

THE KEY DETERMINANTS OF AND BARRIERS TO INTERNET ADOPTION IN SMALL AND MEDIUM- SIZED HOTELS

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The present paper presents qualitative empirical evidence that addresses why internet usage/adoption is low and how it can be improved in small and medium-sized hotels in Malaysia. It explores the key barriers to and influencing factors of internet adoption in a sample of 25 Malaysian small and medium-sized hotels based on a theoretical framework of the organisational innovation and resource-based view theories. Key barriers to internet usage include owner/operator characteristics, cost and investment, firm size and internet access. Operator/user's assessment of perceived resource readiness, perceived potential utility and perceived performance seem to be the key influencing factors. The proposed holistic internet adoption framework also serves as a novel tool and a useful guide for individuals and ICT policymakers for improving and implementing e-commerce/internet. This paper adds to the internet adoption and decision literature and advances the theoretical and practical understanding of internet usage in small and medium-sized hotels, but requires further validation in other countries.

Keywords: *barriers in internet adoption, internet usage and adoption in SME hotels, internet adoption framework, key influencing factors, SME hotels in Malaysia*

JEL Classification: *L83, M1, O1*

INTRODUCTION

The advent of the Internet has had a transformative effect on the travel and hospitality industry and has brought about fundamental changes in terms of market reach and operational efficiency (Porter, 2001; Buhalis and Law, 2008). Noticeably, it has brought about many benefits

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to businesses such as a reduction in operational and communication costs, the maximisation of internal efficiency, easy access to information and a reduction in the cost of updating brochures and pamphlets (Rocha and Victor, 2010). The Internet has also become an important tool to market and distribute travel and hospitality products and services to consumers of small and medium-sized enterprises (SMEs; Chaffey, Mayer, Johnson and Chadwick, 2000). Tan and Eze (2008) documented that information communication technology (ICT) adoption among SMEs in Malaysia provides new business opportunities and access to market information and knowledge, similar to that of large hotels. Nevertheless, the actual usage of the Internet is limited in SMEs compared with large hotels. Business transactions via the Internet (e-commerce and e-business) are still rare among SMEs in Malaysia (Tan and Eze, 2008) and they generally place little emphasis on the use of ICT (Chin, 2010).

One way of explaining this is through the study of factors influencing internet adoption from the user's perspective. It can be contended that understanding 'why' and 'how' in relation to internet adoption is important to promote and encourage the efficient use of the internet. The adoption of the internet by SMEs in any context is likely to be influenced by numerous factors because of contextual differences. Hence, a clear understanding of internet usage, together with a more holistic conceptual framework that explains the key determinants of internet usage or adoption and SMEs' general dispositions towards internet usage, is an important issue and research agenda.

Previous studies have explored internet use by SMEs (Tan and Eze, 2008) and small tourism enterprises (Karanasios and Burges, 2006; Kim, 2006; Ma, Buhalis and Song, 2003), but studies have been sparse on internet adoption in small and medium-sized hotels in Malaysia. The developed framework for e-technology adoption by SMEs (Rashid and Al-Qirim, 2001) may not be applicable to the small and medium-sized hotel context in Malaysia (Chan, 2008a). Elsewhere, there has been a growing number of studies on ICT and internet use; most of these studies are conceptual or managerial in their approaches (Chircu and Kauffman, 2000) and focus on e-markets from the market marker's standpoint or user's perspective (Bloch and Catfolis, 2001).

It has been argued that internet adoption may be closely affected by the user's assessment of perceived performance, perceived potential utility and perceived resource readiness, as pointed out by Guo and Xu (2010). E-marketing and internet-based business transactions and activities are becoming more pertinent and diffused among SMEs worldwide. Hence, in order to enhance internet adoption or usage,

understanding the underlying key determinants or influential factors becomes imperative.

RESEARCH OBJECTIVES AND QUESTIONS

The objectives of this paper are a) to describe the underlying factors affecting internet adoption and implementation from operators' perspectives; b) to explain the key barriers to internet adoption among small and medium-sized hotels; and c) to propose a holistic framework that facilitates the understanding of internet adoption and serves as a useful guide to adopting and improving internet usage within the hotels sector. This research aims to address why the Internet is not widely used or adopted by small and medium-sized hotels and understand the key barriers faced in the usage and adoption of the internet.

INTERNET USAGE IN THE HOTELS SECTOR

With the development of ICT and a knowledge-based economy, ICT is becoming an increasingly important tool for national economic growth (UNDP, 2007) and it has implications for the growth of the tourism and hospitality industry in many ways (Chan, 2008a). Law and Chung (2003) pointed out that in this internet era, guests can reserve hotel rooms directly from their own computers anytime and anywhere and that the most important thing is that they can receive confirmation in a very short time. Increasingly, travellers use the Internet for their travel arrangements (Josiam and Frazier, 2008), and the Internet has become a tool to enable potential tourists to seek out information on tourism services (Osti, 2009). Likewise, the Internet plays an important role in mediating between customers and hotel companies by being a place for information acquisition and business transaction and it may contribute to the creation of points of reference for word of mouth, as pointed by Osti (2009). The Internet is becoming an essential tool for organisations in general and for small businesses specifically in gaining competitive advantage via access to global markets (Rashid and Al-Qirim, 2001).

The adoption of the internet also enhances innovations in the tourism industry and knowledge-based economy (Papanis and Kitrinou, 2011). It offers new management and business opportunities in four main areas: competitive advantage, productivity and performance, new management methods and new business development (Buhalis, 2003). With the strategic and efficient implementation of technology such as internet adoption, the tourism and hotel industry can enjoy such benefits, and thus

deliver better products and services to customers (Papanis and Kitrinou, 2011). It can help gain competitive advantage by either maintaining price leadership in the market or by differentiating products and services (Ma, Buhalis, and Song, 2003; Papanis and Kitrinou, 2011). These factors are important for SMEs to sustain their competitive advantages and for future growth in a competitive and globalised environment.

In fact, seeking information for or booking small properties online has become a common feature within tourism and hospitality. More people are booking online than ever before and for hotel companies to remain competitive in the industry, they must establish their own websites for promotion, marketing and online transactions. Hotel websites have become the first, often the only and, in many cases, the last point of contact with hotel customers (Starkov, 2007). They have thus become a new channel for marketing and distribution, for mediating between customers and hoteliers (Au and Law, 2006) and for attracting potential customers (Rocha and Victor, 2010).

SMALL AND MEDIUM-SIZED HOTELS IN SABAH, MALAYSIA

Hotels are one of the important components in the small and medium-sized enterprise service sector in Malaysia (Bank Negara Malaysia, 2006; Goeldner and Ritchie, 2006). Furthermore, SMEs comprise more than 90% of the total number of businesses in Malaysia (SMIDEC, 2006), making them vital to the Malaysian economy and its national development. Over recent decades, the Malaysian government has actively promoted development and growth initiatives in ICT implementation to develop Malaysia into an information- and knowledge-based society. The government has emphasised the use of ICT in the Seventh Malaysia Plan (1996–2000), Eighth Malaysia Plan (2001–2005), Ninth Malaysia Plan (2006–2010) and the latest Tenth Malaysia Plan (2011–2015). Several government assistance programmes, including financial and ICT technology assistance, have also been set up to encourage the use of ICT. The use of ICT is now regarded as one of the most important tourism infrastructures and facilities in order to improve destination competitiveness and provide innovative tourism products and services (Nanthakumar, Ibrahim and Harun, 2008). By transforming their service delivery approach, small and medium-sized hotel operators will become better connected with their potential worldwide customers, while attaining operational efficiencies.

Sabah is a state of Malaysia, situated in the northeast of the island of Borneo, bordered by the South China Sea, Sulu Sea and Celebes Sea. The

increase in tourist arrivals in Sabah over the past few years has brought about a pressing demand for hotel accommodation. This has stimulated the rapid growth of small and medium-sized hotels. The ability for small and medium-sized hotel operators to harness internet technology, explore new markets and remain competitive is an important factor in achieving future economic stability and success (Chan, 2008b). In addition, small and medium-sized hotels in Sabah have limited financial capital, and thus they tend to be family-owned and depend on family labour (Turner, 2003). Furthermore, because they operate in a niche market and are not in direct competition with larger enterprises, they often suffer from information scarcity (Moyi, 2003). Indeed, the Sabah state government has realised the need to formulate a relevant internet adoption policy framework to ensure the consistency and efficiency of internet adoption by SMEs.

KEY DETERMINANTS OF INTERNET ADOPTION AND USAGE IN SMES

Pricewaterhouse Coopers (1999) pointed out nine critical success factors for Asian SMEs to develop e-commerce. These nine factors include operational goals and industry forces as well as the firms, environment and individual managers that shape and influence the success of e-commerce development. Generally, researchers have agreed that technological, organisational, environmental and individual contexts are the key influencing factors to internet adoption (Kapurubandara and Lawson, 2006; Rashid and Al-Qirim, 2001).

Lefebvre, Harvey and Lefebvre (1991) identified four categories of factors: company characteristics; company competitiveness and management strategies; the influence of internal and external parties on the adoption decision process; and the characteristics of new technologies adopted. These categories were used to explain the level of internet adoption and they are consistent with many empirical studies related to the factors affecting internet adoption in both developing (Rashid and Al-Qirim, 2001) and developed countries (Stansfield and Grant, 2003). Iacovou, Benbasat and Dexter (1995) pointed out that perceived benefits, organisational readiness and external pressure affect the adoption of electronic data interchange by small businesses. External pressure such as customer demand or competitor activity may lead to the adoption of the internet (Premkumar and Roberts, 1999). It is likely that these factors may also apply to internet adoption by small and medium-sized hotels.

Studies in developing countries have tended to emphasise the technological, organisational, physical, socio-economic and environmental factors that influence the adoption of ICT and e-commerce (Kapurubandara and Lawson, 2006). Ostensibly, the factors influencing internet adoption by SMEs in developing countries might be different from those in developed countries. Thus, to gain a better understanding of the adoption of the internet in Sabah, researchers should propose a relevant framework for internet adoption based on the insights gained from operators/owners' perspectives.

KEY BARRIERS TO INTERNET USAGE AND ADOPTION IN SMES

OECD (2009) showed that SMEs face two types of barriers, namely internal barriers (which refer to organisational resources or capabilities and the company's approach) and external barriers (which are related to factors such as the environment, infrastructure, social and cultural barriers and legal, regulatory and political barriers) (Kapurubandara and Lawson, 2006). These barriers to internet adoption in SMEs can be categorised into owner/manager characteristics, company characteristics and cost and return on investment (Chau and Turner, 2001). The owner/manager is seen to play an important role in deciding on internet adoption in SMEs (Kim, 2006). Other major contributing factors for not adopting e-commerce include a lack of trained personnel or a lack of knowledge about the technology (including low computer literacy) (Knol and Stroeken, 2001; Salman, 2004; Kim, 2006), the cost of technology, access to ICT or internet facilities (Salman, 2004) and problems with security and trust (Aljifri, Pons and Collins, 2003).

Access to finance, technology, competent human resources and market information are common barriers among SMEs in East Asian countries (Harvie and Lee, 2002). In Malaysia, the lack of access to finance/loans, limited adoption of technology, lack of competent human resources, competition with multinational corporations and globalisation are the key barriers to market expansion for SMEs (Khairuddin, 2006; Tan and Eze, 2008); however, it is not certain whether these are applicable to small and medium-sized hotels.

RESEARCH DESIGN

This paper describes an inductive qualitative research approach to address the research questions and objectives, which are subjective and

contextual and require in-depth interpretation. A qualitative approach can generate a deeper understanding of behaviour and provide insight into how respondents think and feel as well as the reasons for those thoughts and feelings through their own voices. The use of in-depth interviews encourages respondents to further explain and clarify their answers and thus provides the opportunity to collect more in-depth and well-rounded data. The present research is guided and underpinned by the theories of organisational innovation and the resource-based view of the firm and is based on three assessment processes for adoption decisions: perceived performance, perceived potential utility and perceived resource readiness (Guo and Xu, 2010). The influencing factors of Rashid and Al-Qirim (2001) also guide the data analysis.

This study used a purposive sampling technique based on small and medium-sized hotels listed by the Sabah Tourism Board. Interview appointments with individual operators were scheduled via phone calls and follow-up letters. The studied small and medium-sized hotels were located in the five major tourist districts of Sabah: Kota Kinabalu, Sandakan, Ranau, Tawau and Kudat. Data collection was carried out via in-depth interviewing using structured open-ended questions to understand the importance of the usage of the internet in the respondent's business as well as the barriers to and key determinants of internet adoption. This method is commonly used in qualitative research because it allows the researcher to interact individually with respondents, giving the opportunity to ask for clarification, and allows respondents' voices to be heard. Hence, more authentic and reliable responses can be collected.

Interviews were conducted with hotel operators at their respective establishments and lasted an average of 30–45 minutes. All interviews were tape-recorded. Given the qualitative nature of the interviews, there was no predetermined sample size; data collection stopped after 25 interviews since no new insights were being gained from the responses. Data were collected over a four-month period from July to October 2007. Each interview was preceded by an introduction to explain the salient details about the interviewer and the research project, to clarify the interviewee's role and importance in the research and to explain what was required of him/her in the interview and his/her right to withdraw from the interview at any time. All respondents were participative and open.

Twenty-five interview transcripts were analysed using a qualitative-phenomenological approach that was data-driven. Coding was mostly based on a single phrase or significant meaningful statement that generated themes related to the key themes and variables related to the descriptive themes, namely the key barriers to internet adoption based on

Chau and Turner (2001) and Salman (2004) and the determinants of internet adoption based on Rashid and Al-Qirim (2001) and Guo and Xu (2010). These findings were grounded in respondents' own descriptions, thus enhancing the reliability and validity of the research, and are consistent with inductive analysis.

FINDINGS AND DISCUSSION

Key barriers to internet adoption

We found that a significant number of small and medium-sized hotel operators perceive the benefits of the Internet and agree that it can improve their business performances; however, many still do not employ the Internet in their business operations.

Table 1 Key barriers that emerged from interview responses

	Interview themes	Key barrier categories (Chau and Turner, 2001; Salman, 2004)
1	Owner's lack of knowledge and skill Personally feel not important Lost control Prefer manual system Internet is not safe – security issues for the company and guests	Owner/operator characteristics
2	Expensive and costly to get internet service connected Financial constraints High maintenance cost – monthly subscription	Cost and return on investment
3	Small operation with limited ICT budget Emphasis on personal contact Staff lack computer/internet knowledge New operation	Company characteristics
4	Internet system not available and not reliable	Internet access and facilities

The empirical evidence shows four key barriers to internet usage/adoption: owner/operator characteristics, cost and return on investment, organisation size (Chau and Turner, 2001) and access to internet facilities (Salman, 2004).

Many respondents stated that the barriers to adopting the Internet are related to human, financial and organisational aspects. For example, there is a lack of knowledge and skills among staff in the accommodation sector, as evidenced from the interview response: 'the lack of competent staff in my business operations – my staff need to be trained to use computers and the internet' (Respondents 7, 8, 10, 12). In addition, the responses indicated that the knowledge and perceptions of the Internet are a significant barrier to using it. Many were worried about the potential loss of control over their operations and the issue of safety and security, as indicated in the following interview responses: 'using the internet is a complicated thing and I may lose control over my business' (Respondent 20); 'we are very concerned about the issues of safety and security ... in terms of transactions as operators and buyers' (Respondents 5, 6, 24). The latter finding is consistent with those by Aljifri et al. (2003), who pointed out that the problem of security and safety significantly influences internet adoption by owners/operators. The findings also confirm the findings by Knol and Stroeken (2001), who stated that a lack of computer literacy and knowledge about internet usage are major contributory factors to not adopting the internet or e-commerce.

The issue of cost and return on investment is also a major concern for many small and medium-sized hotels, which is consistent with the findings of Tan and Eze (2008) among SMEs in other sectors in Malaysia. Many view the Internet as an expensive service because of the relatively small size of their operations and high maintenance costs (Chan, 2008a). Thus, they are reluctant to invest in something that has uncertain tangible returns. They think that the Internet is unable to provide secure returns on investment in terms of direct profits, as indicated by some respondents: 'a small-scale business like us cannot afford the cost of purchasing and maintaining internet services... it is not justifiable' (Respondents 5, 7, 8, 24).

A small number of respondents indicated that the nature and size of their business operations did not justify using the Internet in terms of its cost, especially when they prefer to have more personal interactions with guests. To some owner/operators, the use of the Internet may give rise to problems in their operations, such as technical issues and support facilities. It was found that in some locations (Kudat and Sandakan), internet connections and services were unreliable, as pointed out by

respondents: 'the internet server is always down and at times very slow... the server is down frequently' (Respondents 6, 7, 8, 10, 24).

Key determinants of internet adoption among small and medium-sized hotels

The findings revealed four key determinants of internet adoption: technological, environmental, organisational and individual factors. These were categorised based on the influencing factors proposed by Rashid and Al-Qirim (2001) and subsequently linked to the perceived performance and needs, perceived potential utility/IT solution and perceived resource readiness of Guo and Xu (2010) as presented in Table 2 below.

The majority of interview responses cited the perceived benefits of internet usage in their daily business operations such as efficiency (speed, time and cost) and convenience (as a communication tool). This corresponds well with the study by Kim (2006) in Korea, which showed that SMEs regard 'easy access to information', 'better information' and 'convenience for customers' as the three main benefits of internet use.

Environmental factors resulting from customer expectations and industry trends emerged as the second most important factor, together with the firm's needs. The responses indicated that many decided to adopt the internet under pressure and expectations from both customers and the industry.

Organisational factors refer to staff knowledge and skills in IT, timing and practicality in relation to operations and the firm's resource readiness. Some respondents stressed that the use of the Internet is influenced by whether the staff are knowledgeable and have the relevant skills. Others indicated that their businesses were ready to use the Internet as a more practical way to market their services.

Individual factors (the characteristics of owner/operators, knowledge and perceived benefits of IT) also emerged as an important factor in internet adoption, as pointed out by many small and medium-sized hotel operators who are currently using the Internet in their business operations. This is consistent with previous studies (Kim, 2006).

These key determinants correspond well with empirical studies in both developing (Rashid and Al-Qirim, 2001; Mehtens, Cragg and Mills, 2001) and developed countries (Stansfield and Grant, 2003). They are also in line with the study by Chieh (2008), which suggested that the adoption of technological innovations is significantly influenced by technological, organisational and environmental characteristics, which was also found in the framework for e-technology adoption by SMEs in New Zealand (Rashid and Al-Qirim, 2001).

Table 2 Key determinants of internet adoption by small and medium-sized hotels in Sabah

	Perceived performance and needs, perceived potential utility/IT solution and perceived resource readiness (Guo and Xu, 2010)	Factors influencing the adoption of the internet (Rashid and Al-Qirim, 2001)	Interview responses
1	Potential utility/IT solutions	Technological factors	<ul style="list-style-type: none"> • Convenient and saves time • Increases business performance • Fast communication tool for sending information and promotional materials • Reduces operating costs
2	Firm's performance and needs	Environmental factors	<ul style="list-style-type: none"> • IT trends • Guest expectations of having the internet • Impact of globalisation and global networking • New way to promote and market
3	Perceived resource readiness/firm's current resources	Organisational factors	<ul style="list-style-type: none"> • Knowledgeable and skilful staff • Timely to use
4	Perceived resource readiness/firm's current resources	Individual factors	<ul style="list-style-type: none"> • Owner/operator knowledge of IT/internet • Perceived benefits of using the internet

The process of internet adoption seems to begin with individuals (owners/operators) acquiring ICT knowledge and skills as well as an awareness of the benefits of the Internet. The technological benefits and organisation capability (financial and human capital) then follow. Environmental forces finally create the need for the Internet. This seems

to suggest that internet usage/adoption is determined by three elements: firm performance and needs, a firm's current resources and specific IT solutions (Guo and Xu, 2010).

These four determinants of internet adoption are illustrated in the quotes below:

'the use of the internet increases business performance and ... it is very fast and convenient for me to provide information to my guests or customers' (Respondents 1, 4, 9, 13, 21, 22).

'we decide to use the internet mainly because of its speed, convenience and because it is easy to access data ... it saves time ...' (Respondents 1, 2, 3, 4, 14, 15, 16, 17, 25).

'... we are in the era of globalisation and the internet is a necessity' (Respondents 2, 4, 13, 20).

'... our guests expect that we have the internet and it is a trend in today's business operations, especially in tourism' (Respondents 1, 2, 4, 13, 15, 21, 23).

'Our customers request it and many of them expect that we have internet facilities...' (Respondents 2, 4, 13, 15, 16).

'two of my staff are knowledgeable and I feel it is also practical for my business' (Respondents 2, 4, 16, 23).

'it's timely to use the internet in my business and gain access to the world market' (Respondents 2, 3, 16, 25).

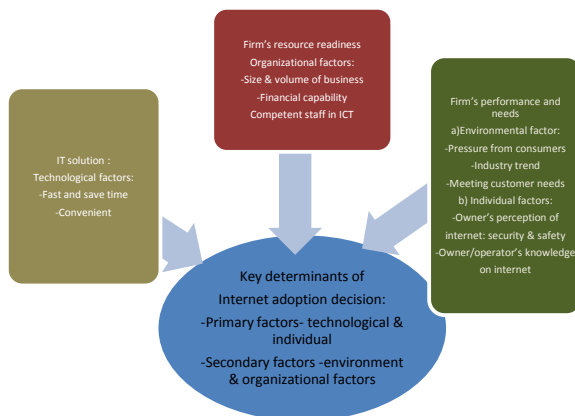
PROPOSED INTERNET ADOPTION FRAMEWORK FOR SMALL AND MEDIUM-SIZED HOTELS

In light of the foregoing, a conceptual framework for internet adoption by small and medium-sized hotels is presented in Figure 1. This framework shows the assessment of firm performance and needs because the resource readiness of small and medium-sized hotels determines internet adoption. The internet adoption decision can be largely determined based on the assessment of existing organisational performance, the innovation's potential utility (opportunity to reach wider market segments) and the firm's adoption ability in terms of human resources and financial readiness, which concurs with the organisational capabilities, perceived benefits and perceived credibility discussed previously (Riyadh, Akter and Islam, 2009).

This suggests that the findings of the present research are closely underpinned by the organisational innovation and resource-based view theories. Moreover, this implies that the matching of these elements – performance, resources and innovation – will enhance and determine

internet adoption, as pointed by Guo and Xu (2010), which is also in line with the technology acceptance model of Davis (1989; Figure 1). Thus, the framework offers a more holistic perspective of understanding internet adoption and is a novel tool and guide for individuals and government in terms of adopting, improving and implementing e-commerce within an SME context.

Figure 1 Proposed internet adoption decision framework for SMEs



This proposed framework is similar to the framework for e-technology adoption by SMEs in New Zealand (Rashid and Al-Qirim, 2001), except that the variables influencing internet adoption within the four factors are different. For example, government role and public policy are regarded as variables under environmental factors, whereas top management, specialisation and information intensity are not found in the organisational factors for SMEs above.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

This paper reports a pioneering qualitative investigation into the barriers to and key determinants of internet adoption in Malaysia. It proposes a framework that provides a well-rounded explanation of internet adoption and implementation for small and medium-sized hotels. The study provides a holistic and clear understanding of internet adoption

by SMEs in the hotel setting in terms of ‘why’ and ‘how’. It points out the key determinants of and barriers to internet adoption and concludes that internet adoption is related to human, financial and environmental factors, which seem to inhibit internet adoption to different degrees. Nevertheless, it underscores the fact that individual background and characteristics/profiles need to be properly understood and issues on ICT infrastructure need to be properly addressed.

This paper contributes to the existing internet usage literature by providing an insightful understanding of the key factors affecting internet usage and adoption in small and medium-sized hotels in three ways. It extends our understanding of the key determinants of and barriers to internet usage/adoption. The framework outlines the key variables for each determinant and thus offers a holistic explanation taking into consideration the theory on organisational resources and innovations based on the assessment processes. The proposed framework also has significant implications in terms of encouraging more small and medium-sized hotels to use the internet. The state government needs to understand the factors influencing the use of the internet within the small and medium-sized hotel context to help improve internet use via planning, creating a regulatory framework, building capacity in IT infrastructure and skill formation and introducing incentive measures. The provision of relevant ICT training programmes and financial assistance is important for encouraging internet usage since most SMEs in Sabah operate within limited financial resources and lack internet knowledge and skills.

The main limitations of the paper lie in the limited study site and the sample respondents, which comprised SME operators from four subcategories within the small and medium-sized accommodation sector – budget hotels, bed and breakfast establishments, travel lodges and seaside resorts. The size of operations and perceived needs and benefits of internet adoption may differ between the respective owner/operators in each category in relation to the size of their business operations as well as their different education levels. This implies that factors affecting internet adoption may vary according to each subcategory of small and medium-sized hotels and location. The nature of the paper, being a qualitative study, also limits the generalisability of the developed framework for internet adoption by small and medium-sized hotels. This framework is designed for this context specifically; thus, the factors in the framework differ from large business operations regarding the nature of the operational environment, individual characteristics and organisation size. This offers a new avenue for future research to validate the framework in

other contexts, locations and using quantitative research or a mixed method approach in order to achieve generalisable findings.

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