larger probability sample in order to be more representative of the population. The proposed OMT adoption readiness framework may still yield different results if tested on a larger probability sample under different conditions. It is, therefore, recommended that the originally proposed and amended frameworks be further tested and validated in order to use it as

a prediction tool for OMT adoption readiness. The amended framework's constructs can only be used to predict 24.52% of the variance in the OMT adoption readiness construct. Although this study finds that the respondents are 72% ready to adopt online technology, the amended framework could only predict 17% of that. It is, therefore, recommended that further research focus on the missing constructs which could help in predicting online technology readiness. It is clear that needs differ between small and very large hospitality businesses. It is recommended to test and interpret correlations between various constructs and conduct a factor analysis to potentially reduce the number of constructs which could help to predict OMT adoption readiness.

**Key Terms:** Online Marketing, Internet Marketing, Web Marketing, Virtual Marketing, Digital Marketing, Digital Technology, Digital Commerce, Mobile Technology, Technology-Readiness, Online Technology Readiness, Web 2.0, Business 2.0, Enterprise 2.0, Web 3.0, Internet of Things, Over the Top Technology, Semantic Web, Ubiquitous Internet, Ubiquitous Computing, Hospitality Industry, Tourism.

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## LIST OF ABBREVIATIONS

AR	Augmented Reality
AV	Audio Visual
B2B	Business to Business
CMS	Content Management Systems
CRM	Customer Relationship Management
DC	Digital Commerce
DMMA	Digital Media & Marketing Association
CIO	Chief Information Officer
E-Business	Electronic Business
E-Commerce	Electronic Commerce
EC	Electronic Commerce
EDI	Electronic Data Interchange
ERP	Enterprise and Resource Planning
ESN	Enterprise Social Networks
EWOM	Electronic-Word-of-Mouth
GPS	Global Positioning System
ICT	Information and Communication Technologies
IT	Internet Technology
IoT	Internet of Things
IPTV	Internet Protocol Television
LBS	Location Based Services
NFC	Near Field Technologies
OMT	On-line Marketing Technologies
OTA	Online Travel Agency
OTT	Over the Top
POI	Points of Interest
POPI	Protection of Personal Information
PWC	PricewaterhouseCoopers
RSS	Really Simple Syndication
RTLS	Real Time Location Services
SEO	Search Engine Optimisation
SME	Small and Medium Enterprises
SMME	Small, Micro and Medium Enterprises
SMTE	Small and Medium Tourism Enterprises

SoCoMo	Social Context Mobile
SPG	Starwood Preferred Guest
SSA	Statistics South Africa
SWT	Smart Wearable Technologies
TPA	Tourism and Parks Agency
TRS	Travel Recommender Systems
TV	Television
URL	Universal Resource Locator
VOD	Video on Demand
VoIP	Voice over Internet Protocol
WOM	Word-of-Mouth

## CHAPTER 1: NATURE AND SCOPE OF STUDY

### 1.1 Introduction

The Internet is defined as a “global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardised communication protocols” (Oxford Dictionaries, 2016a). The World Wide Web, known by many as the Internet is defined as “an information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one document to another” (Oxford Dictionaries, 2016b).

The most rapidly growing and exciting form of marketing in the modern era is Internet marketing. With an ever-more connected world and with audiences more contemptuous, astute, and fragmented, it is vital for marketers to keep up with latest developments and trends to capture the attention of these audiences (Jones *et al.*, 2011:03). The Web is a significant technological advancement enabler and presents numerous opportunities for businesses to develop competitive advantages (Bruwer, 2015:1037). Using Internet (also referred to as on-line) technologies to perform any form of business on-line, does not only include web advertising, but also involves other known on-line activities like social networking and e-mail. Internet marketing and digital commerce are conducted via a digital platform where electronic information is transmitted on any digital device (Jones *et al.*, 2011:04). Electronic (or digital) commerce (EC or DC) is the use of telematics-based systems (computer and communications systems) to support the conduct of commerce, and these terms have been used interchangeably for a long time (Kimbrough & Lee, 1996:1).

Mobile Internet, defined as “the Internet as accessed by means of a Smartphone or other mobile device” (Oxford Dictionaries, 2016c) and other “Over the Top” technologies, or better known as OTT technologies, are also contemporary digital platforms for business. OTT technology is known as “any app or service that provides a product over the Internet and bypasses traditional distribution. Services that come over the top are most typically related to media and communication and are generally, if not always, lower in cost than the traditional method of delivery” (Techopedia, 2016). The Institute of Direct marketing (cited by Gay *et al.*, 2007:05), describe E-marketing as “the use of Internet and related digital information and communications technologies to achieve marketing objectives.” Gartner (2015b) defines digital marketing as “a set of integrated techniques, technologies, and information that enables marketing to create new products and services; enter new markets; improve the processes needed to engage in a dynamic

conversation with people who are influencers and buyers; and ultimately target, acquire and retain customers.” Mohammed *et al.* (cited by Gay *et al.*, 2007:06) define Internet marketing in businesses as a process involving the utilisation of on-line activities to construct and maintain customer relations through the exchange of ideas, products and services which meet the objectives of both parties. It, therefore, is not only marketing, but also the way businesses present and apply themselves and their products on-line through various on-line mediums and tools, as well as creating customer satisfaction through their technological capabilities. Neuhofer *et al.* (2014:341) also point out that marketing is integrated into the total, intensive and emotive experience of customers.

Although labels and acronyms abound, such as e-commerce, digital commerce, the Internet of Everything and many more, the latest on-line technology is related to the use of Web 3.0, or the Semantic Web. This is the current web era that is still evolving. Web 3.0 is aimed to be a “smarter web”, using semantics and artificial intelligence to attempt to mimic human thinking. Simultaneously, the world is moving towards the “Internet of Things” (IoT), which relates to Web 3.0 in the sense of an integrated, connected world. IoT refers to an ever-connected world with ever-present Internet where limited human interaction is necessary and smart devices and machines will communicate with each other without the need for human input (Morrow: 2014), which also relates to Machine Learning.

Parasuraman (2000:308) describes the technology-readiness construct as “people’s propensity to embrace and use new technologies in accomplishing goals in home life and at work.”

This study will examine the readiness of businesses in the hospitality industry in Mpumalanga, South Africa, to adopt on-line marketing technology. The hospitality industry, as defined by various dictionaries, are defined as hotels, guest houses, guest farms, that often offer food, drinks, and transitional or short-term lodging. It may involve entertainment, fitness, and leisure. (Cambridge Dictionaries Online, 2015; BusinessDictionary.com, 2015; Collins Dictionary, 2015). For the purposes of this study, the hospitality industry is defined as hotels, lodges, guest houses, and guest farms.

This study will examine the readiness to adopt on-line marketing technologies by considering the following critical elements:

- 1) what on-line marketing technologies are currently adopted in the industry;
- 2) what on-line marketing technologies are available in the market; and

- 3) whether there is a readiness to adopt on-line marketing technologies by determining what factors enable or disable owners to accept on-line marketing technologies.

The context of this study is delineated next.

## 1.2 Context

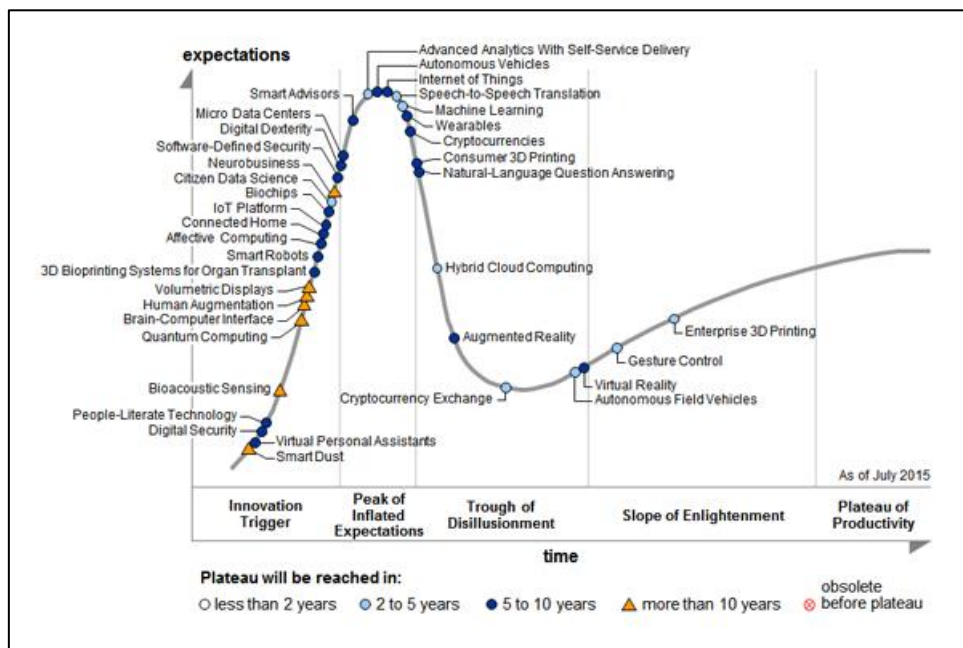
The Internet is a constantly evolving platform and changes are far from over, according to Jones *et al.* (2011:10). The web has developed in its own unique way from the static Web 1.0 with limited interactive capability, into the dynamic interactive Web 2.0. The fast evolving technologically-connected world is in the Web 3.0 phase, which provides an integrated web experience with similar capabilities to humans with regards to understanding, processing, analysing, and interpreting data and information (Bruwer, 2015:1037).

‘On-line Marketing Technology’ and ‘Digital Technology’ will be considered in the context of Web 2.0 and Web 3.0 technology, ubiquitous Internet and the Internet of Things (IoT), which are all related concepts in the sense that it refers to web technology which is everywhere, connected to almost everything, is smart and integrated. The emergence of a range of forces pertaining to mobile, social, cloud and information are pertinent to the current digital business climate. For improved social connection, or product and service value, consumers are willing to engage more in marketing activities and subsequently businesses focus on new and more sophisticated ways to reach consumers (Gartner:2015).

Gartner (2015) recommends the following technologies on the hype cycle in figure1 for businesses that are entering or planning to enter the digital marketing stage in the modern world:

- 1) Gesture Control (e.g. a smart phones tracing lifestyle activities);
- 2) Hybrid Cloud Computing;
- 3) Internet of Things (e.g. Integrated Smart Digital Facilities);
- 4) Machine Learning (e.g. Search Engine Optimisation);
- 5) People-Literate Technology (e.g. Google Search); and
- 6) Speech-to-Speech Translation (e.g. Siri and Language Translation Applications).

The IoT is currently at the highest level of the hype cycle.



**Figure 1: Hype Cycle for Emerging Technologies, 2015 (Gartner, 2015)**

Other Web 3.0 trends, as identified by Buscemi and Marks (2010), include the following:

- 1) Mobile computing, including the Semantic Web, and artificial intelligence;
- 2) Shift to Outernet, including mobile phones and netbooks, and corporate signage;
- 3) Better search, including voice recognition to search, e.g. Siri;
- 4) Mapping, including localised maps; and
- 5) Location based experiences, including lifestyle tracking, and purchasing decisions.

The study will be conducted in the context of the South African hospitality industry, and more specifically, the province of Mpumalanga. Pennington (2016:7) reports that South Africa is ranked among the top 3 countries in the world (countries with more than 9 million tourists) in respect of tourism growth (growing at 3 times the global average). This points to the need for businesses to incorporate all possible tools and technologies to sustain this growth.

Consideration of South Africa's diverse income groups is also important. There is a huge gap between rich and poor and domestic customers may not be reached by modern digital marketing techniques or tools (SSA, 2016:13; Netterville, 2015).

Concepts such as tourism, travellers, customers, users and tourists are used interchangeably in this study, as they all relate to users of the hospitality industry and are used regarding the context in which they occur.

The factors that gave rise to this study are addressed next.

### **1.3 Causal Factors**

According to Evans (2015), the Digital Media & Marketing Association (DMMA) indicated that South Africa Internet users grew by 2 million in the previous 12 months and PricewaterhouseCoopers (PWC) predicts that consumer spending on Internet access will reach R59.6bn a year by 2017, up from R19.8bn in 2014. Alfreds (2013), however, indicates that firms in South Africa spent only an estimated 2% of their marketing budgets on on-line properties, whereas their US counterparts spent approximately 35%. This clearly shows the reluctance of businesses in South Africa to spend money on on-line marketing technology, in spite of the expected growth in consumer spending on Internet sites in the near future. “2010 was the first year where on-line advertising spend overtook the amount of money spent on newspaper advertising in the USA. It was the same year that on-line readership overtook traditional newspaper readership, which illustrates just how large an impact the internet has had on the marketing and advertising industry” Jones *et al.* (2011:10). In spite of the investment of US business owners in on-line marketing technology, it is believed to not yet be the case in South Africa, and especially not in Mpumalanga, South Africa.

“On-line advertising in South Africa remains stuck in second gear because media buyers fear facing up to the 'fallibility' of traditional ads”, according to Alfreds (2015). Evans (2015) warns that brands which do not have a clear digital marketing strategy will become irrelevant. In the highly competitive hospitality environment, businesses need to embrace the advantage that state-of-the-art on-line marketing technologies can provide.

### **1.4 Importance of this Study**

The study aims to provide answers as to how and why many businesses in the hospitality industry in Mpumalanga, South Africa, may or may not market themselves on-line through the use of on-line marketing technologies. The significance of this study potentially provides clues to businesses in the hospitality industry in South Africa regarding the reasons why they may be reluctant to make use of on-line marketing technologies, or what factors drive them to employ on-line marketing technologies. It will also show whether these businesses are ready to adopt on-line marketing technologies. These factors may be researched further in the future to determine their validity and could perhaps assist in improved business confidence and trust in the use of on-line marketing technologies in the hospitality industry around all towns and cities in South Africa.

Internet usage and on-line spending are on the rise in South Africa. With a growth from almost 2,5 million users in 2000, it is reported that South African Internet users have grown to more than 28,5 million users in 16 years – a growth rate of 2600% (Internet World Statistics, 2016). With such significant growth in usage and on-line spending figures, it would be naïve of any business to believe that it cannot gain a competitive advantage by utilising on-line marketing as a tool to attract new audiences through promotions and to create brand awareness. This could provide an even bigger competitive advantage in a developing economy such as South Africa, as embracing new technologies from world leaders would give companies the “First Mover” advantage in the African or South African context.

## **1.5 Problem Statement**

A preliminary literature study was conducted on on-line marketing, Internet marketing, digital marketing, and e-marketing, as well as the technology readiness in various industries in various countries. Much has been documented over the last two decades across the globe, but none of the research has been conducted on the readiness of businesses in the hospitality industry in Mpumalanga, South Africa to adopt on-line marketing technology.

It is of some concern that South Africa, and Africa as a whole, lacks behind other continents and countries in the use of the Internet (Internet World Statistics, 2016). They do not embrace it to a degree that could establish a competitive advantage for businesses in a developing economy. By not embracing the latest technology and constantly ignoring dramatic inventions and disruptions, brands will simply not stay current, lose track with the speed of change, and become uncompetitive (Evans, 2015).

Although South Africa is one of the leading users and adopters of on-line technology in Africa (Internet World Statistics, 2016), it may be that businesses in the hospitality industry in Mpumalanga, South Africa remain reluctant to adopt on-line marketing technologies to grow their businesses. The reasons behind this may not be clearly understood and several factors may play an important role. This study aims to illuminate those. Internet and on-line entrepreneurs, and even established on-line marketing companies may also find it difficult to penetrate this particular market in the hospitality industry in Mpumalanga, South Africa, because business owners may be reluctant to spend money on on-line marketing, possibly as a result of factors which will be investigated in this study.

The objectives of the study are discussed next.

## **1.6 Objectives of the Study**

### **1.6.1 Primary Objective**

The main objective of the study is to determine the readiness of businesses in the hospitality industry in Mpumalanga, South Africa to adopt on-line marketing technology.

### **1.6.2 Secondary Objectives**

The secondary objectives of this study are:

- 1) To determine how on-line, Internet, digital, virtual, and e-marketing technologies and trends are conceptualised within the literature (cf. 2.2-2.3);
- 2) To determine what digital and on-line marketing technologies are available for businesses in the hospitality industry (cf. 2.2.-2.3);
- 3) To determine what interactive digital and on-line marketing technologies are currently used by businesses in the hospitality industry in Mpumalanga, South Africa;
- 4) To identify factors which can contribute in predicting on-line marketing technology adoption readiness (cf.2.4);
- 5) To identify the drivers and barriers (both physical and psychological) to businesses to adopt on-line marketing technologies (cf. 2.4-2.5);
- 6) To construct an on-line marketing technology adoption readiness framework from available literature (cf. 2.8);
- 7) To conduct qualitative research for substantiating current theory and the empirical results;
- 8) To validate and amend the proposed on-line marketing technology adoption readiness framework based on the empirical results;
- 9) To provide recommendations for the hospitality industry in Mpumalanga, South Africa, for the adoption of on-line technologies; and
- 10) To identify areas for future research, specifically related to the adoption of on-line marketing technologies in the rest of South Africa, and even Africa.

## **1.7 Research Methodology**

### **1.7.1 Literature/Theoretical Study**

The main purpose of the literature review is to examine previous research and current information through the use of several primary and secondary literature sources.

A key primary literature source is recent on-line articles. This technology is extremely fast moving and, thus, mostly recent articles are considered. Daily developments in this field of technology are a reality and make on-line articles relevant and good sources of information to stay updated with the latest developments in this field. Expert opinions through the use of semi-structured interviews are also included.

Secondary recent literature sources such as books, e-books, conference papers and journals will also be used.

The empirical research is discussed next.

### **1.7.2 Empirical Study**

The research population is Mpumalanga, South Africa. This is because Mpumalanga, South Africa is known for its good variety of small, medium, and large hospitality businesses. According to the Mpumalanga Tourism and Parks Agency (Mpumalanga TPA, 2011:10), almost half a million people were employed in the hospitality industry, and R4,7 billion was spent directly in the province during the time of publication (numbers that have probably grown, according to trends). Reasons for travel to this province included shopping, natural attractions and wild-life (Mpumalanga TPA, 2011:10). This suggests the popularity of Mpumalanga's hospitality industry and that this industry would embrace on-line marketing technologies.

Non-probability sampling in the form of purposive sampling within this population will be used to gather a sample of this population. The purposive sample will be selected based on the definition of the hospitality industry (cf. 1.7.3) within this population group, and based on the accessibility of these businesses to the researcher within the available time and financial constraints. It is difficult to determine the number of hospitality businesses in Mpumalanga, as it is a highly fluid and transient industry. Businesses are set up in homes, farms, game farms and these are often not included in main-stream hotels, motels and restaurant statistics.

This particular study will be performed through the combination of qualitative and quantitative research. A survey approach will be followed through the distribution of a questionnaire. A questionnaire will be developed on a 5 point Likert scale focused on the key issues that need to be addressed. The questionnaire will capture key elements from the literature study which will determine the readiness of businesses to adopt the latest on-line marketing technologies in Mpumalanga, South Africa. The questionnaire will be handed out to selected businesses within the hospitality industry in Mpumalanga, South Africa. Semi-structured interviews will also be

conducted with a selected few businesses within the hospitality industry in Mpumalanga, South Africa, to qualify and support the results of the questionnaires. Information will be interpreted based on the framework which will be developed from the literature study, measuring this particular technology readiness.

The limitations of the study are discussed in the next section.

### **1.7.3 Limitations of the Study**

Because non-probability sampling in the form of purposive sampling is selected, it is not necessarily representative of the selected population. Owing to the research schedule and financial constraints, it is not possible to select a representative sample from the hospitality industry in Mpumalanga, South Africa. Hospitality businesses within and the surrounding areas of the Cosmos Area of Mpumalanga, South Africa, will therefore, be selected to conduct the research. Towns within the Cosmos area of Mpumalanga, South Africa, include Balfour, Bethal, Delmas, Hendrina, Kriel, Leandra, Morgenzon, Secunda, and Standerton.

It is pertinent to note the diverse income groups of South Africa. A possible reason why businesses in the hospitality industry in South Africa may not invest in on-line marketing technologies yet, may be because the latest on-line marketing technologies may not reach much of South Africa's population, as many income groups are not capable of acquiring these technologies. SSA (2010) reports that 77,4% of households in Mpumalanga had cell phones in 2007, but the majority of South Africa's population, estimated at 70.6%, still use feature phones, in spite of smart phones getting cheaper (Netterville, 2015). This may be a barrier to reaching potential customers.

The layout of the study is discussed next.

### **1.8 Layout of the Study**

The study will be outlined with the following structure and elements. An orientation is given in Chapter 1, stating the context of the study, which factors gave rise to interest in this study, the importance of the study, and what the problem issues are. Chapter 1 also sets the primary and secondary objectives of the study, briefs the reader in the research methodology techniques which will be used, and explains the limitations of the study.

An extensive literature study will be conducted in Chapter 2 on the historical context of the Internet, and modern on-line marketing technologies related to Web 2.0, Enterprise 2.0, Business

2.0, Web 3.0, the IoT, OTT and Semantic Web. Furthermore, the literature review will investigate factors determining technology readiness and develop a framework to direct this study.

Chapter 3 will focus on the empirical study, where the results will be analysed, interpreted, and the findings will be discussed.

Chapter 4 will focus on the conclusions, based on the literature study and empirical findings, as well as managerial and theoretical implications with regards to the findings, as well as limitations and recommendations for potential future research on the topic.

## **1.9 Conclusion**

Businesses without a clear digital marketing strategy will quickly become irrelevant and uncompetitive. The study aims to provide answers regarding how respondent businesses in the hospitality industry in Mpumalanga, South Africa, market themselves on-line, and what the reasons are that businesses do or do not invest in digital technologies. On-line marketing technologies and digital technologies are those related to Web 2.0, Web 3.0, IoT, and the Semantic Web. An extensive literature study will provide insight into these latest technologies, as well as factors determining technology-readiness, specifically related to on-line marketing. Non-probability sampling through the use of purposive sampling will be used in the study and the study's limitations are highlighted.

## **1.10 Chapter Summary**

The introduction gives a brief description of the study and defines key constructs within the study such as latest on-line marketing technology and technology-readiness. It also defines the hospitality industry. Important factors which will be considered to measure latest on-line marketing technology readiness are also summarised.

The historical context of the Internet is summarised, as well the context within which on-line technologies will be considered i.e. Web 2.0, Web 3.0, IoT, and the Semantic Web. Gartner's hype cycle for emerging technologies is discussed, including Web 3.0 trends. The South African context within which latest on-line marketing technologies will be considered are also summarised.

Causal factors which gave rise to interest in this study are explained with reference to some latest Internet usage statistics. Reluctance of businesses in South Africa to use on-line marketing, in

comparison to more traditional forms of marketing, is clear and ignorance towards this matter could quickly make brands irrelevant and uncompetitive. The importance of the study is then explained in terms of the importance for businesses, especially in the hospitality industry in Mpumalanga, South Africa, to understand the reasons why they are not using the latest on-line marketing technologies, and whether these businesses are ready to adopt some of these latest on-line marketing technologies to give them certain competitive advantages.

The research problem is formulated in the problem statement, explaining that based on the abundance of advantages on-line marketing hold, why businesses in the hospitality industry in Mpumalanga, South Africa, may not adopt and embrace the latest on-line marketing technologies available to them and why it may be difficult for on-line entrepreneurs, and even established on-line companies, to penetrate this particular market in the hospitality industry in Mpumalanga, South Africa.

Following the research problem, primary and secondary research objectives are listed; the primary research objective being to determine the readiness of businesses to adopt the latest on-line marketing technology in the hospitality industry in Mpumalanga, South Africa.

The research methodology is described next in terms of primary and secondary sources of information which will be used to conduct the literature study; primary sources being the latest on-line articles and expert opinions, and secondary resources being books, E-books, conference papers and journals. The empirical study is then described in terms of the selected population of Mpumalanga, South Africa which will be considered, as well as the type of research and research tools which will be used during the study. A purposive sample will be selected from the identified population. Quantitative and qualitative research will be used in the forms of a survey approach and semi-structured interviews respectively. Limitations of the study are described in terms of the type of sample selected, and the South African context within which the study is conducted.

The layout of the study in its three chapters is then briefly explained after which a conclusion for Chapter 1 is provided.

Chapter 2 deals with the literature study.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 Introduction

The main purpose of this chapter is to provide facts and background regarding on-line marketing technology readiness in the hospitality industry. The literature study of this study will provide a cohesive overview of current issues regarding this topic. Questions, pertaining to the hospitality industry, that arise include the following:

- 1) How are on-line, Internet, digital, virtual, e-marketing technologies and trends conceptualised within the literature?
- 2) What digital and on-line marketing technologies are available for businesses in the hospitality industry?
- 3) What are the factors determining on-line marketing technology adoption readiness? and
- 4) What are the drivers and barriers (both physical and psychological) to businesses to adopt on-line marketing technologies?

The focus of this chapter is, therefore, recent publications. The literature review will discuss the historical context within which the web has evolutionised from Web 1.0 to Web 2.0, and into Web 3.0, which is still in progress (cf 2.2). Current digital technologies and trends, specifically aligned to the hospitality industry, are discussed (cf. 2.3). Various digital technologies are discussed in more detail, as they are relevant for the hospitality industry (cf. 2.3.1-2.3.12). Next, on-line technology readiness and its determining factors will be discussed in detail (cf. 2.4.1-2.4.2). Further literature studies are used to identify other factors that are needed for the hospitality industry to adopt digital technologies (cf. 2.4.2). Some benefits of digital business in the hospitality industry will then be discussed (cf. 2.4.3). Finally, barriers and drivers regarding digital technology adoption in the hospitality industry will be discussed (cf. 2.4.4-2.4.5)

An e-business readiness framework by Zhu, Kraemer (2005:66), Fuchs *et al.* (2010:168), and Fuchs *et al* (2014:816) will be adapted to derive an extended framework, focusing mainly on the contexts of the following (cf. 2.6):

- 1) the organisation;
- 2) the external environment;
- 3) the decision maker, and
- 4) the system.

From these, a structure within the extended framework will be developed in order to draft a questionnaire, which will then be used to determine the readiness of hospitality industry

businesses in Mpumalanga to apply on-line marketing technologies. A semi-structured interview will also be developed.

The following section looks at the evolution of the web, in order to comprehend perceptions regarding the use of digital technologies.

## **2.2 Evolution of the Web**

Bruwer and Rudman (2015:1039) see Web 1.0 as a platform with limited interactive capability between information and the consumer. It is a basic static platform designed with text and images only. The platform is designed for content to be viewed only, and cannot be created, modified, or shared by consumers. Web 1.0 applications are proprietary and not “open-source”, and its software applications can be downloaded, but not changed. Early versions of the Netscape Navigator Web browser is a good example of Web 1.0 technology. Baltzan (2015:198) however, sees e-commerce (buying and selling) and e-business (including internal and external business operations, such as sharing real-time information) as part of Web 1.0.

Bruwer and Rudman (2015:1040) explain that Web 2.0 technology came about with the ability of consumers to create, share and interact with content on the Web. Web 2.0 - also called Business 2.0 (web page and social media) by Baltzan (2015:215) - applications make use of combined intelligence through its interactive nature. “Open-source” applications allow for the delivery of rich interactive interfaces, operable on most devices and platforms, enriching the consumer’s experience. Examples of Web 2.0 technology include social networking sites, blogs, wikis, folksonomies, video sharing sites, hosted services, web applications, and mashups. Enterprise 2.0 emerged as an extension from a public level to enterprise level. Wang *et al.* (2014:1048) define Enterprise 2.0 applications “as a suite of enterprise-level applications using the Web 2.0 concept that are specifically designed for business use”, which presents exciting opportunities for business. McAfee (2006) coined the term Enterprise 2.0 and states that it is the use of emergent social software platforms within companies, or between companies and their partners or customers. It is, therefore, seen as a combination of Web 2.0 plus social media.

Web 3.0 is believed to be an extension of Web 2.0 technology. Web 3.0 technology is more intelligent and is able to deliver structured, relevant, and specific data to the user. Web 3.0 technology is the ability of the Web to link data, making it more valuable to users by associating and connecting related data characteristics to make it more valuable for use (Bruwer & Rudman, 2015:1040). As explained by Wolfram *et al.* (cited by Bruwer & Rudman, 2015:1040), Web 3.0 technology (rather than people) gather, analyse, arrange, structure and distribute data to deliver

new information, hence knowledge, to the user. Software programs, acting as intelligent agents, can convert data to valuable information. Web 3.0 can locate, evaluate, store and deliver the information to the user, based on the user's specific communication with the Web. User's habits and preferences can be used to deliver this information in a more specific, complete, and targeted fashion. It seems, then, that Web 3.0 is a combination of Web 2.0, social media and the business's resource planning (also called Enterprise Resource Planning or ERP) (Baltzan, 2015:38-39).

Figure 2 by Cole (2009) is indicative of the Web evolution process, from the static Web 1.0 platform to the interactive Web 2.0 platform. Currently, the world is in a transition phase from Web 2.0 to Web 3.0, although some argue Web 2.0 will never disappear, it will rather only evolve with Web 3.0. This is merely an attempt to clarify the often nebulous differences between these concepts.

<b>Web 1.0 / 2.0 / 3.0 Summary</b>		
<b>Crawl</b>	<b>Walk</b>	<b>Run</b>
Web 1.0	Web 2.0	Web 3.0
Mostly Read-Only	Wildly Read-Write	Portable & Personal
Company Focus	Community Focus	Individual Focus
Home Pages	Blogs / Wikis	Lifestreams / Waves
Owning Content	Sharing Content	Consolidating Content
Web Forms	Web Applications	Smart Applications
Directories	Tagging	User Behavior
Page Views	Cost Per Click	User Engagement
Banner Advertising	Interactive Advertising	Behavioral Advertising
Britannica Online	Wikipedia	The Semantic Web
HTML / Portals	XML / RSS	RDF / RDFS / OWL

**Figure 2: Web 1.0/2.0/3.0 Summary (Cole, 2009)**

### **2.3 Current Digital Technologies and Trends**

In this section, current and emerging digital technologies and trends are discussed. These digital technologies' relevance to one another will be captured to provide a holistic view of their existence, functionality, and integrated nature within the context of the hospitality and tourism industry. Internet marketing is not only seen as a pure marketing activity, but also as the way businesses present and apply themselves and their products on-line through various on-line mediums and tools, as well as creating customer satisfaction through their technological capabilities (cf. 1.2). From this perspective, not only on-line marketing technologies will be discussed, but also various on-line marketing technology enabling trends (cf. 2.3.1). Other on-

line marketing technology enabling trends such as, Over the Top Technologies (OTT) (cf. 2.3.2), smart wearable technology (cf. 2.3.3) digital and mobile technology (cf. 2.3.4), context aware capabilities (cf. 2.3.5), and content curation (cf. 2.3.6) will be discussed in more detail.

On-line marketing technologies will also be discussed in further detail including social media platforms (cf. 2.3.7), travel recommender systems (2.3.8), augmented reality (2.3.9), gamification (2.3.10), information channels (2.3.11) and the semantic web (2.3.12).

The South African context has to be kept in mind when trends are discussed. Not only may some of the international trends not be available in South Africa (and fewer still in rural areas of Mpumalanga), but logistics may prevent businesses to use them. This will be determined through empirical research.

### **2.3.1 On-line Marketing Technology Enabling Trends**

Aurecon (2016) lists technological trends that will be discussed under the indicated headings. These can be viewed as enablers for businesses, as the access to these technologies optimise hospitality businesses' interaction with customers.

2.3.1.1. Wi-Fi;

2.3.1.2. Digital conference facilities;

2.3.1.3. Mobile communication and automation;

2.3.1.4. Near Field Communication Technology (NFC);

2.3.1.5. Cloud services;

2.3.1.6. Infrared Sensors and Robots;

2.3.1.7. Entertainment on tap; and

2.3.1.8. A seamless integrated experience of OMT enabling trends.

Wi-Fi is discussed as the first important trend.

#### **2.3.1.1 Wi-Fi**

Many businesses in the hospitality industry facilitate the use of digital technology for guests, which could also be considered as an indirect form of on-line marketing. One of the most important is Wi-Fi infrastructure. Wi-Fi is often seen as a must-have for many guests in the modern world, as almost all travellers travel with computers, tablets and smartphones (Douglas & Lubbe, 2014:856). Guests expect fast and seamless on-line connection with their devices for business and personal use when booking their stays with hotels (Inversini & Masiero, 2014:287;

Radojevic *et al.*, 2015:19). Guests are more and more expecting this service to be free and many hotels are re-considering their current infrastructure and pricing models (Aurecon, 2016).

A second trend, also in South Africa, is the digitally served apartment that provides the business customer of the hospitality industry with reliable digital technologies (Greenberg & Rogerson, 2015:462).

Digital conference facilities are discussed next.

### **2.3.1.2 Digital conference facilities**

From a business perspective, many customers expect state-of-the-art digital conference facilities. Conference facilities, therefore, require effective network design in terms of digital technologies that enhance the business cum social experience (Hackett & Melia, 2013:4). Digital technologies for effective network design include mobile phone coverage, fast uninterrupted Wi-Fi connectivity, Real Time Location Services (RTLS), Internet Protocol Television (IPTV), Voice over Internet Protocol (VoIP), as well as all the accompanying AV and digital equipment (Aurecon, 2016).

The need for mobile communication in the hospitality industry is discussed next as an important trend.

### **2.3.1.3 Mobile communication and automation**

From a mobile communication and automation point of view, guests expect personalised digital interaction with hotels. This includes technology-driven check-ins at hotels, including digital apps for check-ins and names being displayed on welcome desks at digital check-in stations (Aurecon, 2016). Customer-focused room service could also be performed via a digital platform like a mobile application. Similar to Amazon's Tide Buttons, hotels can also make use of similar buttons to immediately address customer needs when they need something which could also be communicated via a mobile application (Wasserman, 2016). These Tide Buttons and their integration with a mobile application could be utilised as a potential digital order system which could also use historical information to understand customers' meal preferences, hence personalising the experience. This relates to the concept of 'concierge in your pocket', enabling interaction with hotels where guests could search for local information and attractions, do on-line shopping, reserve restaurant bookings and in some cases spa treatments, arrange transport and view transportation schedules, search and view maps, request concierge services, view and book room service, view current weather forecasts, view latest offers, and much more (The Montcalm

Club, 2016). A distinct benefit of investing in a ‘concierge in your pocket’ application is the improvement in efficiency in terms of hotel staff being able to focus more on customer service and the redundancy of large reception desks.

Buhalis and Yovcheva (cited by Adukaite *et al.*, 2014:46) indicate some major changes in the near future in the hospitality sector with regards to a shift in focus from the pre-consumption phase to the consumption phase. The pre-consumption phase consists mostly of the booking process and room preparation in terms of visual appearance, while the consumption phase focuses more on functionalities during the stay of the guest, such as TV and room environment controls, dining and spa reservations and upgrades of hotel rooms. Heating, refrigeration, lighting, and air-conditioning can also be controlled and automated to customer preferences and pro-active programming can be used to enhance the customer experience as soon as they arrive (Aurecon, 2016). This is an indication of what modern guests consider as value during their stay and is an important consideration for hospitality businesses when designing their digital environment for their customers. Hospitality businesses need to understand their customers’ behaviour and lifestyle expectancies in order to design a digital environment for their customers. Mobile and digital technologies are discussed in more detail in 2.3.3.

Near Field Communication Technologies or NFC’s are discussed next as a trend in hospitality businesses.

#### **2.3.1.4 Near Field Communication (NFC) Technologies**

Another modern trend is high frequency short-range wireless communication technology i.e. Near Field Communication (NFC) Technology. This technology enables communication between two devices when they are in contact with each other. Aurecon (2016) explains that customer convenience and the overall customer experience may be enhanced by facilitating easy, instant, and secure mobile payments, as well as enabling customers to use smart room keys to unlock their room doors by swiping their smartphones across a keyless pad and eliminates the inconvenience of picking up keys at front desks and carrying keys with them. Halaweh (2013) comes to the conclusion that uncertainty regarding digital technology, digital technology infrastructure, pricing and ethical concerns such as privacy and network effects are barriers to NFC technologies in a country such as South Africa.

The use of cloud services to share information (especially in geographically distanced destinations) is discussed as an important trend in digital technology next.

### **2.3.1.5 Cloud services**

Cloud services that are applied in the hospitality industry make it possible for hospitality destinations to accommodate the sharing of information with different geographies; a well-known example is medical tourism (Abolfazli *et al.*, 2015:63). They point out that transportation (e.g. Uber) and agricultural tourists will also be able to make use of this technology. Senyo *et al.* (2015:519) accede that geographical barriers in deep rural areas in Africa may be a significant challenge for its adoption, but state that it is possible. Cloud computing accommodates integrated tourist destinations (Buhalis & Amaranggana, 2014:557) and also facilitates sharing information to make massive amounts of information accessible to prospective tourists, according to Zhang *et al.* (cited by Wang *et al.* 2013:60). This needs to be done with tourists' permission.

Craffert *et al.*, (2014:2) find that access to cloud technologies in South African businesses is available in some measure, but its usefulness can diminish if businesses don't keep up the education of users.

Next, Infrared Sensors and Robots will be discussed with some of its applications in the hospitality industry.

### **2.3.1.6 Infrared Sensors and Robots**

Infrared sensors are also used in some instances to detect if customers are in their rooms in order to inform hotel cleaning services when to enter rooms for cleaning without disturbing customers. In some hotels, robots are already used to deliver certain room services. It is believed that these technologies are not yet used in the hospitality industry in South Africa, but the study will still investigate the possibility of its existence within the industry.

Next, "Entertainment on Tap" will be discussed. Different terminologies for "Entertainment on Tap" exist, like Over the Top Technologies (OTT), Video on demand (VOD), IPTV, and pay TV.

### **2.3.1.7 Entertainment on tap**

"Video on demand (VOD) in hospitality is growing gradually and has been adopted by users for watching on-demand videos, events, and advertisements" (Salgarkar, 2016). Hospitality segments are increasingly adopting VOD solutions and services such as IPTV, pay TV, and OTT as a result of the rapid developments of this technology and its solutions. These have provided guests with more personalised in-room viewing experiences and makes it possible for guests to

pause, record, forward and rewind video content. (Salgarkar, 2016). These can be offered through the use of cloud services (cf. 2.3.1.5), in order to enable guests to access content from their smart devices (Wasserman, 2016). “Entertainment on Tap” can be used as a platform for direct advertising and is also very useful in personalising the customer experience. “Entertainment on Tap” directly relates to the concept of Over the Top Technologies (OTT) which will be discussed in more detail in 2.3.2.

A seamless integration of digital technologies is discussed next.

### **2.3.1.8 A seamless integrated experience of digital technologies**

Baltzan (2015:299) explains the importance of integrated digital technologies: “The integration of businesses and technology has allowed organisations to increase their share of the global economy, transform the way they do business and become more efficient and effective”. He adds: “The virtually integrated business model will cause a sharp increase in the number of business partners and the closeness of integration between them” (Baltzan, 2015:299).

In order to provide customers with seamless integrated experiences, all the aforementioned enabling digital technological trends, and more, need to be seamlessly integrated, which relates to the IoT where all technologies and devices are connected as a dynamic system to synergistically deliver the ultimate customer experience. It allows businesses in the hospitality industry to pro-actively understand their customers’ wants and needs, as well as allow swift reaction to potential issues and improvement opportunities (Lorden & Craemer, 2016:6) Three forms of Information and Communications Technologies (ICT) that will accommodate integrated tourist destinations will be Cloud Computing, IoT and an End-User Internet Systems (Buhalis & Amaranggana, 2014:557). The End-User Internet System refers to the number of applications that can be used on different levels, whilst being supported by Cloud Computing and IoT. The sharing of information in such a system may make massive amounts of information accessible to prospective tourists in an integrated Smart Tourism Destination according to Zhang *et al.* (cited by Wang *et al.* 2013:60). The IoT, in turn, may also link automation and control, as well as information and analysis (Chui *et al.*, 2010:03).

Parker (2016) states in this regard on the African continent: “With smartphone usage on the up and IT literacy expanding, bringing Internet of Things (IoT)-level connectivity is a natural progression for this tech-hungry continent. The IoT should be considered more than just technology. Rather, it is an ecosystem of products and services — from software to cloud technology — where effective connectivity adds real business value. This derived value presents

an exciting prospect for the region. It also has the potential to drive significant economic growth and, in time, bring African IT up to speed with the rest of the world”.

From literature the following on-line marketing technology enablers will be discussed in more depth, as they seem to have a direct bearing on on-line marketing for the hospitality industry:

2.3.2 Over the Top Technologies (OTT);

2.3.3 Smart Wearable Technology;

2.3.4 Digital and mobile technology;

2.3.5 Context Aware Capabilities;

2.3.6 Content Curation.

The first of these is Over the Top Technologies (OTT).

### **2.3.2 Over the Top Technologies (OTT)**

Patel (2015) describes OTT as: “...the term used for the delivery of film and TV content via the Internet, without requiring users to subscribe to a traditional cable or satellite pay-TV service”. Subscription by the hospitality host makes it, therefore, possible for all guests to watch whatever they want to. Providers of OTT include Showmax, YouTube, Vimeo and AOL.

Apart from OTT being utilised by hospitality businesses to provide customers “Entertainment on Tap” (cf. 2.3.1.7), it could further enhance the personalised customer experience by integrating bill information, room services, wake-up calls, and check out services into IPTV (Salgarkar, 2016). There is a preference among modern day customers to use their own smart devices instead of those provided by hotels because of increasing hacking activities, and subsequently hotels are making more and more provision for WiFi and 3G network connectivity on order for customers to go on-line on their own. Using mobile smart devices to access OTT is only one of the many distinct benefits of mobile technology.

Another on-line marketing technology enabler for the hospitality industry is Smart Wearable Technology and is discussed next.

### **2.3.3 Smart Wearable Technology**

Smart Wearable Technology (SWT) is defined as technology that allows tracking and is worn by the customer. Although it is illegal in South Africa to include microchips in any appliance without the user knowing it (POPI, 2013), the use of SWT has become hugely popular for families with children and older people (Chan *et al.* 2012:141-142). The benefits of GPS

tracking devices that enhance the personal safety of babies, toddlers and children in a crime-ridden country such as South Africa may act as drivers to reassure travellers of personal safety. The same applies for elderly customers or those who are ill and may benefit from the security of knowing that they are better protected. SWT is available in jewellery (such as watches), or sewn in microchips in clothing articles (such as running shoes).

Although this technology is fairly expensive and may be target group specific, Tate (cited by Tussyadiah, 2014:540) explains that the way people and their surroundings interact will be considerably impacted by wearable computing. From a hospitality point of view, travel-related experiences such as navigation, information search, travel reporting and social networking can be experienced hands-free through wearable devices such as Google Glass, making these processes more manageable, immediate, and more furtive than it would have been through the use of smart phones. A much less expensive alternative for Google Glass is the Google Cardboard Box. The Google Cardboard Box is similar to Glass, with the difference being that you insert your smart phone into a wearable cardboard box which acts like glasses, allowing people to still virtually experience the real world (Wasserman, 2016). This will imply that any place (and its information that is supported by connectivity) can be navigated, explored, retrieved, stored in different layers and viewed in reality. Subsequently, all customers who voluntarily wear this technology will be able to independently investigate, explore, enjoy and utilise these destinations to their maximum. This in turn, can lead to highly personalised narratives, interpretations and first-person marketing on an unprecedented scale. Micro-segments of the tourism industry will abound and personal appreciation of sites may contribute hugely to marketing (Tussyadiah, 2013:550).

Linked to SWT, digital and mobile technology are further discussed next.

#### **2.3.4 Digital and Mobile Technology**

Hamill (2005:1) explains that digital communication has the advantages of reducing information and thus aids the convergence of devices (such as cameras in phones), accommodates the easy, cheap storage of information and it is easy to transmit and reproduce information. Mobile technology is technologies that allow users to carry mobile products such as phones, tablets and GPS appliances to receive digital information.

Kasavana (2011) explains that when mobile content, delivered through digital text messaging, is shared with other users, it becomes viral marketing. “Mobile marketing content is often divided into alerts, coupons, calls to action, chat sessions, contests, polling, voting, and peer-to-peer

gifting” Kasavana (2013). Kasavana (2013) advises that in order to make full use of mobile digital technology opportunities, businesses should consider the following:

- 1) A mobile-optimised website with easy and user-friendly navigation tools, making the website navigation a logical process;
- 2) Location Based Services (LBS), sponsor video (Youtube), and social media (Facebook) content; and
- 3) Promote engagement with customers through opt-in campaigns such as discounts, incentives to customers to revisit and instant rewards.

Buhalis and Foertse (2014:183) advocate a combination of social media marketing and context aware technologies in mobile devices (SoCoMo marketing). In the context of the relevance of SoCoMo marketing for hospitality businesses, context aware capabilities will be discussed next.

### **2.3.5 Context Aware Capabilities**

Preferred customer locations can be determined as explained by Braunhofer *et al.* (2014: 87) suggesting a “context-aware recommender system, named STS, that computes recommendations suited for the weather conditions at the recommended places of interest by exploiting a novel model-based context-aware recommendation technique”. Kawase *et al.’s.* (2014:115) study focused on predicting tourist activity in terms of viewing preferences via GPS and accelerometer data (cf. 1.2, Gesture Control), both equipped in smart phones. This potentially opens up the door for hotels to target non-local customers who are frequently viewing attractions similar to those nearby the specific hotel via the use of a mobile application. It is important to note once again that the sharing of such information should be voluntary so that privacy issues are not transgressed (South Africa, POPI Act, 2013; De Bruyn, 2014:1315).

According to HeBsdigital (cited by Buhalis & Foerste, 2014:178), marketers have noticed in recent years that the combination of the social media marketing and location-aware capabilities could enable them to connect potential customers’ lifestyle activities and experiences with information they might be looking for from their immediate environment. Taking context awareness systems and context marketing beyond only looking at weather conditions, as mentioned earlier, Buhalis and Foerste (2014:179) consider contextual information from an internal and external point of view. External contextual information includes location, season, time, air pressure, humidity, light, weather, and social environment. Internal contextual information includes tasks, emotional state, goals, personal events which can mostly be gathered from social media activity. “Ability to measure travelers’ emotions across settings and in real

time can help to explain the relationship between physical and social environments and emotion, and in turn, provides an extremely useful tool for evaluating alternative strategies for designing and managing tourism places” (Kim & Fesenmaier, 2014:281).

From the perspective of using context aware capabilities and social media to gather useful information about potential customers, the content curation process complements this approach and will be discussed next.

### **2.3.6 Content Curation**

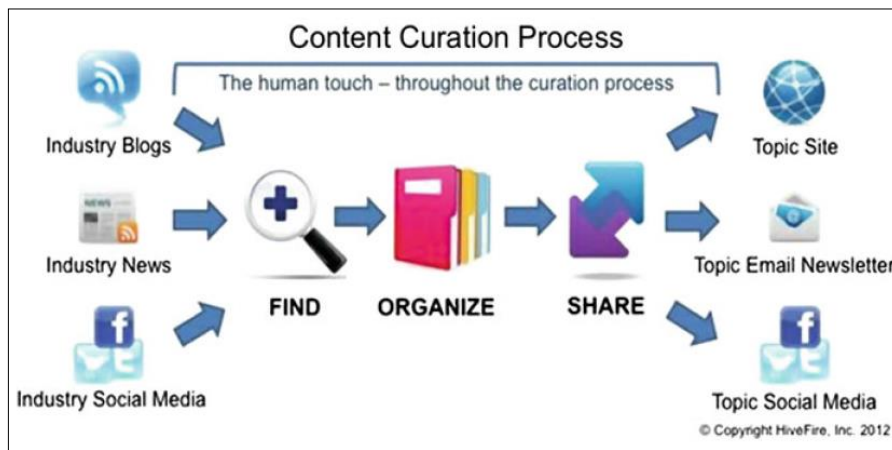
Content curation is the “action of filtering the information on the Internet and spreading it accurately and in the interests of certain segments or target audiences” (Miralbell *et al.*, 2014:189-190), and they describe various tools involved in the content curation process, which are:

- 1) The content curation site;
- 2) Social media; and
- 3) The tools to analyse customers’ reactions.

Once again, the POPI Act (2013) of South Africa should be kept in mind concerning privacy issues of potential customers.

The content curation process is graphically illustrated in Figure 3.

Miralbell *et al.* (2014:190) explain the content curation process in three stages. During the first stage, the collection of information on the topic of interest takes place via social media posts, blogs, RSS feeds and digital news. During the second stage, content is filtered and made available to readers through a digital publication. During the third stage, content on the specific topic is shared to specific sites, e-mailed to followers, or posted to social media. The content curation process should form an integral part of business’s Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems. Having the content curation process integrated to the business’s ERP and CRM systems, shapes and prepares these systems and associated infrastructure well for future technological developments.



**Figure 3: Content Curation Process (Curata, 2016)**

After having discussed on-line marketing technologies enablers for the hospitality industry, a more detailed discussion of on-line marketing technologies is delineated into the following:

- 2.3.7 Social media platforms;
- 2.3.8 Travel Recommender Systems (TRS);
- 2.3.9 Augmented Reality (AR);
- 2.3.10. Gamification;
- 2.3.11. Information channels; and
- 2.3.12. Semantic Web.

The role of social media platforms can hardly be over-emphasised, taking into account that Internet World Statistics (2016) report 13 million Facebook users in South Africa (which lags behind traditional tourist channels). Social media platforms are discussed in the next section.

It is, however, also important to realise that hospitality businesses that use advanced on-line marketing technologies and enabling tools, would probably need a *help desk* or some system to educate and support customers' use and adoption of these, especially hospitality businesses that consider becoming first movers in specific fields of digital technologies.

### **2.3.7 Social media platforms**

It is important for businesses in the hospitality industry to monitor *social media* and respond promptly and appropriately from an on-line reputation management point of view.

Neuhofer *et al.* (2014:342) emphasise that hospitality businesses should realise that the individual hospitality customer has become the focal point of the experience and they should align themselves to that fact. Law *et al.* (2016:743) report empirical findings on social media regarding hospitality experiences as follows: "...social media plays a major role in on-line

marketing and tourists' decision-making. Engagement and interactivity is not only affecting consumer behavior but also strategic and operational management. Fotis et al. (2011) present a comprehensive view of the role and impact of social media on the whole travel planning process and show that user-generated content is more trusted than official tourism Web sites, travel agents and mass media advertising.”

Lee and Ma (2012:337) call the driver behind social media sharing “virtual socialisation”. They stress that customers who share experiences enjoy high entertainment value from doing so. They add: “Designers of social media platforms can incorporate features to facilitate status seeking. This could include highlighting users who actively share news, or award them with virtual badges or titles based on the amount and/or ratings of news stories shared.” This provides opportunity for hospitality businesses to capitalise on potential customer behaviour and lifestyle activities.

Guerrero-Solé and Fernández-Cavia (2014:227) list some of the most popular web-based social platforms currently in use in the tourist sector. These include:

- 1) photo-sharing websites (e.g. Flickr, Pinterest, Instagram);
- 2) blogs (e.g. aluxurytravelblog);
- 3) review websites (e.g. TripAdvisor, Lekkeslaap);
- 4) microblogging platforms (e.g Twitter);
- 5) social networks (e.g. Facebook);
- 6) video-sharing websites (e.g. Youtube); or
- 7) virtual communities (e.g. minube.com).

Stavrakantonakis *et al.* (2014: 670) add Content Management Systems (CMS), Flickr, Foursquare, Google+, Really Simple Syndication (RSS), Vimeo, and HolidayCheck to the list. Wang *et al.* (2014: 1049) list some of the most commonly used Enterprise 2.0 applications which include Blogs, Wiki's and Enterprise Social Networks (ESN's). All these web-based social platforms are important to note from a business perspective, as they facilitate an interactive internal and external work environment. Olenski, (2015) and Umi Digital (2015) advocate Periscope for the hospitality industry.

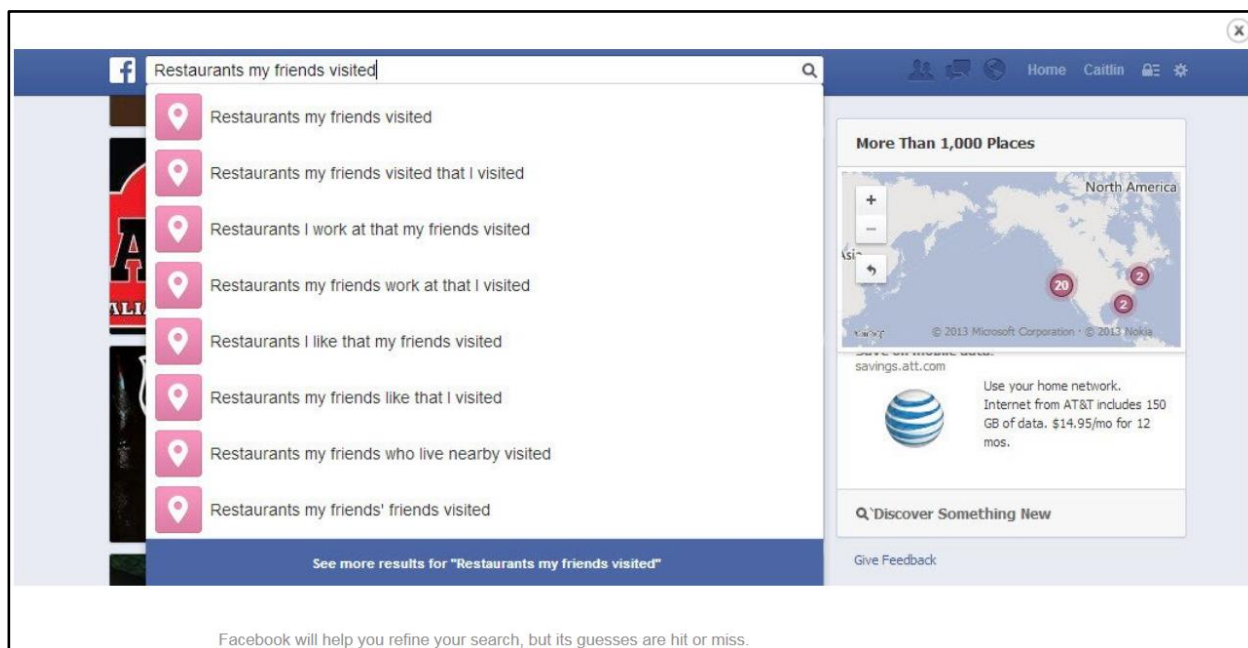
Social media feedback may be used by hospitality businesses as a form of lifestyle tracking of potential customers. Lifestyle tracking may be done by businesses through following customers who share their experiences on-line through checking-in on location-based social media apps, tweeting about their experiences on Twitter and sharing photos of their holiday experiences with friends and followers through Instagram, LinkedIn, Google, Spotify, MySpace and Facebook and

it is all real-time (Andzulis *et al.*, 2012:305). Customers also make use of rating systems such as Booking.com and TripAdvisor to share their experiences, but also make decisions about holiday destinations. TripAdvisor provides a platform where discussion forums engage people globally and facilitates the review of hotels and holiday destinations across the globe. This platform allows for independent reviews by website members and other expert advisors, and facilitates interactivity in the tourism industry (Gössling & Lane, 2015:1393). Schuckert *et al.* (2016:270), however, warn that their empirical research found that such feedback is not always trustworthy.

Another way for hospitality businesses to perform lifestyle tracking of potential customers is through determining customer destination preferences and target marketing through social media platforms like Flickr, Pinterest, and Instagram. Flickr, for instance, has geotagged photographs and all the aforementioned social media platforms give a good indication of travellers' shared tastes and points of interest (POI). Potential customers could be identified in this way by seeing who is visiting attractions nearby tourism locations and also determine similarities between different destinations. In the subconscious minds of people, images have a greater impact than texts and descriptions, and make them highly attractive for use as a marketing tool in the tourism industry (Serusi & Pal, 2012).

According to Guerrero-Solé and Fernández-Cavia (2014:228), new possibilities in tourist communication have emerged because of Twitter. Quick publishing of promotional and other information of interest to tourists (including news, weather, events, and attractions) makes it a perfect platform for on-line marketing. It is popular because of its simplicity and conversational nature.

Bulencea and Egger (2014:469) explain that Facebook's search engine could be a tool for the tourist to search information and that content can be found in all different forms such as pages, posts, places, applications, and public events. Graph Search on Facebook is a recent product, providing public information and sharing it with specific users on Facebook. Graph Search is Facebook's latest revision to the search feature. Based on Facebook's enormous database of information contextualised to each user, this product interfaces directly with Facebook's database of information and helps users to find connections to places and people. Graph Search provides personalised search results in real time based on a person's graph. Facebook's Graph Search provides better search results through its semantic search engine (cf. 1.2, Semantic Web) and tries to better understand and mimic human thinking (cf. 1.2, Machine Learning) (Treadaway, 2013). This is very much like Google's search engine. A screen shot of Graph Search is in figure 4.



**Figure 4: Screenshot of Graph Search in Facebook (McGarry, 2013)**

Periscope, which is also one of the latest social platform applications by Twitter Inc., is a live-streaming application, allowing anyone to have video conversations or broadcast video messages over a smart device (Olenski, 2015). This could be handy for businesses in the hospitality industry as they might create or extend customer audiences and enhance on-line visibility. Olenski (2015) adds that announcements, campaigns, and specials can be continuously broadcast, almost like podcasts, to ensure engagement with the community. More graphical content interests people more than plain text, making Periscope a revolutionary technological trend in the field of social media marketing. It is also possible to develop a Periscope mailing list through prompting customers for their e-mail addresses in the comments. Umi Digital (2015) explains some applications of Periscope in the hospitality industry, namely: 1) Broadcasting the head chef cooking an amazing meal; 2) The beautiful view from your hotel at sunrise; 3) A live broadcast of events close to the hotel; 3) Guided tour of your establishment. Viewers can ask questions along the way; 4) Daily updated messages from the manager with exclusive offers for anyone watching; and 5) Every member of staff has to tell a joke every day.

The penetration of these on-line marketing technologies will be tested in the research section of this study.

It is clear that many social media platforms could be used to determine potential customer specific Points of Interest (POI) and to use it to perform target marketing. The next section briefly explains another potential on-line medium which hospitality businesses could use to enhance the customer experience in terms of finding their own POI's on companies' websites through Travel Recommender Systems (TRS).

### **2.3.8 Travel Recommender Systems (TRS)**

Travel Recommender Systems (TRS) applications apply recommendation algorithms to estimate POI that best suit customers specific needs and preferences (Garcia *et al.*, 2014:4). If a customer has this application, an interest in skiing, for example, will indicate skiing destinations (Ricci, 2002:55). Facebook currently adds advertisements of related pages if users ‘like’ a page. Thus, if a user likes a nature reserve, other nature reserves who advertise on Facebook will automatically show. Triplehop’s TripMatcher and VacationCoach’s expert advice platforms are two of the most successful recommender system technologies for travel and tourism (Ricci, 2002).

McNee *et al.* (2006:1099), however, warns that accurate, updated information is vital for these systems to function according to expectations.

This has been taken even a step further through customers not only being able to view their POI on company websites, but to also experience it through augmented reality (AR), in certain cases also known as gamification.

### **2.3.9 Augmented Reality (AR)**

The hospitality industry benefits by AR in that customers may be driven to a destination with the view on entertainment and a ‘real experience’ in cyberspace. This is widely used in the female hairstyle industry and a photo of the customer is posted after which different hairstyles or colours are added for a realistic view of the end result.

Joseph (2015) adds that this is also widely used by paint manufacturers (e.g. Dulux) who accommodate installing an application on a smart device that shows the real room in different colours.

POI can be experienced in an exciting way considering AR, such as location-based games (Linaza *et al.*, 2014:497). It is, therefore, closely linked to gamification (cf. 2.3.10). An AR mobile application allows users to pursue a list of suggestions based on the environment, but also utilises mini-games in order to allow tourists to learn something about their environment related to their experience. The importance of the users’ spatial movement in the physical world is emphasised. With the rise of Internet capable smart phones, GPS and other sensing capabilities, mobile games have become more interesting and user-friendly, hence making this augmented mobile experience possible. Smart phones, including location and visualisation technologies, have significantly eased the use of this technology in terms of not requiring expensive sophisticated equipment to use AR applications (Han *et al.* 2014:511). “Furthermore, the development of augmented reality (AR) technology allows users to see the real world and

perceive an additional virtual world superimposed on the same field of view in real-time” (Linaza *et al.*, 2014:498).

Co-existence of real and virtual objects is perceived in the same space by users when they use AR. A good example is the Pokémon Go phenomenon. Despite the fact that the mobile game is not yet officially in the country, some South African tourism sites have become Pokémon Go hotspots, which translates to more visitors and more revenue, according to Sanchez (2016). Pokémon players search for virtual creatures in the real world, using sophisticated mapping that requires them to physically go to local sites. Pokéspots are identified by customers through adding places they go to. Here they seek sought-after virtual characters whilst traversing the real world. Sanchez reports that a Facebook page PokeGoZa already has more than 11 000 followers, this while the game is not officially available yet. It is clear that hospitality destinations add value to the intensity of an on-line technology such as Pokémon Go, and could add to their revenue by providing access to the game.

Han *et al.* (2014:511) explain the main requirements of AR technology to ensure tourist attraction and promote frequent use, is the need to satisfy a specific user purpose, offering multi-language functionality, personalisation of the application, and ease of use. It is clear that tourist education of these technologies would be vital in achieving success through its utilisation, especially if hospitality businesses consider being first movers in these technologies.

The closely-related tool of gamification is discussed next.

### **2.3.10 Gamification**

Deterding (cited by Xu *et al.*, 2014: 525) defines the concept of Gamification "as the use of game design elements and game thinking in a non-gaming context” which could lead to improved brand awareness and promotion of consumer engagement. The application of gamification has two aims, namely driving behavioural change such as working efficiently and buying products through motivating tourists and employees, and incite intrinsic motivation through enabling co-creation of value by involving tourists and employees (Xu *et al.*, 2014:531). The use of gamification in the hospitality industry is still in its early years, but PokémonGo may have changed that. Xu *et al.* (2014:533) mention some examples in the hospitality industry that include: 1) Foursquare, which is an application helping customers discover new places, with recommendations from a trusted community and connecting audiences with offerings in the real world; 2) Swarm, which is an application allowing checking in into favourite places, collecting coins and stickers, and competing with friends on the weekly leader board. This application

makes lifelogging fun; 3) Starwood Preferred Guest (SPG) programme, which in partnership with Foursquare offer customers 250 bonus points per check-in and opportunities to unlock a hidden Free Resort Night Award; and 4) Marriott My Hotel, which is a social media game recruiting new personnel and acquaints players with the hotel environment.

Benefits of Gamification in the tourism industry include the following:

- 1) Encouragement of tourist engagement;
- 2) Enhancing tourist experiences;
- 3) Improvement of tourist loyalty; and
- 4) Increasing tourism brand awareness (Xu *et al.*, 2014:533).

These benefits of gamification imply that they are also true for AR, as AR and gamification are conceptually similar.

Apart from the utilisation of social media platforms, mobile applications, AR applications, and other digital channels as information channels to provide and access information about customers and businesses either through computers, mobile, or smart wearable technology, the following section will discuss some additional information channels through which potential customers could search and find information about businesses in the hospitality industry.

### **2.3.11 Information Channels**

Customers visit destinations for different purposes, such as business, leisure, cultural, sports, medical, political and special interest (e.g. photography) reasons (Chuang *et al.*, 2014:1301). They are furthermore, of different cultures, backgrounds, ages, genders, needs, socio-economical status and the like. Although information channels can provide some insight into this complex mélange, it is impossible to address all variables. The reports of information from technological destinations are *post-priori* (Schuckert *et al.*, 2016:260). They report the importance of on-line reviews as being crucial to potential customers because they are perceived to be authentic, helpful and influential, whereas employees view them as fast, instant, easily accessible and they become electronic word of mouth (EWOM), thus potentially underwriting the brand. These channels give businesses the opportunity to understand customer behaviour and respond accordingly. Schuckert *et al.* (2016:260) also report that quick feedback from respondents on information channels were likely to give trustworthy ratings and that the longer it took respondents to give feedback, the poorer it was likely to be.

Xiang *et al.* (2014:421) report on travellers' use of Internet websites, and found that websites such as general purpose search engines, which were amongst the most popular tools, on-line

travel agencies (OTA's), destinations, travel search engines, and suppliers were the most regular utilised sources to find information. Similarly, Choe and Fesenmaier (2014:429) found amongst travellers that OTAs, travel company sites, search engines, destination sites, and travel search engines were the most popular on-line channels when seeking travel information. Other important on-line tools that were used by travellers for searching travel-related information were the following:

- 1) Travel review sites;
- 2) Social networking sites;
- 3) Photo or video sharing sites;
- 4) General travel sites;
- 5) Newspaper or magazine sites;
- 6) Travel guidebook sites;
- 7) Special interest and on-line community sites;
- 8) Personal blogs; and
- 9) Micro blogs.

These three aforementioned studies emphasise the importance of an integrated on-line solution which enhances companies' on-line visibility through multiple channels. The ultimate goal is for all of the aforementioned information tools to actively work together to create leads to a business's website, or to directly generate bookings and feedbacks from any of these channels.

Owing to the possibility of market growth and few entry and exit barriers, tourism suppliers have started to sell their products and services via on-line auction platforms (like Ebay), according to Fuchs *et al.* (2014:814). Another modern popular on-line selling platform is news prints i.e. electronic newspapers (Wasserman, 2016). In many cases these on-line auction platforms and news prints are automatically linked to various e-papers. On-line auctions allow for dynamic adjustments of prices in a mercurial and volatile environment. This route opens new opportunities by offering reduced transaction costs for all role players, a pool of bidders (because access is easy and the auctions progress over some time), as well as the facilitation of complex auctions, promotion of the tourism destinations and data provided by the bidders. On-line auctions serve as promotion channels, as well as providing bidding data automatically (Fuchs *et al.*, 2014:814).

Ultimately, in critically viewing all web technologies and information discussed previously, it needs to provide web users with the relevant information they are looking for which could lead to potential bookings. Information channels work like a funnel, ultimately leading the customer to the main source of information.

To get to the main source of information, it is important for all information channels, including the main source of information, to be semantically marked up, which will be discussed next. In brief, it is to create machine intelligence to mimic human thinking and by deciphering key phrases and words to exactly understand customer behaviour when typing phrases into search engines (cf. 1.2, Machine Learning and People Literate Technology).

The influence of the Semantic Web as a digital tool to align hospitality business goals with their adoption of digital technologies is discussed next.

### **2.3.12 Semantic Web**

Baltzan (2015:226) describes the Semantic Web as a part of Web 3.0 that describes the relationship between and the properties of *things*. He says: “If information about music, cars, concert tickets, and so on is stored in a way that describes the information and associated resource files, semantic web applications can collect information from many different sources, combine it, and present it to users in a meaningful way.” The implication of this enhancing digital tool is that hospitality businesses will need to tag posts in such a way that the Semantic Web can connect the sources, combine and present them.

According to Smith (2012), many hotels only act dynamically regarding the booking process, yet the dynamic nature of hotels in terms of people and activities need to be part of the destination end. People are staying over in hotels for a reason, mostly because they are visiting places nearby to attend some sort of work or personal related event. Semantically marking up certain web pages could yield substantial benefits to a hotel’s website, e.g. sharing information about local attractions, news, events, and entertainment.

Search Engine Optimisation (SEO) is defined by Baltzan (2015:208) as the combination of art and science to make universal resource locators or URL’s more attractive, which is critical for website ranking. As people search the web for these items, semantically marked up web pages, containing tags for key search phrases, will provide the website with significantly enhanced SEO and an overall improved on-line and social presence (Smith, 2012). Semantic search results will provide users with more specific results to their search phrases. “Semantic search can dramatically simplify discovering destinations and activities, and reduce the complexity involved in tailoring a vacation. Imagine simply entering a list of your family’s interests, and being instantly presented with vacation opportunities, and then navigating alternate possibilities in a matter of minutes.” (Rennison, 2012). Companies that make use of this tool include the BBC, Biogen (manufacturers of generic medicines), Chevron and even Graph Facebook (cf. 2.3.7) (Cambridgesemantics, 2016).

In conclusion, all digitally enabling technologies discussed enhance the marketability of hospitality businesses, which may lead to increased customer satisfaction, repeated business, increased customer loyalty, and increased word-of-mouth (WOM) and electronic-word-of-mouth (EWOM) marketing. On-line marketing technologies discussed need to provide digital hospitality users with the relevant information they are looking for as this could lead to potential bookings. Bookings may lead to experiences; positive experiences may lead to customer loyalty; and word-of-mouth (WOM) and electronic-word-of-mouth (EWOM) marketing. These aforementioned relationships and links provide an opportunity for future research.

In spite of all technologies and tools being available, if businesses are not ready to adopt these, these technologies and tools will have no penetrating power and render them useless. Therefore, the factors that determine digital technology readiness will be examined next.

#### **2.4. On-line technology readiness**

This section will be discussed in terms of the following:

- 2.4.1 Main factors determining on-line readiness;
- 2.4.2 Secondary factors for determining on-line readiness;
- 2.4.3 Benefits of digital business in the hospitality industry;
- 2.4.4 Barriers to adopt information technology in the hospitality industry;
- 2.4.5 Drivers to adopt information technology in the hospitality industry.

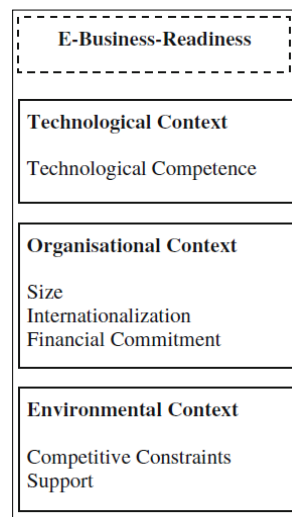
Zhu and Kraemer's framework (2005:66) and the two modified versions thereof (Fuchs *et al.*, 2010:168; Fuchs *et al.*, 2014:816) depict e-business readiness frameworks. For the purposes of this study, it is assumed that a business is e-business ready if all factors of these frameworks are satisfied (cf. 2.4.1). Because labels and acronyms abound in this field of technology (cf. 1.1), it implies when a business is e-business ready, it should be ready to adopt digital and on-line marketing technologies, and vice versa. Further literature study is conducted regarding the benefits of digital businesses, as well as drivers and barriers to adopt information technology and will be used to determine how Zhu and Kraemer's framework will be adapted later (cf. 2.8). For the purposes of this study, it is assumed that the disregarding of the benefits of digital business, the presence of barriers to adopt information technology, and the absence of drivers to adopt information technology may lead to businesses' not being ready to adopt on-line marketing technologies.

The first discussion will focus on factors determining on-line readiness.

### 2.4.1 Main factors for determining on-line readiness

The main focus will be the Zhu and Kraemer framework (2005:66) and the two modified versions thereof (Fuchs *et al.*, 2010:168; Fuchs *et al.*, 2014:816).

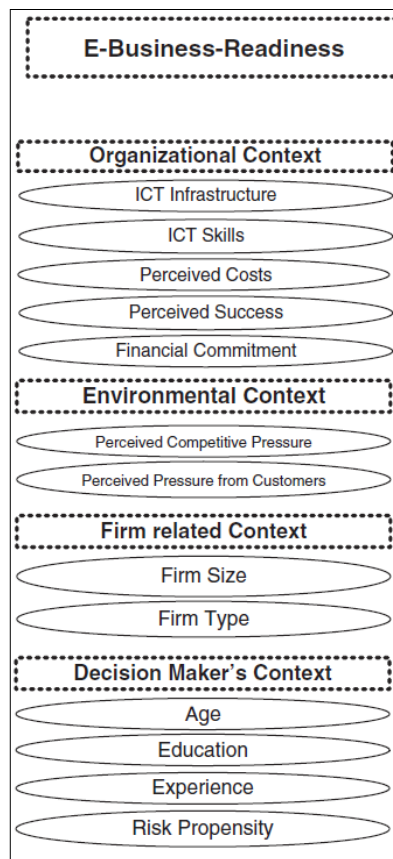
In Zhu and Kraemer's (2005:66) Readiness-Intensity-Impact Framework, e-business is considered within the technological, organisational, and environmental context. Within the technological context the technological competence factor is considered. Within the organizational context, factors such as size, internationalisation, and financial commitment is considered. Within the environmental context, factors such as competitive constraints and support are considered. This is represented in figure 5, and the technological, organisational and environmental contexts do not follow in any specific sequential order.



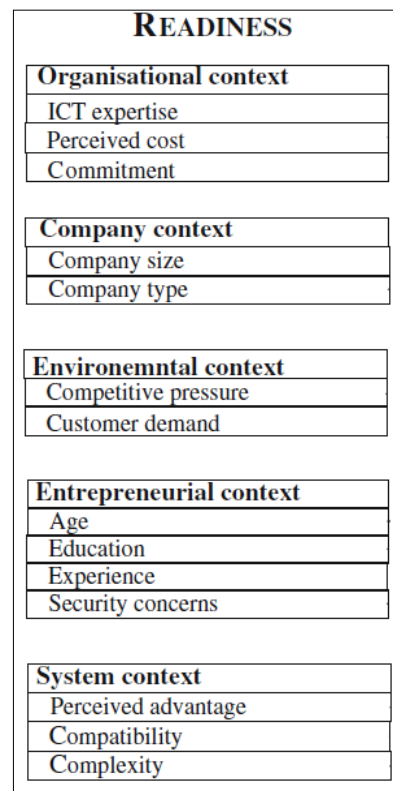
**Figure 5: E-Business-Readiness Framework (Zhu and Kraemer, 2005:66)**

Fuchs *et al.*'s (2010:168) modified E-Business Intensity–Readiness–Impact framework is based on Zhu and Kraemer's (2005:66) Readiness-Intensity-Impact Framework. In Fuchs *et al.*'s (2010:168) E-Business Intensity–Readiness–Impact framework, e-business readiness is considered within four contexts. It is considered within the organizational, environmental, firm related, and decision maker's context. Within the organizational context, factors such as ICT infrastructure, ICT skills, perceived costs, perceived success, and financial commitment are considered. Within the environmental context, factors such as perceived competitive pressure and perceived pressure from customers are considered. Within the firm related context, factors such as firm size and firm type are considered. Within the decision maker's context, factors such as age, education, experience, and risk propensity are considered. All contexts with related

factors are illustrated in figure 6. Figures 6 and 7 are not in a sequential order and neither are the contexts described in them.



**Figure 6: E-Business-Readiness Framework (Fuchs *et al.*, 2010:168)**



**Figure 7: E-Business-Readiness Framework (Fuchs *et al.*, 2014:816)**

Fuchs *et al.* (2014:816) modified this framework again to suit the study for on-line auctions for accommodation packages. Figure 7 depicts the modified e-business readiness framework, taken from the modified Readiness-Intensity-Impact Framework.

After further literature study, secondary factors were identified that are needed to determine hospitality business readiness for adopting digital and on-line marketing technologies.

### 2.4.2 Secondary factors for determining on-line readiness

Literature also emphasises strategic stance, organisational and innovation characteristics, competitor strategies, consumer behaviour, environmental factors and others, of which a more detailed discussion follows.

“It is increasingly apparent that the adoption of technology is dependent on a hospitality organisation’s capacity to assess the strategic value of the technology”, according to Wang and Qualls (2007:570). It is clear that a business has to perceive the digital technology as

strategically beneficial for the business, or it will not be adopted. Their study also emphasises the importance of the capability of a company in the hospitality industry to analyse not only their internal business processes, but also opportunities and threats in their external environment, such as changes in consumer behaviour and competitor strategies. Consumer behaviour and competitor strategies relate directly to “competitive pressure” and “customer demand” under the environmental context listed in figure 7. Society progression and the rise of the empowered consumer have been some of the results stemming from the explosion of ICTs, according to Ramaswamy (cited by Neuhofer *et al.*, 2014:240) and he also states that ICTs have enforced an extraordinary shift in businesses, consumers, employees and stakeholders connecting with each other by facilitating access to information, transparency, processes and activities.

Buhalis and Law (2008:611) focus on consumer behaviour and explain that reaction time to on-line queries is vital in achieving customer satisfaction and that response behaviour plays a key part in the success of small to medium-sized tourism enterprises. Loyalty to company websites and organisational programmes correlates positively with customer satisfaction (Buhalis & Law, 2008: 612). Lack of personal service, security issues, lack of experience, time consumption and psychological barriers are all important reasons why customers do not purchase travel products on-line, according to Wolfe, Hsu, Kang, O’Connor and Frew (cited by Buhalis & Law, 2008: 612). A study by Gretzel and Dinhopl (2014:273) found reasons for travellers unliking travel-related companies or destinations, including:

- 1) Bad experience with company service or destination;
- 2) Lack of interest in purchasing from the company or usefulness of relationship;
- 3) Change in promotional offers; and
- 4) Bad reputation.

The same study found the following reasons for travellers unliking travel-related companies or destinations related to their social media presence:

- 1) Too high or low frequency of posts; and
- 2) Lack of information provided.

It is, therefore, important for companies in the hospitality industry to innovatively design and present their on-line products in a fashion to overcome these fears of customers, creating a sense of trust and making customers feel comfortable in the on-line environment. These fears of customers give an indication of what customer expectations and demands are, hence also meaning that businesses which do not understand customer behaviour, or believe that

understanding customer behaviour is not important to them, are not ready to adopt these e-business technologies.

As far as brand imaging is concerned, both off and on-line, it is important that the same brand identity is carried. Nunthapirat *et al.* (2014:694) point out that the only variable is the enactment of the brand. The on-line brand attributes such as personalisation, ease of use, security, customer care, website personality and the like should be reflected by offline experience, although electronic word-of-mouth (EWOM) carries significant importance with regards to customer perceptions of hotel brands.

A study by Wang and Qualls (2007:563) note that factors, important in affecting technology adoption behaviour, are innovation characteristics, organisational characteristics, and environmental factors. Technology adoption behaviour is also influenced by organisational constraints, including but not limited to resources, management support, and technological expertise. Importantly, an organization's technological capacity may both assist and/or impede the technology adoption process, ultimately influencing the adoption outcome, especially for SME hospitality enterprises. From an external perspective, the adoption process and results may also be impacted by the features of the main technology, including the necessitated changes to an organization's business practices because of the technology, as well as the technology application orientation. Technology adopters' perceptions of the technology are also influenced by information processing characteristics, strategic orientation, and supplier's marketing strategies (Wang & Qualls, 2007:563).

Joo (2011:150) identifies five factors, among others, that determine whether business will adopt the Semantic Web (or the use of multiple search words). These are the following:

- 1) Demand pull or a perceived need to improve existing search engines or create new ones;
- 2) Demand push factors such as perceived benefits and risks, including environment readiness, models to refer to, uncertainty, available technology, potential business value, government support, promising rewards of technology, complexity and the testing or trying out such technology;
- 3) The competence (i.e. communication with and training of users and the ability of the organisation to absorb user and supplier viewpoints) of the organisation;
- 4) Over-expectation that may not meet the needs of users or suppliers; and
- 5) Knowledge, budget and the visible, measurable effects that may provide restraints for infusion.

Joo's findings are echoed by Hsu and Lin (2016:525) who point out the following:

- 1) The benefits of IoT (cf. 2.3.3) should be very clear to customers;
- 2) The compatibility of the technology with the values, lifestyle and existing culture of the business. The IoT technology should positively enhance the users' experience in terms of risk and uncertainty;
- 3) Complementary services rather than a vast number of different IoT service points (i.e. in reality using one programme that can do many things, rather than many programmes);
- 4) The importance of word-of-mouth and advertising to create the impression of many users benefitting and thus attracting more;
- 5) A clear and precise provider contract to users that explains user liability and privacy concerns.

The factors that determine the adoption of on-line technologies have been discussed, and the benefits of digital business will now be considered. As explained in the introduction of 2.4, a disregard of the benefits of digital business by hospitality businesses may be an indication that they are not ready to adopt digital and on-line technologies.

### **2.4.3 Benefits of digital business in the hospitality industry**

Wang and Qualls (2007:562) explain that “Hospitality organisations as potential adopters seek information to assess and evaluate the expected consequences/benefits of adopting the innovation”. The study also states that the hospitality industry company’s decision to adopt new technology depends on its perception of the technology. Adoption behaviour tends to rely on a company’s assessment and measuring of the benefits that technology might bring to the company and is considered in multiple dimensions including, but not limited to, market share, cost savings, customer service, efficiency, and productivity. Apart from the “perceived ease of use”, and “perceived usefulness” of technology, companies in the hospitality industry are also interested in the complexity of the complete technology adoption process. Chathoth (2007:405) acknowledges that value is added in the form of improved service and increased employee morale by implementing information technology for full-service hotels.

The advantages of digital business marketing to businesses are explained by Baltzan (2009:200) and include expanding global reach, opening new markets, reducing costs, improving operations, and improving effectiveness. Kiang *et al.* (2000:386) add benefits for businesses by referring to three channels based on functions performed, namely a communication channel: information exchange between sellers and buyers; a transaction channel: sales activities; and a distribution channel: physical exchange of products/services. Tikkanen *et al.* (2009:1374) add that success

factors for virtual world marketing include value for customers, highly interactive applications, and community management.

Leung and Law (2013:34) point out that control remains more important than increasing efficiency when it comes to the use of IT.

In spite of many well-described benefits of digital and on-line technologies, businesses may experience barriers to these. The existence of a barrier to adopt technology is a hindering factor determining a business's readiness to adopt technology. Many of these technology adoption barriers which will be discussed next, fall within the previous three model frameworks (Zhu & Kraemer, 2005:66; Fuchs *et al.*, 2010:168; Fuchs *et al.*, 2014:816).

#### **2.4.4 Barriers to adopt information technology in the hospitality industry**

A study by Reino *et al.* (2013:418) confirmed the following barriers with regard to ICT adoption, (for both businesses and customers) including issues related to the cost and availability of required technology, security concerns, lack of technical knowledge and training, seasonality, the proximity of the organisation to the channel of distribution, lack of the ability to incorporate technology into the strategy of the business, design, lack of ICT applications for micro and small tourism enterprises, integration and maintenance of old and/or new systems.

Cobanoglu *et al.*'s (2007:21) assumption for low adoption of information technology was the limited information technology education of managers. Watson (cited by Leung & Law, 2013:27) explains that the difficulty in measuring the return on investment, when investing in programs to make data consolidation and interfacing possible, deters hotel managers to invest in such type technology. Other important factors noted by Leung and Law (2013:27) from several studies are a lack of IT knowledge of hotel managers, and communication matters relating to IT. Leung and Law (2013:27) also noted factors such as hotel managers reporting directly to supervisors with limited technical knowledge, resulting in hotel managers not fully understanding the benefits and importance of adopting IT technologies and IT managers not getting budget allowances for new amenities.

The Lodging Technology Study (2016) states that rising customer expectations regarding advanced digital technology in the hotel industry surpassed budget constraints as respondents' biggest challenge in 2015.

Furthermore, other factors influencing the adoption of Electronic Data Interchange (EDI) included senior management support and the overall organisational context (Leung & Law,

2013:32). The study by Leung and Law (2013:32) also found that the stronger the IT knowledge of hotel managers, the better the chances were that they will invest in IT technology and that some 5-star hotels suggested the importance of being “hi-tech” to cater for customer needs.

O’Connor (2008:71) reports that respondents indicated barriers to implementing IT in the hospitality industry to include skilled people, making a business case, vendor organisation, resistance to change, lack of standards, infrastructure availability and costs.

Wang and Qualls (2007:571) explain that information availability about the technology, especially bearing in mind how it may influence technology perceptions, is one aspect affecting the technology adoption process by hospitality organisations. A study by O’Connor (2008:65) found that a major challenge in managing hospitality IT “is the lack of an appropriate communications infrastructure to support desired systems functionality”. The study, however, found that this issue has more to do with suppliers not being able to provide proper services on a global or regional basis than a lack of infrastructure in a specific country. It is, however, mentioned that a lack of communication infrastructure in specific countries could become problematical, but Parker (2016) reports that African countries are not only ready, but eager to adopt new technologies. Data consolidation and interfacing are two of the biggest challenges for CIO’s in chain hotels when it comes to information technology adoption (O’Connor, 2008:66). O’Connor (2008:66) adds that in different local markets with different vendors offering different products for the same problems, data interfacing and consolidation becomes expensive. This relates to standardisation issues and country specific requirements. Afolayan and De la Harpe (2015:144) address these issues in the South African context of small, medium, and micro enterprises (SMMEs) and state: “To adopt new technology, the business needs to research and seek for information from relevant sources, consult experts in technology and business, ask peers and colleagues in the industry about the latest developments and view evaluation as a continuous iterative activity with information accessible through various means. SMMEs need an ‘information shop’ where they can access information about new technology and such information should be easily disseminated through this medium to a wide range of SMMEs in a networked environment.”

Other important challenges found by the study of O’Connor (2008:66) are vendor issues, channel management, and budget. Channel management issues refer to issues regarding the use of various distribution channels to market in different countries or regions. Under vendor and standardisation issues, O’Connor’s (2008:66) respondents reported a great deal of dissatisfaction with the level of IT vendor service and support, especially in a local context. Large hotel chains that want standardised solutions are frustrated by different implementation methods and support

teams in different regions, although it may be for the exact same problem. In terms of IT support, frustration is caused by IT vendors who are not able to supply unique solutions that will give businesses a competitive advantage in the marketplace. The alternatives are limited and everyone uses the same technology. Where some respondents in O'Connor's (2008:66) study indicated there were too few vendors, some believed there were too many. Several felt vendors were too busy with limited capacity.

Brewer *et al.* (2008:16) found the following barriers related to using new IT technologies:

- 1) Protecting data security and privacy;
- 2) Interfacing with existing systems;
- 3) Low return on investment of IT;
- 4) Integration of property/central systems;
- 5) Recruiting/retaining IT personnel;
- 6) Employee resistance to technology; and
- 7) Customer resistance to technology.

Abou-Shouk *et al.* (2013:306) found that a reluctance under travel agents to adopt digital commerce is usually encompassed by one or more of the following factors:

- 1) Limited resources and a lack of the following;
- 2) Readiness of customers;
- 3) Skilled workers;
- 4) On-line competition;
- 5) Public infrastructure readiness;
- 6) Relevancy of the Internet to a particular business;
- 7) Interest in expanding; and
- 8) Good advice.

Widely used social media platforms and mobile platforms can also present barriers for businesses in the hospitality industry to adopt on-line marketing technologies. Pienaar (2016) states: "...the influx of [content] sources make it exceedingly difficult to manage data and find its relevancy for a particular business. Added to this is the explosion of other data streams particularly social media engagement across a number of platforms. So not only do decision-makers need to be cognisant of print, broadcast, and on-line media, but also social media in South Africa as well as the rest of the world."

A study by Pesonen *et al.* (2014: 726) found the following eight barriers among tourism companies for not using social media:

- 1) No benefits gained from social media;
- 2) Lack of skills for implementation of social media;
- 3) Lack of time to use social media;
- 4) Limited financial resources;
- 5) Lack of knowledge for best use of social media in business;
- 6) Fear for negative feedback or critique;
- 7) Bad experiences with social media; and
- 8) Company can still perform well without social media.

Adukaite *et al.* (2014:45) indicate that the main reasons for businesses not adopting mobile applications are:

- 1) Perceived irrelevance for the business;
- 2) No value added to guests' satisfaction;
- 3) Intricacy to estimate the return on investment; and
- 4) Lack of economic resources.

Other specific reasons noted by Adukaite *et al.* (2014:53) for not publishing a mobile application include:

- 1) Mobile applications are out fashioned;
- 2) Word-of-mouth is better than mobile applications;
- 3) A mobile version of a website is appropriate as everyone downloads mobile applications which they are not using;
- 4) A mobile version of a website is a useful alternative to a mobile application as it does not require an installation and contents can continuously be amended without requiring an update;
- 5) A definition is required of how a mobile application can add value to the customer, after which a decision can be made on the implementation;
- 6) Conservative mind-sets of owners.

Antecedents to Enterprise 2.0 adoption identified by Wang *et al.* (2014: 1055) include:

- 1) Willingness to try out new IT;
- 2) Computer self-efficacy;
- 3) Perceived usefulness;
- 4) Perceived ease of use;
- 5) Perceived security;
- 6) Realisation of one's value;
- 7) Extrinsic benefit expectations;
- 8) Subjective norms;

9) Perceived network externality.

The absence of the above antecedents can be seen as barriers to adoption.

The existence of a driver, or motivating force, to adopt technology is undoubtedly a factor determining a business's readiness to adopt technology. The lack of such a driver means a business is not ready to adopt the technology.

Adoption drivers, which will be discussed next, is the opposite of technology adoption barriers. Those technology adoption drivers not covered within the three frameworks (cf. 2.4.1) discussed earlier are incorporated into the recommended extended framework discussed later in section 2.5.

#### **2.4.5 Drivers to adopt information technology in the hospitality industry**

A study by Reino *et al.* (2013:418) confirmed the following drivers:

- 1) Pressure by partners, customers, competitors, or the media;
- 2) Cost effectiveness;
- 3) Expected improved results;
- 4) Flexibility of ICT tools;
- 5) Wide distributed and coordinated use of ICT tools; and
- 6) Ease of use.

In addition Reino *et al.* (2013:418) found the following specific additional drivers:

- 1) SMTE (Small Medium Tourism Enterprises) specific technology;
- 2) Technology should limit invasiveness of supplier procedures;
- 3) Capabilities for efficient use of ICT's in Business to Business (B2B) operations;
- 4) Interoperability between enterprise and large intermediaries and aggregators;
- 5) Standardised data representation and communication protocols, easing interoperability between enterprise and other companies;
- 6) Seamless integration features for in-house systems.

Effectiveness is also listed as an essential driver by Boffa and Sucurro (2012:1178). The effectiveness of on-line marketing technologies can be measured when considering the product of performance, importance, and complexity, i.e. effectiveness = performance x importance x complexity, according to Li & Wang (2010:541).

Other barriers and drivers of technology adoption (Reino *et al.*, 2014: 712) in general business environments, which are business-related characteristics are:

- 1) Supply chain characteristics: Influence of the supply chain and intensiveness of technology.

- 2) Organisational action: ICT knowledge of management, management age and experience, management communication skills with IT managers, business strategy, ICT adoption strategies, organisational structure, and management approach to ICT.
- 3) Business endogenous characteristics: Corporate status, age and size of business, geographical location and affiliation, and rate category.

Kaun and Chau (cited by Reino *et al.*, 2014: 712) acknowledge differentiation between internal and external pressure when drivers of technology adoption are identified.

The IoT (cf. 1.1., 1.2) is recognised as a possible driver for adopting OMT in the hospitality industry. New business models or disruptive business improvements initiate a drive for businesses to invest in IoT for optimised cost, performance and risk management (Plant Engineering, 2016:72). Lan (2014:2) reports that customer profiles influence the use of advanced digital guestroom technology, which relates to IoT. This yet again emphasises the importance for hospitality businesses to understand their customers' behaviour, wants, and needs.

Mobile platforms are increasingly in use in the hospitality industry (cf.2.3.1.3) and act as possible drivers to adopt OMTs. Adukaite *et al.* (2014:45) explain that the main drivers for adopting mobile applications in the hospitality industry are the following:

- 1) Promotion of special offers;
- 2) Increasing loyalty;
- 3) Improved guest interaction; and
- 4) Provision of destination information.

Other specific reasons noted by Adukaite *et al.* (2014:53) for adopting mobile applications in the hospitality industry are the following:

- 1) Growth of bookings;
- 2) Service quality;
- 3) Increased guest satisfaction;
- 4) Adding value to guest experiences by entertainment.

The following section lays out the proposed OMT adoption readiness framework based on the models of Zhu and Kraemer (2005) and Fuchs *et al.* (2010; 2013). This framework incorporates several additional factors which could play a significant role in the propensity of hospitality businesses to adopt technology, and is deemed necessary to provide a holistic view of these factors in the context of current available and emerging on-line technologies.

## **2.5 Proposed OMT adoption readiness framework**

From the literature reviewed, the framework in table 1 is proposed as a suitable framework to determine businesses' readiness of on-line technology adoption in the Cosmos area of Mpumalanga. This framework is an extension to those of Zhu and Kraemer (2005:66) and Fuchs *et al.* (2010:168; 2014:816). The factors in the proposed framework are based on existing factors already contained in the existing three models, on-line technology adoption barriers, drivers for on-line technology adoption, and benefits of adopting on-line technology. The holistic view is based on the reasoning that none of these on-line technologies can be considered on its own, but should be viewed as integrated and interdependent parts of one another.

<b>OMT ADOPTION READINESS</b>			
<b>Organizational Context</b>		<b>Environmental Context</b>	
OC-S	Size	EC-CP	Competitive Pressure
OC-TP	Type	EC-RS	Regulatory Support
OC-F	Financial Commitment	EC-CusP	Customer Pressure
OC-I	ICT Infrastructure	EC-TA	Technology Availability
OC-E	ICT Expertise	EC-TM	Technology Maturity
OC-PC	Perceived Costs	EC-TS	Technology Seasonality
OC-PS	Perceived Success	EC-TV	Technology Visibility
OC-TR	Training	EC-SI	Supplier Issues
OC-CoI	Culture of Innovation	EC-CoD	Channels of Distribution
OC-SO	Strategic Orientation	EC-S&C	Industry Standardization and Collaboration
OC-CC	Culture Compatibility	EC-I	ICT Infrastructure
OC-RET	Returns	EC-TU	Technology Uniqueness
OC-RC	Resistance to Change	EC-TSE	Technology self-efficacy
OC-C	Communication	EC-PP	Partner Pressure
OC-T	Time	EC-MP	Media Pressure
OC-LI	Legacy issues	EC-TF	Technology flexibility
OC-CE	Cost Effectiveness	EC-TE	Technology effectiveness
OC-OS	Organizational Structure	EC-SC	Supply Chain
OC-CS	Corporate Status	EC-GL	Geographical Location/Affiliation
OC-CON	Control	EC-TPV	Technology promotional value
OC-R	Risk		
OC-MS	Market Share		
OC-EM	Employee Morale		
OC-CusC	Customer centricity		
OC-SQ	Service quality		
OC-BI	Brand Image		
<b>Decision Maker's Context</b>		<b>System Context</b>	
DMC-A	Age	SC-PA	Perceived Advantages
DMC-E	Education	SC-C	Compatibility
DMC-Exp	Experience	SC-RC	Requirement for System Change
DMC-RP	Risk Propensity	SC-B2B	B2B Capabilities
DMC-U	Uncertainty		
DMC-SN	Subjective Norms		
DMC-MA	Management Approach to IT		
DMC-SC	Security Concerns		

**Table 1: Proposed OMT Adoption Readiness Framework**

The factors listed within these four contexts will be used to draft a questionnaire for the quantitative study and highlight key discussion points for the qualitative study.

## **2.6 Conclusion**

The on-line world is accelerating at a vast pace and it is essential for businesses in the hospitality industry to understand how this may influence doing business. The world is in a transition phase from Web 2.0 to Web 3.0, which does not necessarily only imply risk, but also opportunity. In order for businesses to capture this opportunity, it is important to have a strategic fit between company goals and the offerings of current and emerging on-line technologies. It is, therefore, important for businesses in the hospitality industry to fully understand all factors which may or may not determine whether they are ready to adopt on-line technologies. These factors may then receive special attention or may be investigated further, if necessary, in order to get the business closer to technology adoption which may create an opportunity for a distinct competitive advantage.

## **2.7 Chapter Summary**

The introduction briefly describes the content and layout of the literature review. The literature review provides the historical context within which the web has evolutionised. It explains the fundamental differences through the evolutionary phases of Web 1.0, known as the static web, Web 2.0, known as the interactive web, and Web 3.0, known as the smart, integrated web.

Current and emerging on-line technologies, including enabling technologies, are investigated within the context provided in Chapter 1. In brief, the latest trends are reviewed and relevant topics such as Over the Top technologies (OTT), mobile, context aware capabilities, social media, content curation, traveller recommender systems (TRS), augmented reality (AR), gamification, smart wearable technology, information channels, and the semantic web are discussed in more detail. All technologies are considered interrelated, considering their use within an industry such as the hospitality industry and cannot be considered individually.

The literature review also examines current available e-business readiness frameworks which are then supplemented with literature related to barriers to on-line technology adoption, drivers for on-line technology adoption, and factors related to the benefits of e-business in order to develop a modified extended model which will be used for the survey and interview questionnaires. This model provides a holistic view on factors related to the use of on-line technology. Risks for businesses are also briefly discussed in terms of technology preparation, customer needs, and opportunities.

## **CHAPTER 3: RESEARCH METHODOLOGY AND FINDINGS**

### **3.1 Introduction**

A literary review and peer-aided survey research underpin the theory of this study, focusing on current trends, enablers and tools in on-line marketing technology and factors that influence readiness to adopt on-line marketing technology. An intensive review of previous research was provided in the study in order to establish the context and worth of the study. The text data includes relevant books, journals, newspaper articles, Internet articles and SA governmental and local governmental publications. From available information and readiness frameworks for the adoption of on-line marketing technologies, an extended framework was formulated to refine a questionnaire for use in the hospitality industry of the Cosmos area in Mpumalanga. Empirical results are discussed and interpreted with reference to the theory outlined in Chapter 2. To further substantiate the empirical results from the quantitative research, qualitative research in the form of semi-structured interviews was performed.

In this chapter the research methodology is discussed and the process followed to meet the objectives laid out in Chapter 1.

### **3.2 Procedure and Scope of Quantitative Research**

The empirical study focused on hospitality businesses within the Cosmos area of Mpumalanga, South Africa as defined in 1.7.3. After determining the demographic profile of the business respondents, the study aimed to establish the relationship between the factors as identified in the proposed OMT adoption readiness framework and the OMT adoption readiness construct. The factors in the proposed framework are based on existing factors already contained in existing e-business readiness frameworks, on-line technology adoption barriers, drivers for on-line technology adoption, and benefits of adopting on-line technology (cf. 2.5).

### **3.3 Procedure and Scope of Qualitative Research**

Some respondents were asked specific questions to substantiate factors addressed in the questionnaire as well as to add value to the results obtained from the quantitative research. The format and results of the qualitative research are discussed in 3.10.

### **3.4 Population**

The research population is described as the total of the available respondents in a specific group (Kumar, 2011:58). For this study it comprises the owners, directors, senior and IT managers of

hospitality businesses in Mpumalanga and more specifically, the Cosmos area of Mpumalanga, South Africa. This delineation is used because of financial and practical restrictions (cf. 1.7.3).

### **3.5 Sampling**

Non-probability sampling in the form of purposive sampling within this population was used to gather a sample of this population. A purposive sample of 103 respondents was selected for the quantitative research and 7 for the qualitative research based on the definition of the hospitality industry (cf. 1.7.3) within this population group, and based on the accessibility of these businesses to the researcher within the available time and financial constraints. Homogenous purposive non-probability sampling (Laerd Dissertation, 2012) was used as the most effective in this domain, as it was anticipated that knowledgeable experts, i.e. owners, senior managers, directors and IT managers within the hospitality industry, i.e. guest houses, guest farms, lodges, and hotels, in the Cosmos area of Mpumalanga would provide reliable results. Respondents were selected from towns within the Cosmos area of Mpumalanga, South Africa, viz. Balfour, Bethal, Delmas, Hendrina, Kriel, Leandra, Morgenzon, Secunda, and Standerton. Respondents were purposefully and categorically selected from sources like the Internet, newspapers, and telephone and business directories, meaning that not all business respondents had an equal chance of being selected, hence being a non-probability sample as not all hospitality businesses necessarily feature in the sources mentioned.

### **3.6 Measurement Instrument**

The study was performed through the combination of qualitative and quantitative research. A survey approach was followed through the distribution of a questionnaire. The questionnaire is based on an extended framework based on frameworks of Zhu and Kraemer (2005:66), Fuchs *et al.* (2010:168), and Fuchs *et al.* (2014:816).

An anonymous questionnaire was designed to obtain demographical information regarding the hospitality businesses with regards to their town, type and size of the company, whether it has corporate status or not, and the budget size for information technology.

The OMT adoption readiness questionnaire was designed on a 5-point Likert scale, focusing on the perception of the respondents regarding potential factors determining OMT readiness. The decision to use a 5-point scale was based on findings of Lissitz and Green (cited by Wakita *et al.*, 2012:534) who found the 5-point scale reliable. Wakita *et al.* (2012:534) found less deviation in reliability of the 5-point scale versus the 7-point scale, and they point out that options need to

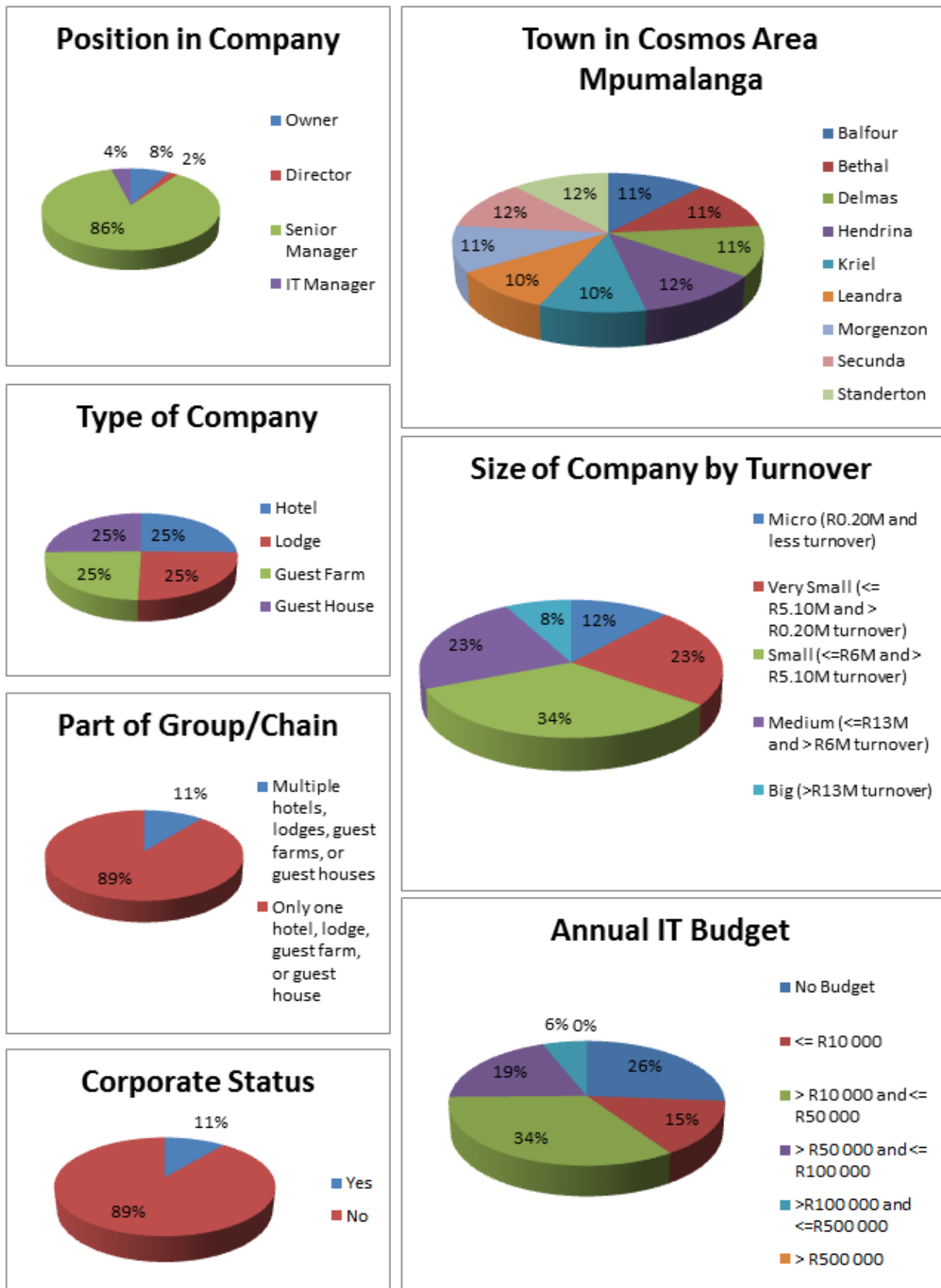
be considered carefully when selecting anchors. Hartley (2013:84) suggests that the number of questions increases validity.

Semi-structured interviews were also be conducted with a selected few businesses within the hospitality industry to qualify and support the results of the questionnaires.

### **3.7 Data analyst**

Statistical analyses were done by the researcher and Statistical Consultation Services at the North-West University on the Potchefstroom campus, using the software packages, SPSS (2016) and PHStat Version 4.05. Correlations, tabulations, cross tabulations, radar charts, and histograms are used with respect to the various aspects contained in the questionnaire.

### 3.8 Demographic profile of respondents



**Figure 8: Demographic profile of respondents**

Of the 103 respondents that completed the survey, the majority of respondents (86%) were senior managers. Of the respondents, 8 were owners, 2 were directors, and 4 were IT managers. In

order to aim for a representative sample in the Cosmos Area of Mpumalanga, approximately the same number of businesses were selected in each of the towns as per the previous definition of the Cosmos Area of Mpumalanga (cf. 1.7.3). The same applied for the type of businesses selected as per the definition of the hospitality industry (cf.1.1). 89% of businesses were not part of a chain or group of companies, while 11% were. Measured by annual turnover for the hospitality industry in South Africa, 8% of businesses fell into the category of a micro business, 23% very small business, 34% small business, 23% medium business, and 8% big business. 89% of businesses did not have corporate status, while 11% said they do have corporate status. Considering the annual IT budget for the selected respondents, 26% of respondents indicated they have no annual IT budget, 15% indicated they have R10 000 or less, 34% indicated they have between R10 000 and R50 000 or less, 19% indicated they have between R50 000 and R100 000 or less, 6% indicated they have between R100 000 and R500 000 or less, and no respondents had an annual IT budget of more than R500 000.

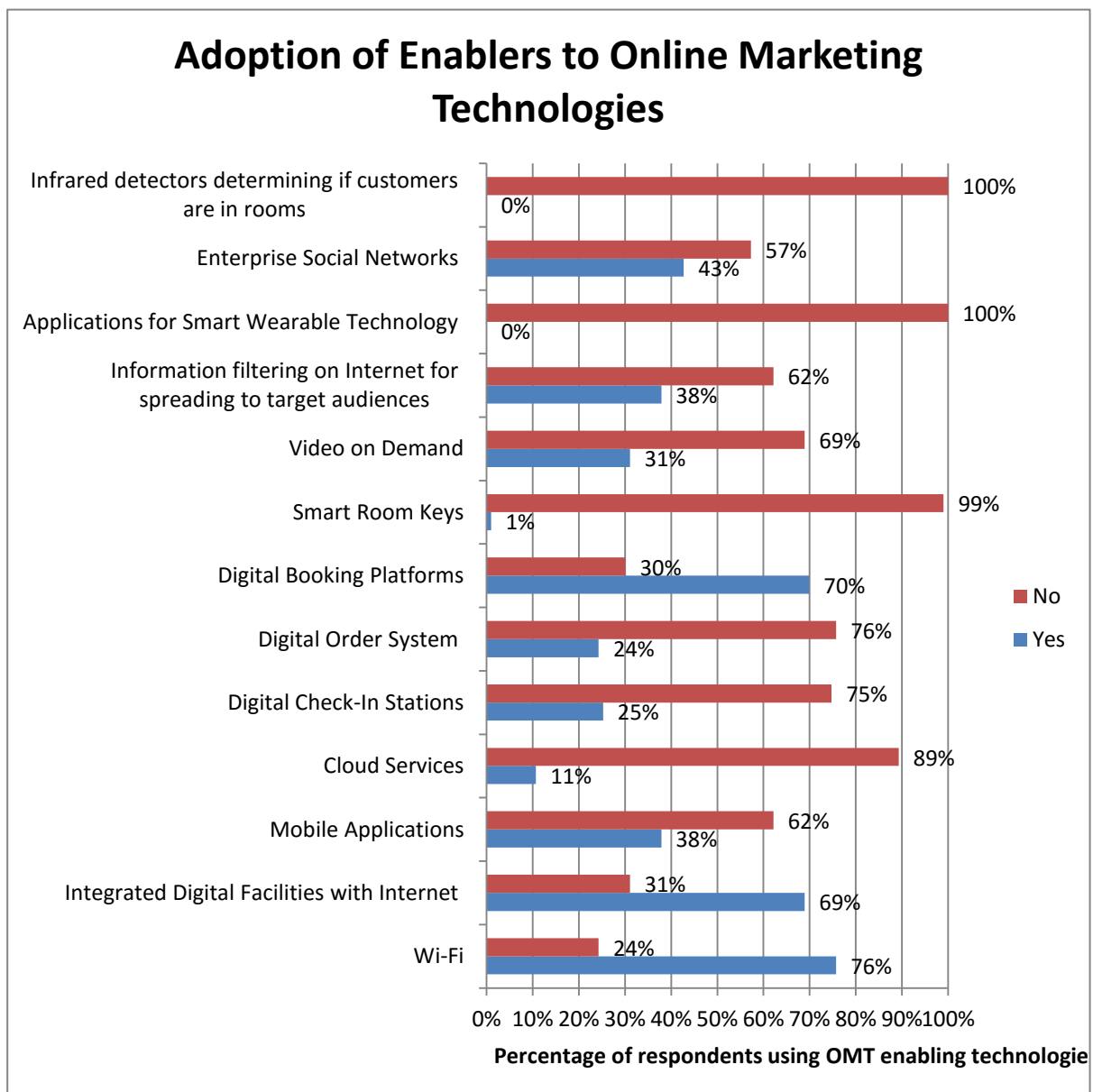
### **3.9 Empirical Research: Results**

#### **3.9.1 Descriptive statistics and frequencies**

##### **3.9.1.1 Adoption of enablers to on-line marketing technologies**

From an on-line marketing enabler point of view, it is clear that infrared detectors, applications for smart wearable technology, and smart room keys are not yet utilised in the hospitality industry within the Cosmos area of Mpumalanga, except for 1 respondent who indicated their business makes use of smart room keys. It seems that digital technologies such as digital order systems, digital check-in stations, and cloud services are in an early adoption phase, with 24%, 25%, and 11% of respondents respectively indicating their businesses are making use of these technologies. “Video on Demand”, enterprise social networks (ESN’s), information filtering on the Internet, and mobile applications are slightly more utilised in the industry at 31%, 43%, 38%, and 38% respectively, but still with less than half of respondents indicating that their businesses make use of the technology. Digital booking platforms, integrated digital facilities with the Internet, and Wi-Fi are well adopted within the industry with 70%, 69%, and 76% of respondents indicating their businesses are utilising these technologies. It is therefore clear that the majority of these technologies are not yet well adopted in the hospitality industry of the Cosmos area of Mpumalanga, with 67% of respondents in total over the complete spectrum of OMT enablers considered for this study, indicating they are not yet making use of these OMT enablers.

These findings are represented in figure 9.



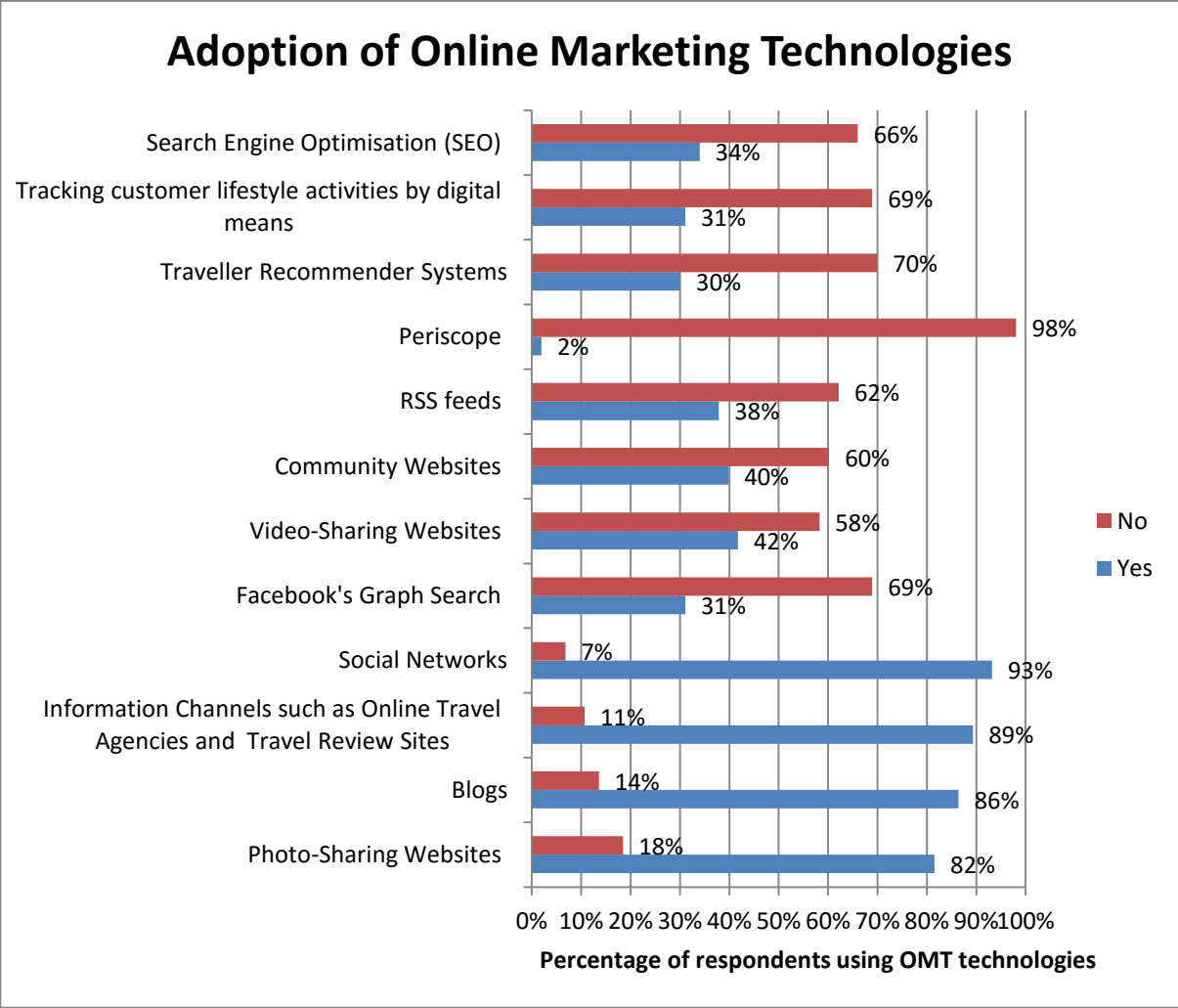
**Figure 9: Adoption of Enablers to OMTs**

#### 3.9.1.2 Adoption of on-line marketing technologies

Periscope is not yet adopted in the hospitality industry of the Cosmos area of Mpumalanga, except for 2 respondents. Less than half of respondents make use of SEO, digitally tracking customer lifestyle activities, traveller recommender systems, RSS feeds, community websites, video-sharing websites, and Facebook’s Graph Search, at 34%, 31%, 30%, 38%, 40%, 42%, and 31 % of respondents respectively indicating they do not utilise these technologies. Most of the respondents indicated that they make use of social networks, information channels such as on-line travel agencies, travel search engines, newspaper/magazine sites, and travel review sites (e.g TripAdvisor, Lekkeslaap, etc.), blogs, and photo-sharing websites with 93%, 89%, 86%, and

82% respectively. Considering the complete spectrum of OMT's considered for this study, 50% of respondents in total indicated that they make use of these OMT's and 50% not.

These findings are represented in figure 10.



**Figure 10: Adoption of OMTs**

**3.9.1.3 OMT Readiness Factors**

Table 2 displays frequencies and descriptive statistics of OMT readiness factors considered in the four different contexts of the proposed OMT adoption readiness framework (Table 1, cf. 2.5). Throughout respondents had a neutral attitude. When looking at the mean and standard deviation values obtained from the results, most of the constructs obtained values above 3.0, indicating that there is disagreement that these particular factors play a role in why their business won't invest in OMTs. The only constructs with values below 3.0 are OC-E1/2/3/4 (ICT Expertise) with 2.8, 2.8, 2.9, and 2.8 respectively, OC-TR1/2/3 (Training) with 2.7, 2.7, and 2.6 respectively, OC-OS2 (Organisational Structure) with 2.8, EC-TV1/2/3 (Technology Visibility) with 2.8, 2.8, and

2.6 respectively, EC-SI3 (Supplier Issues) with 2.8, EC-CoD1 (Channels of Distribution) with 2.8, and EC-TSE2 (Technology Self Efficacy) with 2.8.

In summary it means the following are most likely considered as factors barring hospitality businesses in the Cosmos area of Mpumalanga to adopt OMTs:

1. Lack of employee skills in ICT;
2. Lack of managerial skills in ICT;
3. Difficulty in recruiting skilled ICT personnel;
4. Difficulty in retaining skilled ICT personnel;
5. Employees are not trained to use OMTs;
6. Unavailability of training resources and facilities;
7. Companies do not have a department to focus on the use of OMTs;
8. There is a general lack of information about OMTs in the market;
9. OMTs are not well advertised in the market;
10. On and offline, people don't seem to talk too much about OMTs;
11. There is a lack of services and support from local suppliers of OMTs;
12. Availability of channels to access the company's customers when using OMTs is difficult;
13. The company requires more intelligence from OMTs.

Most standard deviation values are below 1.0, with highest being 1.1 for the OC-S1 (Size), OC-TP1 (Type), and OC-C1 (Communication) constructs, all of which fall under the organisational context.

These findings are represented in table 2.

Statement		SA	A	N	D	SDA	Mean	Std. Dev.
<b>The following are reasons the company won't invest in On-line Marketing Technologies (OMTs):</b>								
OC-S1	The size of the company	5	18	35	25	20	3.4	1.1
OC-TP1	The type of the company	6	20	30	33	14	3.3	1.1
OC-F1	Not enough budget is allocated to invest in OMTs	1	20	34	40	8	3.3	0.9
OC-F2	Lack of economic/monetary resources	1	22	39	35	6	3.2	0.9
OC-II	The company's current infrastructure cannot accommodate OMTs	0	9	44	40	10	3.5	0.8
OC-I2	Most areas within the company's work environment is not interconnected and integrated with the Internet	0	7	31	57	8	3.6	0.7
OC-I3	The company do not provide their customers with an on-line integrated and interconnected environment	0	12	38	43	10	3.5	0.8
OC-E1	Lack of employee skills or expertise in this field	6	33	37	26	1	2.8	0.9

Statement	SA	A	N	D	SDA	Mean	Std. Dev.	
<b>The following are reasons the company won't invest in On-line Marketing Technologies (OMTs):</b>								
OC-E2	Lack of managerial skills or expertise in this field	4	49	19	29	2	2.8	1.0
OC-E3	Difficulty in recruiting skilled IT personnel	5	34	35	27	2	2.9	0.9
OC-E4	Difficulty in retaining skilled IT personnel	4	41	35	21	2	2.8	0.9
OC-PC1	The company cannot afford it	0	10	42	36	15	3.5	0.9
OC-PC2	OMTs are too expensive	0	7	51	30	15	3.5	0.8
OC-PS1	The company don't expect overall improved results	1	4	57	22	19	3.5	0.9
OC-TR1	The company's employees are not trained to use OMTs	6	37	46	12	2	2.7	0.8
OC-TR2	The company does not have training resources or facilities to their exposure for OMTs	5	41	42	13	2	2.7	0.8
OC-TR3	Unavailability of training resources and facilities in general	12	33	43	12	3	2.6	0.9
OC-Co1	The company does not possess the required innovational drive	0	10	44	31	18	3.6	0.9
OC-Co2	The company seldom invests in useful contemporary OMTs	0	14	42	36	11	3.4	0.9
OC-SO1	The company does not have a clear digital marketing strategy	0	11	51	26	15	3.4	0.9
OC-SO2	The use of OMTs does not fit in with the current strategic stance of the company	0	5	46	38	14	3.6	0.8
OC-SO3	The current strategy of the company does not require the use of OMTs	0	5	51	31	16	3.6	0.8
OC-CC1	Making use of OMTs won't fit the way the company does things	0	2	47	39	15	3.7	0.8
OC-CC2	The company tends to do things differently	0	4	48	41	10	3.6	0.7
OC-RET 1	The return on investment is too low	0	2	54	33	14	3.6	0.7
OC-RET 2	It is too difficult to measure the return on investment	0	2	50	37	14	3.6	0.7
OC-RC1	The company is reluctant to try out new things	0	7	48	29	19	3.6	0.9
OC-RC2	Employees resist the use of OMTs	0	3	48	37	15	3.6	0.8
OC-C1	Decision makers do not understand OMTs and its benefits when explained to them	4	17	28	33	21	3.5	1.1
OC-T1	Utilising OMTs takes too much time	0	9	50	29	15	3.5	0.9
OC-T2	Employees are too busy and do not have time to make use of OMTs in their workplace	0	4	51	28	20	3.6	0.8
OC-L1	Previous bad experiences with OMTs	0	0	26	59	18	3.9	0.7
OC-L12	Risk of public negative feedback	0	0	40	51	12	3.7	0.7
OC-CE1	OMTs won't assist in optimising costs	0	0	52	38	13	3.6	0.7
OC-CE2	Lack of value for the money the company pays for OMTs	0	2	56	36	9	3.5	0.7
OC-OS1	The organisational structure is not conducive for the use of OMTs	1	10	54	31	7	3.3	0.8
OC-OS2	The company does not have a department or people who can focus on OMTs	5	24	58	16	0	2.8	0.7
OC-CS1	The corporate status of the company	1	5	44	35	18	3.6	0.9
OC-R1	The company feels there is too much of a risk utilising OMTs	0	0	55	29	19	3.7	0.8

Statement	SA	A	N	D	SDA	Mean	Std. Dev.
<b>The following are reasons the company won't invest in On-line Marketing Technologies (OMTs):</b>							
OC-Cus C1	0	3	43	40	17	3.7	0.8
OC-Cus C2	0	2	35	53	13	3.7	0.7
OC-Cus C3	0	0	54	40	9	3.6	0.7
OC-Cus C4	0	0	47	44	12	3.7	0.7
OC-Cus C5	0	16	41	31	15	3.4	0.9
OC-SQ1	0	0	58	23	22	3.7	0.8
OC-CO N1	0	0	62	26	15	3.5	0.7
OC-CO N2	0	0	65	29	9	3.5	0.7
OC-MS1	0	0	46	36	21	3.8	0.8
OC-MS2	0	0	49	38	16	3.7	0.7
OC-EM1	1	4	49	32	17	3.6	0.8
OC-EM2	0	2	56	34	11	3.5	0.7
OC-BI1	1	6	34	41	21	3.7	0.9
OC-BI2	0	6	30	47	20	3.8	0.8
EC-CP1	0	3	37	39	24	3.8	0.8
EC-CP2	0	2	37	50	14	3.7	0.7
EC-CP3	2	4	30	48	19	3.8	0.9
EC-RS	0	0	30	52	21	3.9	0.7
EC-Cus P1	1	4	45	34	19	3.6	0.9
EC-Cus P2	1	3	50	38	11	3.5	0.8
EC-TA1	1	6	52	31	13	3.5	0.8
EC-TA2	0	5	54	34	10	3.5	0.7
EC-TA3	2	12	44	29	16	3.4	1.0
EC-TM1	0	0	47	37	19	3.7	0.8
EC-TM2	0	0	60	26	17	3.6	0.8
EC-TS1	0	0	65	23	15	3.5	0.7
EC-TV1	4	27	59	13	0	2.8	0.7
EC-TV2	2	33	52	13	3	2.8	0.8
EC-TV3	11	28	57	7	0	2.6	0.8

Statement		SA	A	N	D	SDA	Mean	Std. Dev.
<b>The following are reasons the company won't invest in On-line Marketing Technologies (OMTs):</b>								
EC-SI1	Contractual issues with suppliers of OMTs	1	4	65	17	16	3.4	0.8
EC-SI2	Suppliers of OMTs generally have limited resources or skills to fulfil the company's needs	2	10	48	33	10	3.4	0.9
EC-SI3	There is a lack of services and support from local suppliers of OMTs	10	23	49	19	2	2.8	0.9
EC-SI4	Suppliers of OMTs are too busy and gives too little focused attention to the company's needs	3	13	54	18	15	3.3	1.0
EC-CoD1	Availability of channels to access the company's customers when using OMTs is difficult	8	24	55	16	0	2.8	0.8
EC-CoD2	It is too difficult to manage these channels through which the company can access their customers	0	16	61	18	8	3.2	0.8
EC-S&C1	There is a lack of an industry standard	0	1	60	28	14	3.5	0.7
EC-S&C2	There is a lack of a wide coordinated use in the industry	0	8	54	29	12	3.4	0.8
EC-S&C3	OMTs don't interface and consolidate well with more matured technologies in the market	0	5	58	25	15	3.5	0.8
EC-II	There is a lack of market infrastructure to support the company's use of OMTs	2	6	63	19	13	3.3	0.8
EC-TU1	OMTs don't offer the company an unique competitive advantage	0	0	53	35	15	3.6	0.7
EC-TU2	OMTs are not unique to our business	0	0	49	30	24	3.8	0.8
EC-TSE1	OMTs cannot replace or partially replace human activities in our organisation	1	12	69	15	6	3.1	0.7
EC-TSE2	The company requires more intelligence from OMTs	5	27	56	15	0	2.8	0.7
EC-PP1	Partners of the company don't require or expect the company to make use of OMTs	1	7	46	30	19	3.6	0.9
EC-PP2	The company's partners resist the use of OMTs	0	3	48	36	16	3.6	0.8
EC-MP1	There is not a lot of media hype around OMTs	1	2	58	22	20	3.6	0.9
EC-TF1	Once the technology is adopted, it is difficult to incorporate or use other technologies	0	6	59	26	12	3.4	0.8
EC-TF2	It is too difficult to change to different technologies	0	7	49	35	12	3.5	0.8
EC-TE1	OMTs are not important in the company's marketing efforts	0	4	43	40	16	3.7	0.8
EC-TE2	OMTs are too difficult to use	0	3	58	28	14	3.5	0.8
EC-TE3	Overall performance cannot be improved through the use of OMTs	1	2	51	34	15	3.6	0.8
EC-SC1	The company's supply chain does not make intensive use of OMTs	0	0	60	25	18	3.6	0.8
EC-GL1	Our company is not in an area where we need OMTs	0	0	36	43	24	3.9	0.8
EC-GL2	People in this area don't make use of OMTs	0	0	36	45	22	3.9	0.7
EC-TPV1	OMTs do not create too much promotional value for our company	0	0	52	34	17	3.7	0.7
EC-TPV2	OMTs don't have the same promotional impact as traditional marketing mediums such as newspapers	0	0	53	36	14	3.6	0.7
DM C-A1	Because of the age of the decision makers	0	0	55	22	26	3.7	0.8
DM C-E1	The decision makers of the company don't have the required education to understand exactly what is required from a OMT point of view	0	3	53	23	24	3.7	0.9

Statement		SA	A	N	D	SDA	Mean	Std. Dev.
<b>The following are reasons the company won't invest in On-line Marketing Technologies (OMTs):</b>								
DM C-Exp 1	The decision makers have a lack of experience with OMTs	0	9	45	37	12	3.5	0.8
DM C-RP1	The unwillingness of decision makers to try out OMTs	0	3	50	36	14	3.6	0.8
DM C-RP2	Decision makers think the risk is too great when using OMTs	0	1	40	43	19	3.8	0.8
DM C-U1	The decision makers of the company are unsure whether to use OMTs	2	10	38	34	19	3.6	1.0
DM C-U2	The decision makers of the company are not convinced OMTs can contribute	2	9	31	35	26	3.7	1.0
DM C-SN1	The decision makers do not support the use of OMTs	1	3	37	45	17	3.7	0.8
DM C-SN2	The decision makers personally do not believe OMTs would add value	1	4	33	46	19	3.8	0.8
DM C-SN3	Decision makers have their own idea of which marketing tools work for the company	1	5	34	43	20	3.7	0.9
DM C-MA1	The decision makers have a too conservative a mind-set	1	10	36	37	19	3.6	0.9
DM C-MA2	The decision makers are not positive about the use of OMTs	0	4	42	36	21	3.7	0.8
DM C-SC1	OMTs pose a risk to the security of the company's information	0	0	56	34	13	3.6	0.7
DM C-SC2	The company's proprietary information may unintentionally end up in the supply chain	0	0	56	29	18	3.6	0.8
DM C-SC3	The company's privacy may be invaded	0	0	35	53	15	3.8	0.7
SC-PA1	OMTs won't add any benefits to the current systems	0	0	64	25	14	3.5	0.7
SC-PA2	The current systems won't improve because of the introduction of OMTs	0	0	65	23	15	3.5	0.7
SC-C1	Current systems cannot adapt to the use of OMTs	1	3	56	27	16	3.5	0.8
SC-C2	OMTs are not complimentary to current systems	1	3	58	26	15	3.5	0.8
SC-C3	OMTs don't integrate well with our current systems	1	0	62	23	17	3.5	0.8
SC-RC1	The company performs well enough without OMTs	0	2	65	24	12	3.4	0.7
SC-RC2	OMTs are irrelevant to the business	0	1	67	23	12	3.4	0.7
SC-RC3	The use of existing technologies is appropriate for what the company needs	0	2	65	26	10	3.4	0.7
SC-B2B 1	OMTs won't ease doing business with other companies	0	0	59	36	8	3.5	0.6
SC-B2B 2	OMTs will make interoperability between companies more difficult	0	0	58	35	10	3.5	0.7
SC-B2B 3	OMTs deviate from standard communication protocols when doing business with other companies	0	0	66	28	9	3.4	0.7
TR1	The company is not ready to adopt On-line Marketing Technologies available in the market today	1	2	49	35	16	3.6	0.8

**Table 2: OMT Readiness Factor Frequencies**

### 3.9.2 Reliability and Internal Consistency

In social and organisational sciences, Cronbach’s alpha reliability measure is one of the most common and popular measures of reliability, according to Bonett and Wright (2015:3). Cronbach alpha is indicative of the quality of measurement and describes the “reliability of a sum (or average) of q measurements where the q measurements may represent q raters, occasions, alternative forms, or questionnaire/test items” (Bonnet & Wright, 2015:3). Botha (2012:53) also describes it as a coefficient of reliability in a survey instrument. Bonnet and Wright (2015:3) further add that the most common application of Cronbach alpha is when several questionnaire items are represented by the measurements and is referred to as a measure of “internal consistency” reliability. An alpha coefficient equal to or exceeding 0.7 is considered satisfactory and greater than 0.8 good, as explained by Field (2007:666), but with attitudinal and behavioural constructs an alpha coefficient of 0.58 is normally acceptable.

The Cronbach Alpha coefficient can be calculated by the following formula (Botha, 2012:54):

$$\alpha = \frac{k}{k-1} \left[ 1 - \frac{\sum_1^k \sigma_{Y_i}^2}{\sigma_X^2} \right]$$

#### Equation 1: Cronbach Alpha Coefficient

Where:

- $\alpha$  = Cronbach alpha coefficient
- k = Number of construct items
- $\sigma_{Y_i}^2$  = Variance of item, i, where i = 1 to k
- $\sigma_X^2$  = Variance of the observed total item scores

Findings regarding the Cronbach Alpha values are represented in table 3.

Organizational Context		Cronbach Alpha	Mean	Std. Dev.
OC-S	Size	N/A	3.4	N/A
OC-TP	Type	N/A	3.3	N/A
OC-F	Financial Commitment	0.70	3.3	0.1
OC-I	ICT Infrastructure	0.70	3.5	0.1
OC-E	ICT Expertise	0.80	2.8	0.1
OC-PC	Perceived Costs	0.72	3.5	0.0
OC-PS	Perceived Success	N/A	3.5	N/A
OC-TR	Training	0.78	2.7	0.0
OC-Col	Culture of Innovation	0.80	3.5	0.1

		Cronbach Alpha	Mean	Std. Dev.
OC-SO	Strategic Orientation	0.71	3.5	0.1
OC-CC	Culture Compatibility	0.73	3.6	0.1
OC-RET	Returns	0.75	3.6	0.0
OC-RC	Resistance to Change	0.72	3.6	0.0
OC-C	Communication	N/A	3.5	N/A
OC-T	Time	0.74	3.6	0.1
OC-LI	Legacy issues	0.62	3.8	0.1
OC-CE	Cost Effectiveness	0.72	3.6	0.1
OC-OS	Organizational Structure	0.70	3.1	0.4
OC-CS	Corporate Status	N/A	3.6	N/A
OC-R	Risk	N/A	3.7	N/A
OC-CusC	Customer centricity	0.69	3.6	0.1
OC-SQ	Service quality	N/A	3.7	N/A
OC-CON	Control	0.73	3.5	0.1
OC-MS	Market Share	0.87	3.7	0.1
OC-EM	Employee Morale	0.80	3.6	0.0
OC-BI	Brand Image	0.74	3.8	0.0
<b>Environmental Context</b>				
EC-CP	Competitive Pressure	0.77	3.8	0.0
EC-RS	Regulatory Support	N/A	3.9	N/A
EC-CusP	Customer Pressure	0.82	3.6	0.1
EC-TA	Technology Availability	0.74	3.5	0.0
EC-TM	Technology Maturity	0.72	3.7	0.1
EC-TS	Technology Seasonality	N/A	3.5	N/A
EC-TV	Technology Visibility	0.76	2.7	0.1
EC-SI	Supplier Issues	0.60	3.2	0.3
EC-CoD	Channels of Distribution	0.76	3.0	0.3
EC-S&C	Industry Standardization and Collaboration	0.76	3.5	0.0
EC-I	ICT Infrastructure	N/A	3.3	N/A
EC-TU	Technology Uniqueness	0.72	3.7	0.1
EC-TSE	Technology self-efficacy	0.77	3.0	0.2
EC-PP	Partner Pressure	0.77	3.6	0.0
EC-MP	Media Pressure	N/A	3.6	N/A
EC-TF	Technology flexibility	0.82	3.5	0.1
EC-TE	Technology effectiveness	0.62	3.6	0.1
EC-SC	Supply Chain	N/A	3.6	N/A
EC-GL	Geographical Location/Affiliation	0.76	3.9	0.0
EC-TPV	Technology promotional value	0.70	3.6	0.0
<b>Decision Maker's Context</b>				

		Cronbach Alpha	Mean	Std. Dev.
DMC-A	Age	N/A	3.7	N/A
DMC-E	Education	N/A	3.7	N/A
DMC-Exp	Experience	N/A	3.5	N/A
DMC-RP	Risk Propensity	0.81	3.7	0.1
DMC-U	Uncertainty	0.88	3.6	0.1
DMC-SN	Subjective Norms	0.86	3.7	0.0
DMC-MA	Management Approach to IT	0.78	3.7	0.1
DMC-SC	Security Concerns	0.73	3.7	0.1
<b>System Context</b>				
SC-PA	Perceived Advantages	0.73	3.5	0.0
SC-C	Compatibility	0.83	3.5	0.0
SC-RC	Requirement for System Change	0.69	3.4	0.0
SC-B2B	B2B Capabilities	0.73	3.5	0.0
<b>Technology Readiness</b>				
TR1	OMT adoption readiness	N/A	3.6	N/A

**Table 3: Cronbach Alpha, Mean, and Standard Deviation Values for Constructs**

Most constructs displayed a satisfactory reliability with Cronbach Alpha values of 0.7 and more, except for the three constructs of OC-LI (Legacy Issues), EC-SI (Supplier Issues), and EC-TE (Technology Effectiveness) with Cronbach Alpha values of 0.62, 0.60, and 0.62 respectively. For the purposes of this study these three constructs won't be considered any further in the proposed framework as a more reliable construct is required in terms of measurement. Constructs which displayed a good reliability with Cronbach Alpha values of 0.8 and more were OC-E (ICT Expertise), OC-CoI (Culture of Innovation), OC-MS (Market Share), OC-EM (Employee Morale), EC-CusP (Customer Pressure), EC-TF (Technology Flexibility), DMC-RP (Risk Propensity), DMC-U (Uncertainty), DMC-SN (Subjective Norms), and SC-C (Compatibility). Cronbach Alpha is not applicable to constructs which only had one question. Although this is not ideal, it was done in certain instances due to the sheer size of the questionnaire and considering this study is of an exploratory nature.

In terms of construct mean values, by far most constructs had an above neutral value, indicating that the respondents did very likely not agree that these constructs were reasons why their companies won't invest in OMT's. Constructs which had high mean values of between 3.7 and 3.9 were OC-LI (Legacy Issues), OC-R (Risk), OC-SQ (Service Quality), OC-MS (Market Share), OC-BI (Brand Image), EC-CP (Competitive Pressure), EC-RS (Regulatory Support), EC-TM (Technology Maturity), EC-TU (Technology Uniqueness), EC-GL (Geographical Location/Affiliation), DMC-A (Age), DMC-E (Experience), DMC-RP (Risk Propensity), DMC-

SN (Subjective Norms), DMC-MA (Management’s Approach to IT), DMC-SC (Security Concerns). These were the constructs where respondents did most likely not agree as reasons for not investing in OMTs. Constructs which had strong neutral mean values were OC-OS (Organisational Structure), EC-CoD (Channels of Distribution), and EC-TSE (Technology Self-Efficacy) with 3.1, 3.0, and 3.0 respectively. Constructs which had lower mean values were OC-E (ICT Expertise), OC-TR (Training), and EC-TV (Technology Visibility) with 2.8, 2.7, and 2.7 respectively. From a construct perspective it yet again emphasises that matters related to expertise, training, and technology visibility seem to be the most weighted hindering factors for businesses when it comes to investment in OMT’s.

Standard deviations are very low with all being below 0.4, except OC-OS (Organisational Structure). This is a good indication that the questions in the constructs related well and had similar answers, leading to a good normal distribution. Standard deviation is not applicable to constructs which had only one question.

### 3.9.3 Correlations and Linear Regression Analysis

The Spearman's rank-order correlation is the nonparametric version of the Pearson product-moment correlation. Spearman's correlation coefficient, ( $\rho$ , also signified by  $r_s$ ) measures the strength and direction of association between two ranked variables (Laerd Statistics, 2013). According to *Welman et al.* (210:234), a negative correlation between two constructs implies that as the one construct increases, the other one decreases (*Welman et al.*, 2010:234).

Table 4 measures the correlation between all constructs as in the proposed framework (cf. 2.5) with the TR construct of OMT adoption readiness. For the purposes of this study a correlation coefficient of 0.1 indicates a low correlation (no practical significant relationship), 0.3 a medium correlation (practical visible relationship), and 0.5 a high correlation (practical significant relationship) with the TR (OMT adoption readiness) construct. Table 4 also provides the R-Square value which presents a prediction of what percentage of the TR (OMT adoption readiness) construct can be predicted by any of the particular listed constructs in the proposed framework. An indication of the statistical significance in the form of the P-value is also provided. As a non-random sample was selected the P-values won’t be interpreted and are only reported for the sake of completeness.

		Correlation Coefficient ( $r_s$ )	R-Square	P-Value
<b>Organizational Context</b>				
OC-S	Size	-0.007	0.000	0.944

		<b>Correlation Coefficient (r<sub>s</sub>)</b>	<b>R-Square</b>	<b>P-Value</b>
OC-TP	Type	0.052	0.003	0.604
OC-F	Financial Commitment	0.082	0.007	0.412
OC-I	ICT Infrastructure	0.299	0.089	0.002
OC-E	ICT Expertise	0.185	0.034	0.061
OC-PC	Perceived Costs	0.148	0.022	0.136
OC-PS	Perceived Success	0.204	0.042	0.038
OC-TR	Training	-0.103	0.011	0.301
OC-CoI	Culture of Innovation	0.331	0.110	0.001
OC-SO	Strategic Orientation	0.077	0.006	0.440
OC-CC	Culture Compatibility	0.270	0.073	0.006
OC-RET	Returns	0.123	0.015	0.215
OC-RC	Resistance to Change	0.172	0.030	0.082
OC-C	Communication	0.196	0.038	0.047
OC-T	Time	0.363	0.132	0.000
OC-LI	Legacy issues	0.143	0.020	0.150
OC-CE	Cost Effectiveness	0.163	0.027	0.100
OC-OS	Organizational Structure	0.116	0.013	0.243
OC-CS	Corporate Status	0.189	0.036	0.056
OC-CON	Control	0.262	0.069	0.008
OC-R	Risk	-0.096	0.009	0.336
OC-MS	Market Share	0.078	0.006	0.434
OC-EM	Employee Morale	0.004	0.000	0.967
OC-CusC	Customer centricity	0.106	0.011	0.285
OC-SQ	Service quality	0.049	0.002	0.622
OC-BI	Brand Image	0.208	0.043	0.035
<b>Environmental Context</b>				
EC-CP	Competitive Pressure	0.206	0.042	0.037
EC-RS	Regulatory Support	0.084	0.007	0.397
EC-CusP	Customer Pressure	0.081	0.007	0.419
EC-TA	Technology Availability	0.109	0.012	0.274
EC-TM	Technology Maturity	0.152	0.023	0.124
EC-TS	Technology Seasonality	0.020	0.000	0.842
EC-TV	Technology Visibility	0.202	0.041	0.041
EC-SI	Supplier Issues	0.065	0.004	0.512
EC-CoD	Channels of Distribution	0.158	0.025	0.112
EC-S&C	Industry Standardization and Collaboration	0.157	0.025	0.113
EC-I	ICT Infrastructure	0.221	0.049	0.025
EC-TU	Technology Uniqueness	0.203	0.041	0.040
EC-TSE	Technology self-efficacy	0.045	0.002	0.652
EC-PP	Partner Pressure	0.098	0.010	0.326

		Correlation Coefficient ( $r_s$ )	R-Square	P-Value
EC-MP	Media Pressure	0.157	0.025	0.114
EC-TF	Technology flexibility	-0.004	0.000	0.967
EC-TE	Technology effectiveness	-0.040	0.002	0.688
EC-SC	Supply Chain	0.043	0.002	0.665
EC-GL	Geographical Location/Affiliation	0.015	0.000	0.881
EC-TPV	Technology promotional value	0.206	0.042	0.037
<b>Decision Maker's Context</b>				
DMC-A	Age	0.273	0.075	0.005
DMC-E	Education	0.121	0.015	0.225
DMC-Exp	Experience	0.261	0.068	0.008
DMC-RP	Risk Propensity	0.220	0.048	0.026
DMC-U	Uncertainty	0.062	0.004	0.533
DMC-SN	Subjective Norms	0.198	0.039	0.045
DMC-MA	Management Approach to IT	0.089	0.008	0.369
DMC-SC	Security Concerns	0.024	0.001	0.807
<b>System Context</b>				
SC-PA	Perceived Advantages	0.167	0.028	0.091
SC-C	Compatibility	0.130	0.017	0.190
SC-RC	Requirement for System Change	0.149	0.022	0.134
SC-B2B	B2B Capabilities	0.339	0.115	0.000

**Table 4: Correlation (R), R2, and P-Values (with construct TR)**

### 3.9.3.1 Organisational Context

From Table 4, under organisational context, the constructs which had a low correlation of between 0.1 and 0.15 (no real practical significant relationship) with construct TR (OMT adoption readiness) were:

1. OC-TR (Training): 1.1% of variance in TR construct can be explained by OC-TR as a reason not to invest in OMT's.
2. OC-RET (Returns): 1.5 % of variance in TR construct can be explained by OC-RET as a reason not to invest in OMT's.
3. OC-OS (Organisational Structure): 1.3% of variance in TR construct can be explained by OC-OS as a reason not to invest in OMT's.
4. OC-CusC (Customer Centricity): 1.1% of variance in TR construct can be explained by OC-CusC as a reason not to invest in OMT's.

From Table 4, under organisational context, the constructs which trended towards a medium correlation of between 0.15 and 0.29 (trended towards a practical visible relationship) with construct TR (OMT adoption readiness) were:

1. OC-E (ICT Expertise): 3.4% of variance in TR construct can be explained by OC-E as a reason not to invest in OMT's.
2. OC-PC (Perceived Costs): 2.2% of variance in TR construct can be explained by OC-PC as a reason not to invest in OMT's.
3. OC-PS (Perceived Success): 4.2% of variance in TR construct can be explained by OC-PS as a reason not to invest in OMT's.
4. OC-CC (Culture Compatibility): 7.3% of variance in TR construct can be explained by OC-CC as a reason not to invest in OMT's.
5. OC-RC (Resistance to Change): 3% of variance in TR construct can be explained by OC-RC as a reason not to invest in OMT's.
6. OC-C (Communication): 3.8% of variance in TR construct can be explained by OC-C as a reason not to invest in OMT's.
7. OC-CE (Cost Effectiveness): 2.7% of variance in TR construct can be explained by OC-CE as a reason not to invest in OMT's.
8. OC-CS (Corporate Status): 3.6% of variance in TR construct can be explained by OC-CS as a reason not to invest in OMT's.
9. OC-CON (Control): 6.9% of variance in TR construct can be explained by OC-CON as a reason not to invest in OMT's.

From Table 4, under organisational context, the constructs which had a medium correlation and higher of between 0.3 and 0.5 (practical visible to significant relationship) with construct TR (OMT adoption readiness) were:

1. OC-I (ICT Infrastructure): 8.9% of variance in TR construct can be explained by OC-I as a reason not to invest in OMT's.
2. OC-CoI (Culture of Innovation): 11% of variance in TR construct can be explained by OC-CoI as a reason not to invest in OMT's.
3. OC-T (Time): 13.2% of variance in TR construct can be explained by OC-T as a reason not to invest in OMT's.

### 3.9.3.2 Environmental Context

From Table 4, under environmental context, the constructs which had a low correlation of between 0.1 and 0.15 (no real practical significant relationship) with construct TR (OMT adoption readiness) were:

1. EC-TA (Technology Availability): 1.2% of variance in TR construct can be explained by EC-TA as a reason not to invest in OMT's.

From Table 4, under environmental context, the constructs which trended towards a medium correlation of between 0.15 and 0.29 (trended towards a practical visible relationship) with construct TR (OMT adoption readiness) were:

1. EC-CP (Competitive Pressure): 4.2% of variance in TR construct can be explained by EC-CP as a reason not to invest in OMT's.
2. EC-TM (Technology Maturity): 2.3% of variance in TR construct can be explained by EC-TM as a reason not to invest in OMT's.
3. EC-TV (Technology Visibility): 4.1% of variance in TR construct can be explained by EC-TV as a reason not to invest in OMT's.
4. EC-CoD (Channels of Distribution): 2.5% of variance in TR construct can be explained by EC-CoD as a reason not to invest in OMT's.
5. EC-S&C (Industry Standardisation and Collaboration): 2.5% of variance in TR construct can be explained by EC-S&C as a reason not to invest in OMT's.
6. EC-I (ICT Infrastructure): 4.9% of variance in TR construct can be explained by EC-I as a reason not to invest in OMT's.
7. EC-TU (Technology Uniqueness): 4.1% of variance in TR construct can be explained by EC-TU as a reason not to invest in OMT's.
8. EC-MP (Media Pressure): 2.5% of variance in TR construct can be explained by EC-MP as a reason not to invest in OMT's.
9. EC-TPV (Technology Promotional Value): 4.2% of variance in TR construct can be explained by EC-TPV as a reason not to invest in OMT's.

Under the environmental context there were no constructs with correlations of 0.3 and higher.

### **3.9.3.3 Decision Maker's Context**

From Table 4, under decision maker's context, the constructs which had a low correlation of between 0.1 and 0.15 (no real practical significant relationship) with construct TR (OMT adoption readiness) were:

1. DMC-E (Education): 1.5% of variance in TR construct can be explained by DMC-E as a reason not to invest in OMT's.

From Table 4, under decision maker's context, the constructs which trended towards a medium correlation of between 0.15 and 0.29 (trended towards a practical visible relationship) with construct TR (OMT adoption readiness) were:

1. DMC-A (Age): 7.5% of variance in TR construct can be explained by DMC-A as a reason not to invest in OMT's.
2. DMC-Exp (Experience): 6.8% of variance in TR construct can be explained by DMC-Exp as a reason not to invest in OMT's.
3. DMC-RP (Risk Propensity): 4.8% of variance in TR construct can be explained by DMC-RP as a reason not to invest in OMT's.
4. DMC-SN (Subjective Norms): 3.9% of variance in TR construct can be explained by DMC-SN as a reason not to invest in OMT's.

Under the environmental context there were no constructs with correlations of 0.3 and higher.

### **3.9.3.4 System Context**

From Table 4, under system context, the constructs which had a low correlation of between 0.1 and 0.15 (no real practical significant relationship) with construct TR (OMT adoption readiness) were:

1. SC-C (Compatibility): 1.7% of variance in TR construct can be explained by S-C as a reason not to invest in OMT's.

From Table 4, under system context, the constructs which trended towards a medium correlation of between 0.15 and 0.29 (trended towards a practical visible relationship) with construct TR (OMT adoption readiness) were:

1. SC-PA (Perceived Advantages): 2.8% of variance in TR construct can be explained by S-PA as a reason not to invest in OMT's.
2. SC-RC (Requirement for System Change): 2.2% of variance in TR construct can be

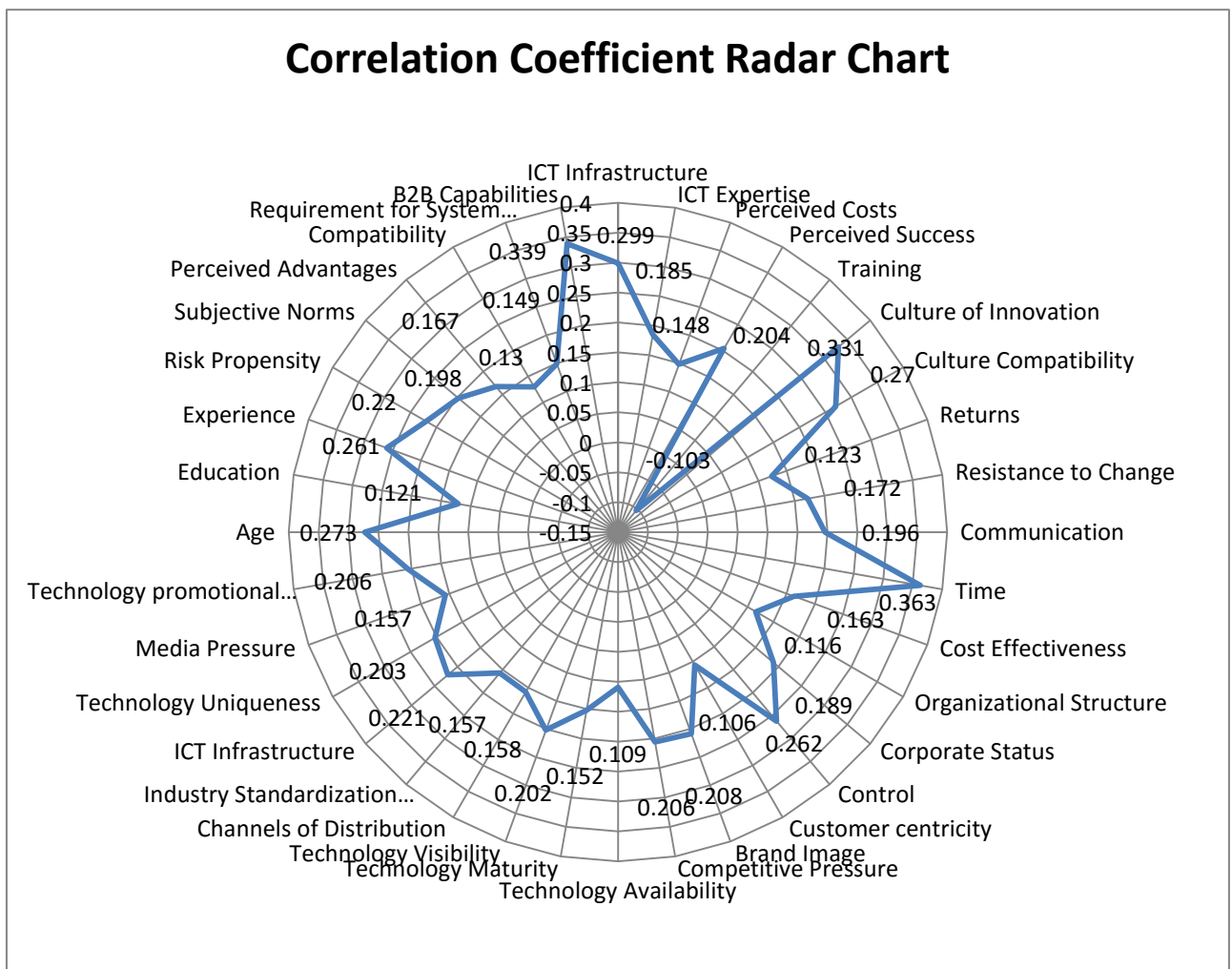
explained by S-RC as a reason not to invest in OMT's.

From Table 4, under system context, the constructs which had a medium correlation and higher of between 0.3 and 0.5 (practical visible to significant relationship) with construct TR (OMT adoption readiness) were:

1. SC-B2B (B2B Capabilities): 11.5% of variance in TR construct can be explained by S-B2B as a reason not to invest in OMT's.

### 3.9.3.5 Correlation and Regression Summary

It is clear that most constructs in the proposed framework (cf 2.5) correlates with the TR (OMT adoption readiness) construct to some degree, but not all listed constructs. This may require an amendment to the proposed framework in 2.5. Figure 11 below indicates all of the above listed constructs with correlations 0.1 and higher.



**Figure 11: Correlation Coefficient Radar Chart**

All of the aforementioned percentages for predicting OMT adoption readiness are considered individually and cannot only be added together to determine the collective contribution in predicting the TR construct. For this a multiple regression analysis was conducted in PHStat version 4.05 for all constructs with correlations 0.1 and higher. The multiple regression analysis is required to validate the proposed framework in 2.5 and to create a sound basis for further future studies. The adjusted R2 value reported as follow:

	<b>Multiple R</b>	<b>R-Square</b>	<b>Adjusted R-Square</b>
<b>All constructs with correlations 0.3 and higher</b>	0.5086	0.2586	0.2284
<b>All constructs with correlations 0.15 and higher</b>	0.6705	0.4496	0.2414
<b>All constructs with correlations 0.1 and higher</b>	0.7101	0.5042	0.2452

**Table 5: Multiple Regression R, R-Square, Adjusted R-Square Values**

From table 5 it is clear that the higher correlating constructs contributes significantly more in predicting OMT adoption readiness. 22.84% of the variation in OMT adoption readiness can be explained by all listed constructs with correlations 0.3 and higher, taking into account the sample size and number of independent variables. Adding constructs with correlations 0.15 and higher increases that percentage to 24.14% and adding constructs with correlations 0.1 and higher increases that percentage to only 24.52%.

### **3.10 Qualitative Analysis**

The objective of the qualitative analysis is to substantiate the quantitative analysis. Semi-structured interviews were conducted with hospitality businesses in the Cosmos area of Mpumalanga to determine current utilisation of OMT's and digital technologies, digital technology expectations, IT budget allocations, expected IT budget allocation growth in future, OMT adoption readiness, use of integrated OMT's, importance of customer engagement through the use of OMTs, reasons to invest or not invest in OMT's and advantages and disadvantages of using OMT's. Semi-structured interviews were conducted with 7 hospitality businesses in total, which were selected based on a non-random purposive sample. Categories of hospitality businesses selected for conducting the semi-structured interviews were:

Category 1: Micro (R0.20M and less turnover);

Category 2: Very small (<= R5.10M and > R0.20M turnover);

Category 3: Small ( $\leq$ R6M and  $>$  R5.10M turnover);

Category 4: Medium ( $\leq$ R13M and  $>$  R6M turnover);

Category 5: Big ( $>$ R13M turnover);

1 Micro, 2 very small, 2 small, 1 medium, and 1 big business were selected for conducting the semi-structured interviews.

### **1. Does the business need on-line marketing technology?**

Businesses in all 5 categories emphatically agreed that on-line marketing technology is a requirement for doing business in the modern era.

### **2. For what specifically?**

Businesses in all 5 categories mentioned that on-line technology is mostly used for marketing and bookings. Medium and big businesses specifically mentioned that the use of the OMT enablers (cf. 2.3.1) improves marketability of the business as a whole which they consider as a strong marketing tool. The big business indicated that their website is also used to reach people for promotional activities related to concerts, golf days, functions, and fundraisers.

### **3. Does your business make use of on-line marketing technology?**

Businesses in all 5 categories indicated that they make use of websites and on-line marketing technology. Specific technologies that are used are discussed in the next question.

### **4. What on-line marketing technologies does your business make use of, e.g. website, social media, Wifi, OTT, digital conference facilities, NFC technologies, cloud services, infrared sensors and robots, entertainment on tap, customer communication and automation services (like concierge in pocket), smart keys, digital and mobile technology, GPS, augmented reality, gamification, TRS, Google, context aware capabilities or content curation?**

Businesses in all 5 categories have websites. The micro to small businesses indicated that they advertise widely on many different platforms like LekkeSlaap (Travelground), TravelIT, Safari.com, Booking.com, TripAdvisor, Showme and that all of them have Facebook pages. The micro and small businesses indicated that they do marketing with Night's Bridge which puts the businesses in contact with approximately 300 travel agencies. The medium to big businesses indicated that their websites are their most popular on-line marketing tool and that most other

OMTs aren't their niche and do not really focus on their target market, although they do have Instagram, Facebook and Twitter pages.

Businesses in all 5 categories indicated that they offer free Wifi as all clients ask for this.

Businesses in all 5 categories mostly provide normal DSTV entertainment with only the medium business providing Entertainment on Tap in the form of Video on Demand.

Only the micro and very small businesses indicated they do not have digital conference facilities as they do not require this for their target market. Their facilities focus more on providing a relaxing and homely atmosphere for their specific target market. The small to big businesses indicated that digital conference facilities is a must for their target market.

None of the businesses in all 5 categories make use of NFC technology, infrared sensors, and robots.

One of the small businesses, the medium and big businesses indicated that they make use of cloud services. The cloud services, however, are more used for business administration purposes and acts as a server more than a platform to facilitate customer interaction and engagement.

Only the big business performs customer communication through feedback questionnaires in hard copy and digitally. They indicate that digital questionnaires are completed quickly and are returned better. Only the big and medium businesses make use of mobile applications for marketing in some form or the other, but not in the form of 'concierge in your pocket', however.

Only the big business indicated that they make use of smart keys, but this is a card rather than the use of a smart phone.

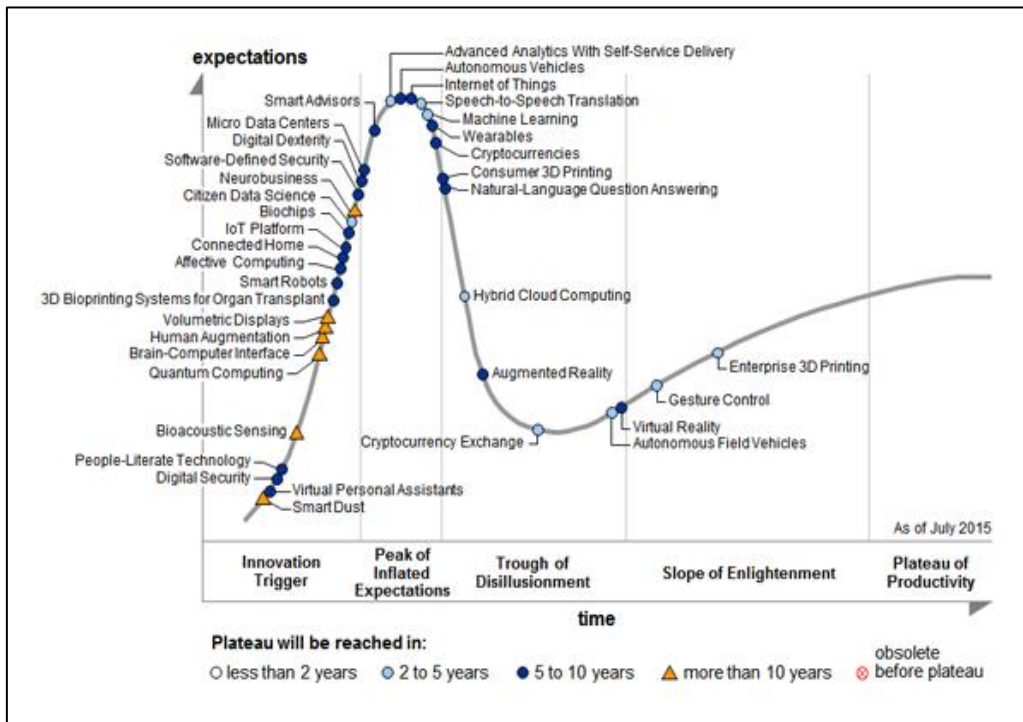
None of the interviewed businesses in all 5 categories make use of AR, TRS, or context aware capabilities and indicated that the associated cost is simply too high.

All of the businesses indicated they do some form of content curation, but more in a manual fashion and not by digital means. It can, therefore, not be considered as integrated technology with other digital platforms.

One of the very small, small, medium, and large businesses indicated they make use of organic search engine results to improve on-line visibility. This is done by means of constantly improving website content to represent key search phrases on search engines like Google, also called SEO.

All of the businesses in 5 categories indicated that they have or still are making use of on-line advertising platforms like Google Adwords where the business pay on a ‘per click’ basis.

## 5. Which of the following technologies are you familiar with?



**Figure 12: Hype Cycle for Emerging Technologies, 2015 (Gartner, 2015)**

Micro to small businesses indicated that they are familiar with digital security (understanding thereby firewalls and passwords and the normal vigilance when working on e.g. banking sites), smart robots (like kettles and such that can be programmed), software defined security, wearables, hybrid cloud computing (mostly for bookkeeping and business administration purposes), augmented and virtual reality.

Medium to big businesses indicated familiarity with digital security, software-defined security, IoT, advanced analytics with self-service delivery, autonomous vehicles, speech to speech translation, wearables and consumer 3D printing. They did, however, indicate that their businesses are not close to operating in the realm of the aforementioned technologies. Notable was that they only consider implementation of technologies that are used or demanded by their customers.

## 6. Which of these create the highest expectations for your business?

Micro to small businesses indicated that they have the highest expectations for digital security and cloud computing, especially considering security concerns when it comes to utilisation on-line technologies. Cloud computing also provides a form of security considering secure storage

of all information. Micro to small businesses feel they do not need such advanced technology at this stage.

Medium to big businesses indicated that augmented and virtual reality would be desirable for them, but that they simply could not afford it at this stage. The big business mentioned that some other big businesses in their group of companies do, however, already make use of augmented reality in the form of virtual tours on their websites.

### **7. What percentage of your budget is used for on-line marketing technology?**

The micro and very small businesses estimated that they use about 50% of their marketing budgets on OMTs. The rest goes towards business cards and signboards.

The small to big businesses estimated about 40% of their marketing budget goes towards on-line marketing and advertising. They spend about 60% on banners, sign boards, business cards and traditional print locally and nationally (newspapers and magazines).

### **8. Has your on-line marketing budget increased over the last 5 years?**

The micro and very small businesses indicated that their on-line marketing budgets have not really increased over the last 5 years, as many of the sites market for free and only ask commission on successful bookings. They incorporate the commission amount into the price to make up for it. Customers also tend to come back after making use of the guest houses once.

All small to big businesses however indicated that as technology advances, they add those features that can serve their needs.

### **9. On a scale of 1-5 (1= strongly agree, 5= strongly disagree) how ready is your business to adopt on-line technology?**

Out of the 7 businesses interviewed, 6 strongly agreed and 1 agreed that they are ready to adopt on-line technology. They did, however, indicate that they are not ready yet to adopt most advanced emerging technologies as per the hype cycle in figure 12, especially those where the plateau will only be reached after 5 years. What is also clear from all business's responses is that it is not yet required for their specific target markets in South Africa and therefore, they will not adopt it yet. The medium and big business noted that they would like to be early adopters of technologies such as augmented reality as they believe this could create a demand even though the demand may not exist yet.

## **10. Does your business use Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems with integrated on-line marketing technology?**

Because all micro and very small business are run by a very small staff compliment, they do not have ERP and CRM systems implemented. The owners, or in a few cases managers, prefer to personally manage relationships with customers and also prefer to manage the business more manually. Decentralising business functions is a concern to them as they would have less control and would have to invest more in training.

One of the small businesses indicated that they are planning to implement Facebook Workplace as a trial to better connect the workplace.

The medium and big businesses use intranet to connect staff and also send out a monthly newsletter to guests via bulk e-mail. No separate systems are set up for these but are done by conventional means.

In summary, none of the businesses interviewed really have an integrated on-line solution focused on customer engagement and management.

## **11. Do you think it is important for your customers to engage on-line with your business? How do they do it?**

Businesses in all 5 categories believed it is extremely important to engage on-line with their customers.

The micro to small businesses agreed that the interactive platform is mostly provided by websites with travel review functions such as TripAdvisor, as well as their Facebook and Twitter pages. Bookings and payments are also automatically communicated via e-mail.

The medium and big businesses also indicated that they make use of their pages on social networks, as well as their websites to engage with customers.

## **12. Does your business facilitate this?**

As explained in the previous question, social network pages, travel review websites, and company websites are the most popular tools for customer engagement amongst the interviewed businesses.

### **13. List the barriers why you will not adopt on-line marketing technologies.**

Amongst the micro to small businesses interviewed, the following were the most prominent reasons why they won't invest in OMT's:

1. They don't need a specific application or programme;
2. Their businesses are too small;
3. They do not trust decentralising business functions;
4. They want control of all aspects of their businesses;
5. They have a set customer base;
6. They are mostly fully booked;
7. Their niche market has specific needs;
8. Their customers rarely communicate on-line;
9. Customer feedback mostly happens in person;
10. A registered hospitality ranking brings enough customers;
11. Training for new workers is expensive;
12. New technologies that they know about are too expensive;
13. They don't need new technologies;
14. They prefer to use people for smaller menial tasks as this provides incomes for job seekers;
15. On-line marketing technologies don't substitute the human touch;
16. Customers prefer human interaction to high-tech.

Amongst the medium to big businesses interviewed, the following were the most prominent reasons why they won't invest in OMT's:

1. Their niche market has specific needs;
2. New technologies are too expensive;
3. Other revenue streams are their main revenue;
4. Uncertainty about the ROI for new technologies;
5. It is not a requirement from the customer;
6. Training for new OMTs.

### **14. List the drivers why you will adopt on-line and digital marketing technologies**

Amongst the micro to small businesses interviewed, the following were the most prominent reasons why they will invest in OMT's:

1. Technology specifically geared towards their niche market;

2. Low cost structures with an effective return, i.e. commission structures rather than fixed price options
3. Wide audience outside local boundaries;
4. User friendly;
5. Trustworthiness;
6. Technology cascading, i.e. marketing across several platforms automatically
7. Quick, easy, and secure payments.

Amongst the medium to big businesses interviewed, the following were the most prominent reasons why they will invest in OMT's:

1. Their customers prefer convenient and practical interaction;
2. Many technological advances are geared towards their needs;
3. Technology can provide the first mover competitive edge;
4. International reach;
5. New advanced technology sells itself;
6. Human contact in the facility underscores guests' opinion of the facility (i.e. staff have to be professional)

### **15. Are there more advantages than disadvantages for using on-line marketing technologies?**

All businesses in all 5 of the categories agreed that there are more advantages than not. All agreed that there are more advantages if you choose the right technologies for your needs. All of the businesses, micro to big, also agreed that none of their businesses can function successfully without the use of OMT's. All agree that on-line technology is the reality of the modern hospitality business era and there is no escaping it.

### **3.11 Conclusion**

This chapter reported and discussed the results of the empirical study. It was attempted to select the demographic profile equally in terms of the towns in the Cosmos are of Mpumalanga as defined in 1.7.3 and the type of company. Most of the respondents were senior managers within hospitality businesses in this area. Most of the respondents were not part of groups or chains of companies and did not have corporate status. The findings also indicated that most businesses were very small to medium in terms of revenue and had IT budgets of between R10 000 and R100 000.

Secondly, the study found that infrared detectors, applications for smart wearable technology and smart room keys are not really yet utilised in the hospitality industry, while digital booking platforms, integrated digital facilities with the Internet, and Wi-Fi are well adopted within the industry in the Cosmos area of Mpumalanga.

Thirdly, the study found that Periscope is not yet adopted in the hospitality industry of the Cosmos area of Mpumalanga, except for 2 respondents. Less than half of respondents make use of SEO, digitally tracking customer lifestyle activities, traveller recommender systems, RSS feeds, community websites, video-sharing websites, and Facebook's Graph Search. Most of the respondents indicated they make use of social networks, information channels such as on-line travel agencies, travel search engines, newspaper/magazine sites, and travel review sites.

Fourthly, the study found that the following are most likely considered as factors hindering hospitality businesses in the Cosmos area of Mpumalanga to adopt OMTs: 1) Lack of employee skills in ICT; 2) Lack of managerial skills in ICT; 3) Difficulty in recruiting skilled ICT personnel; 4) Difficulty in retaining skilled ICT personnel; 5) Employees are not trained to use OMTs; 6) Unavailability of training resources and facilities; 7) Companies do not have a department to focus on the use of OMTs; 8) There is a general lack of information about OMTs in the market; 9) OMTs are not well advertised in the market; 10) On and offline, people don't seem to talk too much about OMTs; 11) There is a lack of services and support from local suppliers of OMTs; 12) Availability of channels to access the company's customers when using OMTs is difficult; 13) The company requires more intelligence from OMTs.

Fifthly, most constructs displayed a satisfactory reliability with Cronbach Alpha values of 0.7 and more, except for the three constructs of OC-LI (Legacy Issues), EC-SI (Supplier Issues), and EC-TE (Technology Effectiveness) with Cronbach Alpha values of 0.62, 0.60, and 0.62 respectively.

Sixthly, most respondents indicated they were technology ready with a TR construct mean of 3.6. Various constructs correlated with the TR (OMT adoption readiness) construct as outlined in 3.6.3, with notably the highest correlations being OC-I (ICT Infrastructure), OC-CoI (Culture of Innovation), OC-CC (Culture Compatibility), OC-T (Time), OC-CON (Control), DMC-A (Age), DMC-Exp (Experience), S-B2B (B2B Capabilities) as reasons not to invest in technology. The qualitative study supported some of the quantitative results with some additional insights gained.

### **3.12 Chapter Summary**

The research methodology and findings of the empirical study were the focus of this chapter. The procedure and scope of the quantitative and qualitative research were discussed, after which a discussion on the population, sampling plan, measurement instrument (a survey questionnaire), and data analyst followed.

Next, the demographic profile of respondents was analysed, followed by the empirical research results. The empirical research results reported on the adoption of enablers to OMT's, as well as the adoption of OMT's. OMT readiness factors were discussed then, followed by the determination of reliability and internal consistency of the constructs in the proposed OMT adoption readiness framework.

Subsequently, the study reported on the correlation between the various constructs in the OMT adoption readiness framework with the OMT adoption readiness (TR) construct. A simple linear regression model also reported on how much of the OMT adoption readiness (TR) construct can be predicted by the constructs outlined in the OMT adoption readiness framework.

Lastly, the results of the semi-structured interviews for the qualitative analysis were reported on.

## CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Introduction

The primary objective was to determine the readiness of businesses in the hospitality industry in Mpumalanga, South Africa to adopt on-line marketing technology. This chapter will focus on discussing and concluding this objective. The secondary objectives were firstly to determine how on-line, Internet, digital, virtual, and e-marketing technologies and trends are conceptualised within the literature, secondly to determine what digital and on-line marketing technologies are available for businesses in the hospitality industry, thirdly to determine what interactive digital and on-line marketing technologies are currently used by businesses in the hospitality industry in Mpumalanga, South Africa, fourthly to identify factors which can contribute in predicting on-line marketing technology adoption readiness, fifthly to identify the drivers and barriers (both physical and psychological) to businesses to adopt on-line marketing technologies, sixthly to construct an on-line marketing technology adoption readiness framework from available literature, seventhly to conduct qualitative research for substantiating current theory and the empirical results, eighthly to validate and amend the proposed on-line marketing technology adoption readiness framework based on the empirical results, ninthly to provide recommendations for the hospitality industry in Mpumalanga, South Africa, for the adoption of on-line technologies, and lastly to identify areas for future research, specifically related to the adoption of on-line marketing technologies in the rest of South Africa, and even Africa. This chapter will specifically focus on discussing and concluding secondary objective 7, and achieving secondary objectives 8, 9 and 10.

The literature study in Chapter 2 covered the historical context within which the Web has evolutionised from Web 1.0 to Web 2.0, and into Web 3.0, which is still in progress. Current digital technologies and trends, specifically aligned to the hospitality industry, were discussed. Various digital technologies were discussed in more detail, as they are relevant for the hospitality industry. Next, on-line technology readiness and its determining factors were discussed in detail. Further literature studies were used to identify other factors that are needed for the hospitality industry to adopt digital technologies. Some benefits of digital business in the hospitality industry were then discussed. Finally, barriers and drivers regarding digital technology adoption in the hospitality industry were discussed. In Chapter 3 the findings of the empirical study were analysed and discussed in relation to literature discussed in Chapter 2.

As per the layout of the study discussed in 1.8, Chapter 4 will focus on conclusions of the study based on the literature study and empirical findings, as well as managerial and theoretical

implications with regards to the findings, and recommendations for potential future research on the topic.

## **4.2 Conclusions in Terms of Study Objectives**

The first secondary objective as discussed in 1.6.2 was achieved by determining how on-line, Internet, digital, virtual, e-marketing technologies and trends are conceptualised within the literature, specifically within the contexts of Web 2.0 and Web 3.0 technology, ubiquitous Internet and the Internet of Things (IOT), which are all related concepts in the sense that it refers to web technology which is everywhere, connected to almost everything, smart, and integrated. There are clear labels and acronyms abound in this field of technology.

Within these aforementioned contexts, the second secondary objective was met in determining what digital and on-line marketing technologies are available for businesses in the hospitality industry as outlined in 2.3. Many of these digital technologies and OMT's were considered from studies performed in foreign countries.

In achieving objective three, it was clear that only 33% of respondents make use of the OMT enablers considered for this study as shown in the empirical results from 3.6.1.1, and 50% of respondents make use of the OMT's as shown in 3.6.1.2. For the purposes of this study, results from the following factors will be interpreted to determine if the low adoption rate is due to these technologies only being utilised and available in foreign markets: 1) Technology Availability; 2) Technology Maturity; 3) Technology Visibility; 4) Customer Pressure; 5) ICT Infrastructure (External); 6) Industry Standardisation and Collaboration; and 7) Geographical Location and Affiliation. The aforementioned constructs had mean values of 3.5, 3.7, 2.7, 3.6, 3.3, 3.5, and 3.9 respectively. This indicated that most respondents believed that none of the factors above, except technology visibility, are reasons they would not invest in digital technologies and OMT's. It can, therefore, be concluded that most of the digital technologies and OMT's are available to the respondents' exposure, as well as the necessary infrastructure and that neither customer pressure, technology maturity, industry standardisation, nor geographical location are reasons they would not invest in digital technologies or OMT's. The results for the "Customer Pressure" factor from the quantitative study differs, however, from the information obtained from the qualitative study. From the qualitative study respondents indicated that customers do have an influence; if customers do not make use of the technology, the hospitality businesses won't either. Customers, however, believe that the technologies are not visible enough to them, on and off-line, in order to convince them that they should invest in them. The reasons for not investing in technologies are

concluded in the fourth secondary objective and also how these factors can assist in predicting technology readiness.

Objective four was achieved by identifying factors which could potentially correlate well with OMT adoption readiness. This was done by means of taking Zhu and Kraemer's framework (2005:66) and the two modified versions thereof (Fuchs *et al.*, 2010:168; Fuchs *et al.*, 2014:816) which depicted e-business-readiness frameworks. For the purposes of this study, it was assumed that a business would be e-business ready if all factors of these frameworks were satisfied (cf. 2.4.1).

In conjunction with objective four, objective five and six were achieved by conducting further literature study regarding the benefits of digital businesses, as well as drivers and barriers to adopt information technology and were used to determine how Zhu and Kraemer's framework could be adapted. For the purposes of this study, it was assumed that the disregarding of the benefits of digital business, the presence of barriers to adopt information technology, and the absence of drivers to adopt information technology may lead to businesses' not being ready to adopt on-line marketing technologies and was subsequently used to theoretically derive potential factors which could predict OMT adoption readiness. Table 1 shows the proposed OMT adoption readiness framework.

Objective seven was achieved by conducting a qualitative study. The main findings of the qualitative study were firstly that some of the barriers to technology adoption matched those discussed in the literature study. The barriers to technology adoption which matched those from the literature study were: 1) Size; 2) Control; 3) Requirement for Change; 4) Customer Pressure; 5) Technology Uniqueness; 5) Cost Effectiveness; and 6) Returns. Some small and larger companies, however, had varying opinions regarding "Cost Effectiveness" and "Returns". Some smaller companies believed on-line technology provide cost effective options with good returns, i.e. on-line companies performing sales for them on a commission structure. The aforementioned listed barriers to on-line technology adoption weren't seen though as reasons not to invest in OMT's, according to most respondents participating in the quantitative research.

With reference to the Hype Cycle for Emerging Technologies (Gartner, 2015) in Figure 1 and 12, the qualitative research also showed that micro to small businesses had the highest expectations regarding digital security and cloud computing on the hype cycle. According to Gartner (2015), both digital security and cloud computing are far from the peak of expectations. Medium to big businesses indicated that augmented and virtual reality would be desirable for

them and that they had the highest expectations for these. Both augmented and virtual reality are also far from the peak of expectations, according to Gartner (2015).

In achieving objective eight a correlation study and linear regression was conducted in 3.6.3 between all listed constructs in the proposed OMT adoption readiness framework. To validate the proposed framework from in 2.5, a multiple regression was conducting to determine how the constructs collectively contribute in predicting OMT adoption readiness. The following constructs had small to just higher than medium correlations with the OMT adoption readiness construct and can collectively explain 24.52% of the variance in OMT adoption readiness:

1. OC-I: ICT Infrastructure
2. OC-E: ICT Expertise
3. OC-PC: Perceived Costs
4. OC-PS: Perceived Success
5. OC-TR: Training
6. OC-CoI: Culture of Innovation
7. OC-CC: Culture Compatibility
8. OC-RET: Returns
9. OC-RC: Resistance to Change
10. OC-C: Communication
11. OC-T: Time
12. OC-CE: Cost Effectiveness
13. OC-OS: Organizational Structure
14. OC-CS: Corporate Status
15. OC-CON: Control
16. OC-CusC: Customer centricity
17. OC-BI: Brand Image
18. EC-CP: Competitive Pressure
19. EC-TA: Technology Availability
20. EC-TM: Technology Maturity
21. EC-TV: Technology Visibility
22. EC-CoD: Channels of Distribution
23. EC-S&C: Industry Standardization and Collaboration
24. EC-I: ICT Infrastructure
25. EC-TU: Technology Uniqueness
26. EC-MP: Media Pressure

27. EC-TPV: Technology promotional value
28. DMC-A: Age
29. DMC-E: Education
30. DMC-Exp: Experience
31. DMC-RP: Risk Propensity
32. DMC-SN: Subjective Norms
33. SC-PA: Perceived Advantages
34. SC-C: Compatibility
35. SC-RC: Requirement for System Change
36. SC-B2B: B2B Capabilities

For the purposes of this study and future studies, these constructs will be kept in the proposed OMT adoption readiness framework, together with the constructs from the literature review. The reason for this is that future studies with bigger samples and populations may still find constructs valid from the literature review in this study. Constructs from the literature review and empirical study forms the following OMT adoption readiness framework in table 6 (Red-Theory not proved in empirical results; Green-Proved empirical Results; Strikethrough-Original Proposed Framework, not proved by theory or empirical results):

OMT ADOPTION READINESS			
Organizational Context		Environmental Context	
OC-S	Size	EC-CP	Competitive Pressure
OC-TP	Type	EC-RS	Regulatory Support
OC-F	Financial Commitment	EC-CusP	Customer Pressure
OC-I	ICT Infrastructure	EC-TA	Technology Availability
OC-E	ICT Expertise	EC-TM	Technology Maturity
OC-PC	Perceived Costs	EC-TS	Technology Seasonality
OC-PS	Perceived Success	EC-TV	Technology Visibility
OC-TR	Training	EC-SI	Supplier Issues
OC-CoI	Culture of Innovation	EC-CoD	Channels of Distribution
<del>OC-SO</del>	<del>Strategic Orientation</del>	EC-S&C	Industry Standardization and Collaboration
OC-CC	Culture Compatibility	EC-I	ICT Infrastructure
OC-RET	Returns	EC-TU	Technology Uniqueness
OC-RC	Resistance to Change	EC-TSE	Technology self efficacy
OC-C	Communication	EC-PP	Partner Pressure
OC-T	Time	EC-MP	Media Pressure
<del>OC-LI</del>	<del>Legacy issues</del>	EC-TF	Technology flexibility
OC-CE	Cost Effectiveness	EC-TE	Technology effectiveness

OC-OS	Organizational Structure	EC-SC	Supply Chain
OC-CS	Corporate Status	EC-GL	Geographical Location/Affiliation
OC-CON	Control	EC-TPV	Technology promotional value
OC-R	Risk		
OC-MS	Market Share		
OC-EM	Employee Morale		
OC-CusC	Customer centricity		
OC-SQ	Service quality		
OC-BI	Brand Image		
<b>Decision Maker's Context</b>		<b>System Context</b>	
DMC-A	Age	SC-PA	Perceived Advantages
DMC-E	Education	SC-C	Compatibility
DMC-Exp	Experience	SC-RC	Requirement for System Change
DMC-RP	Risk Propensity	SC-B2B	B2B Capabilities
DMC-U	Uncertainty		
DMC-SN	Subjective Norms		
DMC-MA	Management Approach to IT		
DMC-SC	Security Concerns		

**Table 6: Amended OMT adoption readiness Framework**

All of the following constructs, proven empirically to contribute in predicting OMT adoption readiness, support the previous e-business readiness frameworks:

1. ICT Infrastructure (Organisational Context)
2. ICT Expertise (Organisational Context)
3. Perceived Costs (Organisational Context)
4. Perceived Success (Organisational Context)
5. Competitive Pressure (Environmental Context)
6. Age (Decision Maker's Context)
7. Education (Decision Maker's Context)
8. Experience (Decision Maker's Context)
9. Risk Propensity (Decision Maker's Context)
10. Perceived Advantages (System Context)
11. Compatibility (System Context)

Size (Organisational Context) and Customer Pressure (Environmental Context) as constructs from the literature study were supported by the findings of the qualitative study.

Objective 8 very much supported the primary objective in the sense that the average of the 36 constructs (all constructs with correlations higher than 0.1 with construct TR) will count as a weight to predict OMT adoption readiness. The average of these 36 constructs is 3.5. Considering all 36 constructs collectively, they predict a 17% readiness to adopt OMT's ( $3.5/5 \times 0.2452$ ), but only because the significant constructs (with correlations 0.1 and higher) only contribute 24.52% collectively in predicting the variance in OMT adoption readiness. The average of construct TR (OMT adoption readiness) is 3.6 which indicate that most respondents believe they are on-line technology ready. Using 3.6 as a weight, translates to  $(3.6/5 \times 100)$  72% OMT adoption readiness according to the TR construct measured. This theoretically indicates that 55% of the respondents' OMT adoption readiness is determined by something not measured in this study.

### **4.3 Theoretical Implications**

The main theoretical implication of this study is that it contributed to identifying factors which could predict OMT adoption readiness. The proposed amended OMT adoption readiness framework provides a sound basis to further test these constructs in the hospitality industry in different regions and to explore missing constructs which could help in predicting OMT adoption readiness. Because of the exploratory nature of this study, it may even be considered to test the original proposed framework in different regions, and in different industries. In summary, the exploratory framework provides a sound academic tool that can be used by academia to further explore OMT adoption readiness and the missing constructs to complete the OMT adoption readiness framework.

### **4.4 Managerial Implications**

The OMT adoption readiness framework was developed from an in-depth literature study that identified 58 potential OMT adoption readiness constructs. The empirical results then showed that the original proposed framework can be reduced to 41 constructs, assuming that the original e-business readiness factors identified in the literature may still be valid. This methodology firstly has a specific managerial application, because managers aiming to measure OMT adoption readiness constructs in their enterprises could use the selected 41 OMT adoption readiness constructs identified by this study to do so, although it is evident that further research is still required to identify missing constructs from this framework. Secondly, the measuring criteria and OMT adoption readiness factors were empirically validated, and the data confirmed to be reliable. This allows for practical application of these factors when managers need a sound basis for determining their enterprises' OMT adoption readiness. Thirdly, the correlation

coefficient radar chart can be used to rank the order of importance of the OMT adoption readiness factors based on the correlation weights and provide managers with a scientific base for specific areas to focus on. In summary, the exploratory framework provides a sound managerial tool that can be used by managers to measure some degree of OMT adoption readiness. Although the framework requires further research and validation in the hospitality and other industries, it could already be utilised to provide managerial insight in preparation for on-line marketing technology adoption.

#### **4.5 Limitations and Recommendations for Future Research**

The limitations and implications for further research must be identified and considered when making recommendations and conclusions in empirical research. Although owners, directors, senior managers and IT managers of hospitality businesses in the Cosmos area of Mpumalanga in South Africa participated in this study, the findings reported cannot be generalised to the broader hospitality industry in Mpumalanga or South Africa, due to the use of a non-probability purposive sample. It is recommended that future studies focus on larger probability sample in order to be more representative of the population.

The second limitation of the study is that the proposed OMT adoption readiness framework in 2.5 and the amended framework in 4.2 may still yield different results if tested on a larger probability sample under different conditions. It is, therefore, recommended that the originally proposed and amended frameworks be further tested and validated in order to confidently use it as a prediction tool for OMT adoption readiness.

The third limitation of the study is that the current amended framework's constructs can only be used to predict 24.52% of the variance in the OMT adoption readiness construct. Although this study could fairly accurately say that the respondents are 72% ready to adopt on-line technology, the amended framework could only predict 17% of that. It is, therefore, recommended that further research focus on the missing constructs which could help in predicting OMT adoption readiness.

Although most constructs showed good reliability, it is not ideal to use one or two questions under a construct. Many constructs in the questionnaire had only one or two questions. It is recommended that future research test each of the constructs with at least more than 2 questions.

Predicting OMT adoption readiness from only the digital technologies listed in 2.3 won't yield accurate results across the broad spectrum of businesses investigated and studies focusing on the more specific needs of specific businesses will be able to determine this. For example, it was

very clear how the needs differ between small and very large hospitality businesses. It is recommended that future studies break the scope down of this study and only investigate hospitality businesses in a focused niche market to understand the business and the customer better.

This study explored an extensive list of constructs to try and determine which constructs could help to predict OMT adoption readiness. Some constructs may overlap and it is recommended to test and interpret correlations between various constructs and conduct a factor analysis to potentially reduce the number of constructs which could help to predict OMT adoption readiness.

A construct like technology effectiveness consists of three separate constructs i.e. performance, importance, complexity. As the questions for technology effectiveness were set up to cover these three constructs, they did not necessarily measure the same thing individually; hence a poor reliability was obtained for technology effectiveness. It is proposed that the three constructs measuring technology effectiveness are explored in future to determine if they can potentially contribute in predicting on-line technology readiness.

A construct like legacy and supplier issues are perhaps too wide a field to attempt and measure it under one construct, hence the poor reliability. Future studies may attempt to break it down into smaller constructs to potentially contribute in predicting on-line technology readiness.

#### **4.6 Conclusion**

The aim of this study was to investigate whether hospitality businesses in Mpumalanga are ready to adopt OMT's.

Exploratory research was done firstly to investigate the degree to which digital technologies are adopted within the industry, as well as physical or psychological factors which might hinder the adoption of OMT's in Mpumalanga. The findings of the survey conducted confirmed that several of the initial constructs considered in the proposed OMT adoption readiness framework were not applicable to OMT adoption readiness. Those constructs were removed from the original OMT adoption readiness framework and an amended OMT adoption readiness framework was put forward. This amended framework's results indicated that hospitality businesses are 72% ready to adopt OMT's, although the limitations already highlighted that the OMT adoption readiness frameworks used in the study should focus on exploring more constructs which could help to predict OMT adoption readiness, as the amended framework in this study could only help to predict 24.52% of the variance in the OMT adoption readiness construct i.e. 17% of the 72%.

Recommendations towards further exploration of the OMT adoption readiness framework and to break future studies down to focus more on niche hospitality markets were made. Further recommendations were made towards how certain constructs may be approached and broken down in future to potentially assist in improving the OMT adoption readiness framework. Furthermore, it can be concluded that all research objectives as set out in 1.6 were satisfactorily met.

#### **4.7 Chapter Summary**

In this chapter, the findings of the literature review, as well as the empirical research were summarised in terms of how all the study objectives were met. Theoretical and managerial implications of the findings were discussed on how contributions were made to current literature and also how practice could benefit from these contributions.

Furthermore, limitations and recommendations for future research were discussed in terms of sample and population considerations, further testing of proposed and amended OMT adoption readiness frameworks in future research, exploration of missing constructs to predict OMT adoption readiness, the number of survey questions per construct, research scope considerations towards hospitality niche markets, testing for potential overlapping of constructs used in proposed and amended OMT adoption readiness frameworks, and specific construct considerations.

Finally, conclusions were drawn in terms of the main findings on how the objectives of the study were successfully met, taking into consideration the limitations as listed.

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