

Association for Information Systems AIS Electronic Library (AISeL)

AMCIS 2007 Proceedings

Americas Conference on Information Systems
(AMCIS)

December 2007

Incorporating M-Commerce into Organizational Strategy: A Case Study in the Tourism Sector

Amit Srivastava

Rana Tassabehji
University of Bradford

James Wallace
University of Bradford

Follow this and additional works at: <http://aisel.aisnet.org/amcis2007>

Recommended Citation

Srivastava, Amit; Tassabehji, Rana; and Wallace, James, "Incorporating M-Commerce into Organizational Strategy: A Case Study in the Tourism Sector" (2007). *AMCIS 2007 Proceedings*. 15.
<http://aisel.aisnet.org/amcis2007/15>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2007 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

INCORPORATING M-COMMERCE INTO ORGANIZATIONAL STRATEGY: A CASE STUDY IN THE TOURISM SECTOR

Mr. Amit Srivastara, School of Management, Bradford University, Emm Lane, Bradford, BD9 4JL, UK. Email: amits.pmp@gmail.com

Dr. Rana Tassabehji*, School of Management, Bradford University, Emm Lane, Bradford, BD9 4JL, UK. E-mail: r.tassabehji@bradford.ac.uk

Dr. James Wallace, School of Management, Bradford University, Emm Lane, Bradford, BD9 4JL, UK. E-mail: j.wallace1@bradford.ac.uk

** corresponding author*

Abstract: *The widespread penetration and use of mobile phones coupled with their flexibility, functionality, and portability has presented organizations in many services and manufacturing sectors with opportunities of closer communication with their customers and their employees. This paper will investigate the potential impact of mobile technology on the development of new applications and services in the highly competitive tourism sector. M-technology offers travel companies the opportunity to tailor their localized excursions and specialist destination services, to travelers on-location and on-demand. Thus, m-commerce provides organizations with the potential to differentiate themselves from their competitors in a crowded market. Taking a case study of a Destination Management Company in the United Arab Emirates, this paper will explore the strategic decision-making process underpinning the development of new m-services and the impact this can have on overall organizational performance.*

Keywords: mobile technology, m-commerce, tourism, m-services, destination management

Introduction

Mobile phones are now part of the social and business culture of the modern digital world. There continues to be a convergence of mobile telephony with the Internet, the Web, global positioning systems (GPS)¹ and wireless technology such

¹ based on satellite technology to dynamically track users' geographical co-ordinates

as Bluetooth². This technology convergence, in conjunction with the proliferation and near ubiquity of hand-held mobile devices, such as mobile phones and PDAs, has led to a host of opportunities for developing new applications, and other offerings services directly to the customer (Carlsson, 2006). Reports show that mobile phones are not only being used for conversation, but that over 40% of worldwide users are actively accessing mobile services (m-services) such as text messaging, games, video and news content (Morris et al., 2001; Sultan and Rohm, 2005; OFCOM, 2006). The market for mobile enterprise devices is estimated to grow from US\$225 million in 2001 to US\$1. 285 billion in 2006 (Datamonitor, 2003) and global revenue from m-commerce projected to be at worst in the billions or at best in trillions of US dollars (Tassabehji, 2003; Mahatanankoon, 2005; Wu et al., 2005). Whereas devices in 2001 represented 29% of the total market, by 2006 they will represent 16% as the demand for software, systems integration and hardware is expected to increase sharply to support the explosive growth in m-services (Datamonitor, 2003). Increasingly, *“People run their lives off mobile. It’s business, it’s personal. It’s information gathering. It’s on 24/7. We call it the ‘brand in the hand’.”* (Sultan and Rohm, 2005:p.83).

The key value proposition of mobile technology (m-technology) is the creation of choice and freedom for users which provides flexibility, convenience and ubiquity. This concept of mobility is discussed in depth in the literature (Barnes, et al., 2002; Tassabehji, 2003; Mahatanankoon, 2005; Mort and Drennan, 2005; Xu and Gutierrez, 2006) and the main factors that enable mobility can be seen as:

- localization where users can be located anytime, anywhere and provided with personalized services;
- customization, where the device is unique to the user and so each potential customer can be targeted and segmented;
- “always on” continuous availability where users have access from any location
- identifiability, where each device has an inbuilt identifier to support secure transactions and personalized services

While these technology capabilities continue to develop, the value capabilities provided by m-technology are not yet fully understood and need further research (Mort and Drennan, 2005; Scharl et al., 2005). Mort and Drennan (2005) identify the need to examine m-services and classify the services according to the benefits they provide. This paper examines the potential development of a range of m-services in a multi-national travel and tourism organization (a destination management company (DMC)) in the United Arab Emirates (UAE). DMCs operate in a highly competitive industry, where travelers are increasingly demanding personalized “experiences” on location and on demand (destination tourism). The impact m-technology has on the development of m-commerce and m-services and the role that strategic planning plays will also be investigated in the context of destination tourism.

Background

International tourism is one of the most dynamic service intensive sectors which has experienced both growth and change at a relatively rapid rate over the past decade (OECD, 2006; Tsang and AP, 2007; WTO, 2007). It has become established as the main industry in many countries and is the fastest growing economic sector in terms of foreign exchange earnings and job creation (Papatheodorou and Song, 2005; WTO, 2007). The rise in the political and economic importance of tourism as a means of attracting foreign inward investment and improving infrastructures, especially to developing countries, is supported by the creation of the World Tourism Organization by the United Nations (UNWTO). The UNWTO, a specialized agency of the UN, has an explicit strategy of promoting *“responsible, sustainable and universally accessible tourism ... with the aim of contributing to economic development, international understanding, peace, prosperity and universal respect for, and observance of, human rights and fundamental freedoms”*. (WTO, 2007).

The UAE is typical of countries that have adopted tourism as a means of socio-economic advancement and growth (Henderson, 2006). The government has invested billions in the development of its social, economic, technical and transport infrastructures necessary to support the tourism sector, which is experiencing rapid growth at an annual rate of over 20% year-on-year (Qudoos, 2006). The region is regularly voted the world’s best destination for both business and leisure travelers and this is expected to continue in line with the country’s development of new travel and tourism locations and activities (Euromonitor, 2006). It is in this environment that the case study DMC Company operates.

² a low power radio technology used to link wireless devices for distances up to 10 meters

The Internet, has had a considerable impact on the tourism industry, over the past decade, proving to be highly compatible with, and complementary to, the sales, marketing and provision of the industry's products and services (Bennett and Lai, 2005; Gratzner et al., 2004). Internet search engines and travel e-mediaries such as expedia.com, have made it easier for the end travelers (customers) to search and find the most competitive deals and book directly from a global market of principle suppliers, concentrated at a single website address (Kaplanidou and Vogt, 2006; OECD, 2006). The traditional multiple layers of the tourism value chain are under immense pressure as a result of the introduction of the Internet, similar to other industries such as the music and video industries. Thinning margins have led Destination Management Companies (DMC) to vertically integrate with principal suppliers and tour operators adding value and offering a broader range of services to customers (Smith and Rupp, 2004).

The role of DMCs no longer involves meeting planners' requests, but rather creating an "experience" for travelers where the use and adoption of new technology is critical to delivering this experience and remaining competitive (Katz, 2006). The potential of using mobile devices for instantaneous and effective marketing and sales of such localized excursions and adventures to targeted travelers in situ, is huge. Mobile devices enable DMCs to provide a flexible, highly customized, enhanced "experience" to travelers on demand, efficiently and cost effectively. Thus on-location m-commerce could potentially be critical for DMCs as a means of adding value to their products and services, and instantly differentiating them in an increasingly competitive market. Other partners in their value chain could also capitalize on these business opportunities to add value to their portfolio of offerings and enhance their own brand.

The Case Study Company

This paper focuses on the case of a destination management company, which is a part of a large international travel and tour company operating in the UAE. The DMC handles inbound tourism to the UAE. A majority of its staff work in the field, and visit headquarters only to receive the current official communications and undertake necessary administrative tasks. While the organization has implemented information systems that have Internet functionality, management is challenged as to how to communicate effectively with its mobile workforce. A significant amount of time and money is being spent on commuting to office locations, telecommunications and overtime, which can be better utilized towards additional revenue generation and enhanced focus to improve the operation and delivery of the company's core activities. Consequently, this DMC is an ideal company and environment in which to examine the development of new m-services and their potential impact on the organization.

Literature Review

The biggest Unique Selling Point (USP) of mobile technology is its mobility (Sarker and Wells, 2003). Mobility can remove time and space constraints in accessing critical information and enhances capabilities for communication, coordination, collaboration, and knowledge exchange (Sarker and Wells, 2003; Sheng et al., 2005). M-technology can support an organization's activities throughout its value chain, increasing the effectiveness, efficiency and productivity of its value activities (Jarvenpaa et al., 2003). The acceleration of business cycles, increased attention to customer service as a competitive differentiator and instant responsiveness to market volatility are all given as the upside of a 24/7 economy which demands relevant information anytime and anywhere (Kalakota, 2002; Wen and Mahatanankoon, 2004). Mobile technology facilitates and integrates large-scale process changes to break down the barriers to information access and to help rather than hinder information visibility (Jarvenpaa et al., 2003; Eastwood, 2005).

In a Delphi study, the panel ranked the 15 most likely m-commerce "killer applications" that create compelling value, reach widespread popularity and are easy to provide (Xu and Gutierrez, 2006). Financial alerter, m-advertising and m-shopping were ranked at the bottom, while short text messaging (SMS), followed by "killer portfolio" were ranked at the top. The panel's choice of the "killer portfolio" is somewhat vague as this constitutes a combination of m-commerce applications that meet and satisfy the customer's needs and provide them with a convenient mechanism in their specific situation. The criteria for a "killer portfolio" focus on a selection of the most basic and simplest applications, for instance, SMS. The DMC in this

study has attempted to put together a mobile “killer portfolio” for their destination tourism project, which they believe will yield compelling value both their customers, their organization and their corporate brand. This process was captured in detail in the findings section of this paper.

In a survey by Mahatanakoon et al. (2005), mobile devices were preferred by users to be used for emergency situations and information retrieval such as time sensitive news, weather reports or e-mails, rather than m-commerce transactions. The “always-on” and convenience aspects were found to be the most preferable value added function. Contrary to the expectations of experts, buying products or transferring money did not rank as high as initially predicted, due to user concerns over loss of security and privacy of their mobile transactions. However, use of hand held devices as a personal organizer was rated highly by respondents. Using a Delphi Study, critical success factors for m-commerce were identified as being convenience, ease of use, ubiquity and trust (Xu and Gutierrez, 2006), factors which are important in the development of the “killer portfolio” of m-services.

Sheng et al. (2005) adopt a “value-focused thinking” approach to determine the strategic importance of m-technology to an organization. They found that there are 3 major strategic contributions that m-technology can make to organizations: (1) improved working process; (2) increased internal communication and knowledge sharing; and (3) enhanced sales and marketing effectiveness. Examples of such contributions made by m-technology are Toshiba, who have removed redundant procedures and streamlined processes by using wireless telemetry in their photocopying maintenance and repair operations. This enables engineers to remotely monitor and analyze data from client photocopiers that show signs of a problem before it is reported by the customer (Elliott, 2004).

Xu and Gutierrez (2006) classify m-commerce applications into a) transaction management including payment and shopping applications b) digital content delivery including e-mail and information browsing c) telemetry services including interactive marketing and stock quotations. Mort and Drennan (2005) develop typologies for m-services which are categorized into: locator/services information; messaging services; sports/entertainment services; value-added shopping services and financial services. They also found a strong pattern of association between the attitudinal and value orientations of consumers. Those that were innovative, highly susceptible to interpersonal influence and enjoy shopping, were most likely to adopt and use m-services.

Unless the current players in the tourism industry improve their competitiveness by utilizing the emerging IT and innovative management methods, there is a danger of external players entering the marketplace and jeopardizing the position of existing ones (Buhalis, 1998). Buhalis et. al. (2002) go further and identify the evolution of business models as being critical to future survival. They especially highlight electronic tourism intermediaries (e-mediaries) as requiring reengineering of their business processes in order to survive and remain competitive. Only creative and innovative suppliers will be able to survive the competition in the new millennium, as tourism increasingly becomes an information-intensive industry in which information communication technologies are playing a significant role (Tepelus, 2005). The technology being implemented and used by tour operators will become a measure for that competitiveness in the sector (Gooroohurn, 2005), not only for efficiency gains and business process re-engineering benefits, but also for building the brand and providing quality of customer service.

One of the objectives of this paper is to demonstrate how the flexibility and immediacy of m-technology can be adapted to the DMC in this case study, to improve its performance. This paper tracks the strategic decision making process highlighting issues that need to be addresses, and summarizing the development of the “killer portfolio” of m-services for a specific project to be introduced by the DMC.

Methodology

Case study methodology was used here to obtain a holistic, in-depth investigation (Yin, 1994) of the process of implementing m-technology and developing new m-services and m-commerce to address strategic needs of an organization operating in the tourism sector. A couple of strategy workshops with senior DMC senior managers were conducted to identify the strategic needs of the organization. Depth interviews with 15 key senior management and operational staff within the case destination management company took place to: a) identify the major application areas for m-technology implementation; b) understand the business processes and working practices involved; c) to identify marketing and sales implications; and d) to understand any expected challenges. All the participating managers chosen for the in-depth interviews had more than a decade of IT experience with a fair understanding of mobile technology, a considerable business

understanding and industry knowledge. Seven of the interviewees were particularly well versed with the normal challenges of IT project management.

As exploitation of m-technology for business applications is still novel, the need for such educated responses was considered essential at this stage to acquire the qualitative information needed. M-technology providers were also contacted to assess the viability of the m-commerce and m-services being developed. Finally, end-users were also consulted in the development stage for the “killer portfolio” of m-services. Other documentation and records, such as past project files summarizing lessons learned; past business cases; tender documentation and m-technology vendor’s websites were also accessed to ensure a full understanding of the business applications and potential challenges of the new applications being proposed. The findings of the data collected are consolidated and presented in the next sections.

Findings and Discussion

Strategic Decision-Making for M-Commerce

Strategy workshops carried out with DMC senior management examined the Strengths Weaknesses Opportunities and Threats (SWOT). The rapid rate of growth of the UAE economy, its advanced digital infrastructure and more specifically the growing tourism industry over the next ten years were considered major opportunities. The financial and marketing strength of the organization, plus its sophisticated business process management infrastructure were also considered to be assets on which to capitalize the development of m-technology, m-commerce and m-services. However, the cost of doing business in Dubai is rising due to high levels of inflation. Further weaknesses are thinning margins as a result of the vertical integration and proliferation of tourism intermediaries such as retailers, suppliers and airlines (Klemm and Parkinson, 2000). As the tourism market becomes more technology driven with online distribution of products and services gaining a substantial share (WTTC, 2005), this means direct booking by customers with suppliers further erodes profitability for DMCs. The major weaknesses for the organization are the high dependence on field staff and the number of manual processes that are required which can be time-consuming and inaccurate.

The SWOT analysis was then evaluated according to Porter’s generic strategies of sustainable advantage (cost versus differentiation) in the competitive environment of tourism (Porter, 1998). These are summarized in table 1.

Table 1. DMC SWOT Analysis and Business Strategy

DMC Business Strategy Addressing SWOT	
<i>1. Strategies to Address Strengths and Opportunities</i>	
	<ul style="list-style-type: none"> • Leverage m-technology within the organization to meet expected business volumes as a result of the tourism boom in Dubai. • Enhance the DMC brand and image by using efficient automated processes and latest the technical devices to deliver a professional service to customers. • Improve staff motivation by providing the latest state-of-the-art innovative mobile technological tools for more efficient and easy to use working practices in the field • Enhance customer service by leveraging favorable association with suppliers to negotiate access to their technical infrastructures at a low cost. For e.g. Hotels providing desk space, telecommunications, IT network, printers for DMC staff usage.
<i>2. Strategies to Address Weaknesses and Opportunities</i>	
	<ul style="list-style-type: none"> • Reduce costs by streamlining business processes and workflows. • Conduct a process study to reveal areas that can be automated using the latest m-technology. This will help DMC meet future growth.
<i>3. Strategies to address Threats and Strengths</i>	
	<ul style="list-style-type: none"> • Leverage Group infrastructure to contain costs and enhance sales, as the inflation and increased costs coupled with proliferation of tourism intermediaries result into thinning of margins. • Enhance mobility and automation to meet additional business volumes, as the high cost of living will erode the availability of cost effective labor.

The management team found that a combination of Cost Leadership and Differentiation would be critical to the DMC's success. "Cost Leadership" emphasizes the need for tight cost control and the continuous search for cost reductions. This can be achieved by improving staff productivity through process efficiency and enhanced automation using m-technology in the field. For example, automating mature business processes & practices; automating high volume, high velocity business processes; re-distributing corporate resources to focus on added value products, services and processes. rather than low value processing and tasks; ensure current IT systems can be adapted to existing and future distribution channels such as m-commerce. "Differentiation" requires strong marketing and deployment of the latest innovative technologies to distribute products and services for enhancing sales.

Thus, the challenge for the UAE based DMC here is two-fold: one is to contain cost so that company's financial bottom line is not impacted, and secondly to contribute to the top line by generating additional revenues. This presents DMC with a unique opportunity for using m-technology to automate its business processes to control costs and leverage m-technologies to enhance sales.

Challenges and Opportunities in Implementation of M-Commerce

The next stage was to evaluate the potential challenges and opportunities offered by m-technology in the context of the DMC. Semi-structured questions (summarized in table 2), were the basis of the depth interviews with the selected 15 respondents.

Table 2. Semi-structured Interview Questions

Q1.	Is mobile computing as a technology matured and can now be recommended to businesses as a solution?
Q2.	What is the biggest USP of mobile computing in your view?
Q3.	Which is the most useful area of application? B2C, B2B, B2E
Q4.	Have the security aspects of the technology been fully resolved? What other barriers are there to this technology?
Q5.	Do you see any soft issues in regards to the technology in terms of loss of privacy etc?
Q6.	Do you see a need of redefining of organization structure?
Q7.	Any hidden costs?
Q8.	Any advice to project managers venturing for the mobile computing technology?

The majority of the interviewees felt that the technology has matured reasonably and could be recommended to businesses operating locally. However, a global mobile solution was still considered difficult because of the differing standards and multitude of network connection suppliers in different geographical regions around the world. All agreed that the biggest selling point of mobile technology is access to information at the point of action and reduction in cost due to operational efficiency. Interestingly, the majority pointed to the ease of incremental deployment of m-technology and solutions to the mobile workforce as result of the flexible mobile infrastructure. Business-to-consumers and business-to-employees were felt to be the most useful areas of m-commerce applications, particularly sales and distribution of products and services. Overall, interviewees felt that although the security aspects are not fully resolved, the m-infrastructure was considered to be as secure as the Internet. Further investigation of leading m-technology infrastructure providers revealed that new mobile infrastructure solutions incorporated and resolved many of the security issues that might have been a concern. Although current staff had a good awareness of security issues, further training and information dissemination to staff throughout the company would address any new or extant fears.

A number of soft issues in relation to m-commerce were highlighted, such as resistance to use due to mobile device limitations; lack of formal training; resistance to change due to marginalization of job roles; loss of privacy as location details can be tracked at all times; and merging of boundaries between office and work. However, there was consensus that the benefits far outweigh the potential problems and that these changes can and have to be carefully planned and managed through m-commerce champions, dissemination and engagement with employees. Some interviewees also highlighted the need to redefine organizational structure to ensure that management and processes are in line with flexibility and mobility of the technology and services being provided.

Hidden costs were predicted to emerge mainly from lack of clear network operation costs followed by time and costs for change management, employee training and support, and costs related to replacing or repairing mobile devices and or their accessories, as a result of loss, theft or breakage. Additional recommendations to m-commerce project managers were to ensure careful business process mapping; quantification of business value; robust systems architecture so that connection and data flow is economically and efficiently managed; sufficient planning for change management and user training.

Overall, the responses are largely in agreement with the themes emerging from the literature. However, hidden costs of global mobile deployment, a lack of global network standards and device replacement/repair costs are rarely mentioned, emphasizing the “real life” practitioners’ views and concerns. There is also very little in the literature about business-to-employee deployment of m-commerce and automation of intra-organizational business processes, which is something that needs to be addressed in future implementation studies.

Developing a Killer Portfolio of “M-Services”

The interviews with management and feedback from potential users in the organization identified a number of viable services that could be adapted via mobile technology for the benefit of the traveler in the UAE region. These are listed and described in table 3a and then classified according to Xu and Gutierrez, (2006) and Mort and Drennan (2005) m-services classification criteria in table 3b.

Table 3a. Description of “Killer Portfolio” M-Services

	Description
M-Checkin	This solution can be extended to link with the customer’s mobile phone, to enable the DMC’s system to be updated with the customers’ check-in progress and operational staff notified. Drivers will be able to update their progress dynamically and management is able to track them online. This would involve integration of the solution with a global positioning system (GPS) and GDS.
M-Visa / Passport	A visa is delivered to the tourist’s mobile device along with a ticket and PNR number. This can be automatically scanned at the relevant UAE airport for immigration entry. This is dependent on implementation of mobile immigration and visa services by the UAE authorities.
M-Appointment	Hotel representative’s appointment with the customers can be sent to the customer’s mobile phone with a reminder to meet. This will remove the need for “sorry I missed you” (SIMU) messages. Customer complaints will be reduced and DMC representatives will have concrete evidence of their location. Request for freelancer’s availability can be checked and their confirmations can also be handled with minimal effort.
M-News/Alerts	Latest information according to customer’s preferences can be broadcast to their mobile phone. This information could be news of a customer’s home country, destinations on travel itinerary, weather updates, strikes, calamity or advice. Time sensitive information, like traffic jams, emergencies can also be sent as an alert to customers.
M-Chat	Customers are able to connect to a centralized DMC call centre and “chat” in case they need help at the destination.
M-Guide	An automated mobile guide solution on a mobile device integrated with a GPS system can be developed. The customers can rent this device or download the software on their handheld device at a cost, during their visit. This will provide them with information they require at their location.
M-Payment	Device2Device communication is gaining maturity. Mobile phones can now be used for payment purposes. If a traveler decides to rent a car, parking fees in Dubai can be settled through their personal mobile phones. Transfer of money from a pre-configured bank account can also be prompted by calling an ATM machine through the mobile.
M-Sales	Distribution of DMC services to other media, e.g stand-alone kiosks, in-flight-sales, shopping malls and e-mediaries. Extending this facility to hotel concierges is also an option. Sales and offers relevant to the tourist’s destination and current location, such as lower fares, can be broadcast directly to their mobile phone.
M-Tickets	Local cinemas, theatres, shopping malls etc. can issue discounted m-coupons or m-tickets directly to the customer’s mobile.
M-Booking	Customers will be able to book DMC products and services dynamically and modify their bookings in transit achieved by integration of systems, for example GDS.

This classification shows that mobile marketing has become implicit in all the m-services that are offered. Promotion, sales and customer relationship management are all a part of the m-services and m-commerce that can be offered by m-technology. The mobile marketing opportunities that are integrated in the list of m-services (including m-commerce) are immense, as are the potential returns. However, these are also reliant on the maturity of m-technology and the third party provision of m-services, such as airport immigration authorities enabling m-visas.

It is evident that the most popular types of m-services in the DMC's project "killer portfolio", are those that are based on location and communication (Telemetry, digital content, locator services and communication services), followed by value added shopping and financial services. This is an indication of both the maturity of the m-technology and what it can deliver. Financial services have yet to develop a suitably sophisticated infrastructure to support the full functionality of m-services. However as the ubiquity and sophistication of m-technology and its infrastructure develops further, this will impact on the quality and the type of m-services and a more sophisticated m-commerce that can be provided for customers.

Table 3b. Classification of M-services

	Type of Service (Mort and Drennan , 2005)	Classification of Application (Xu and Gutierrez, 2006)
M-Checkin	<ul style="list-style-type: none"> Locator services Communication Services 	<ul style="list-style-type: none"> Telemetry Services
M-Visa / Passport	<ul style="list-style-type: none"> Communication services Locator services 	<ul style="list-style-type: none"> Digital content delivery
M-Appointment	<ul style="list-style-type: none"> Communication Services 	<ul style="list-style-type: none"> Digital content delivery
M-News/Alerts	<ul style="list-style-type: none"> Locator services Communication services 	<ul style="list-style-type: none"> Digital content delivery
M-Chat	<ul style="list-style-type: none"> Communication services Mobile on-line chat services 	<ul style="list-style-type: none"> Digital content delivery
M-Guide	<ul style="list-style-type: none"> Communication services Locator services 	<ul style="list-style-type: none"> Telemetry Services Digital content delivery
M-Payment	<ul style="list-style-type: none"> Financial services 	<ul style="list-style-type: none"> Transaction management
M-Sales	<ul style="list-style-type: none"> Value-added shopping services 	<ul style="list-style-type: none"> Telemetry services
M-Tickets	<ul style="list-style-type: none"> Financial services Value-added shopping services 	<ul style="list-style-type: none"> Transaction management Telemetry services
M-Booking	<ul style="list-style-type: none"> Financial services Value-added shopping services 	<ul style="list-style-type: none"> Transaction management Telemetry services

Conclusions

This paper, examined the potential of mobile commerce for a Destination Management Company in the highly competitive tourism sector. An evaluation of the strategic capabilities of m-technology in this context, revealed that it can generate cost leadership and build differentiation from competitors. The differentiation can be achieved on a number of levels: enhancing the brand and image of the organization as a cutting edge company building "brand in the hand" through the use of innovative new mobile technologies; improving customer relationships by providing quality customer service in situ; improving staff morale by more efficient and effecting working practices. The cost leadership can be achieved through streamlining business processes and improving staff productivity and efficiency by automation via mobile technology and devices. This will ultimately reduce operating costs and provide opportunities for generating new revenue and marketing new products and services to customers on location in a cost effective way, thus addressing critical strategic success factors through the use of m-technology.

The planning process was considered to be crucial to the successful implementation of m-commerce. Experienced practitioners echoed the major themes emerging in the literature and highlighted the need to ensure sufficient planning and consideration of both hard and soft issues related to m-technology. More specifically, they emphasized the need for m-

commerce champions within the organization and a process of dissemination and engagement of employees opinions which are consistent with other IS initiatives prevalent in the literature. These will enable the management of change and deal with user issues and concerns, such as loss of privacy through “always-on” telemetry and tracking. The practitioners also identified potential hidden costs in the process as being time delays for change management, mobile network operating costs and device maintenance, replacement and/or repair.

Ultimately, m-commerce was considered to be of great benefit to the organization with the potential for developing new services and working practices. A portfolio of commercially exploitable m-services was developed and classified according to the type of service and application. It was found that the majority of m-services were underpinned by location and communication facilities that are critical aspects of m-marketing services and underline the strategic direction of the organization for cost leadership and differentiation.

One of the limitations of this study is that the study is concentrated on employees in one organization operating in one particular sector, destination tourism. The observations were informed by, and reflect, the opinions and strategic directions generated by management of the case study company. These limitations, however, are consistent with the well documented limitations of using case study methodology (Easterby-Smith et al., 2001). The findings provide a good foundation for building further research into the strategic benefits and “real-life” challenges of m-commerce with more respondents across a broader range of industry sectors.

Future research could develop measures for quantification of business value achieved by m-commerce and m-services and study the user motivation and perceptions that impact m-technology adoption and use. Such an understanding would enable management to influence attitudes, by engaging employees in the process of implementation and use of m-technology and subsequent m-services and m-commerce. This engagement would promote innovation, motivate staff and develop a culture of technology exploitation and use. The involvement and commitment of employees to the development and implementation of the mobile “killer portfolio”, could place the organization at the cutting edge of the industry. In this environment, the concept of “brand in the hand” can become a way of providing a better quality of customer service adding value and gaining distinctiveness in the market.

References

- Barnes S.J. (2002). The mobile commerce value chain: analysis and future developments. *International Journal of Information Management* , 22 : 91-108.
- Bennett M., Lai, C.K. (2005). The impact of the internet on travel agencies in Taiwan. *Tourism and Hospitality Research*. 6(1): 8-23.
- Buhalis D. (1998). Strategic use of information technologies in the tourism industry. *Journal of Tourism Management*, 19(5): 409-421
- Buhalis D., Cristina L. M. (2002). The future of eTourism intermediaries. *Journal of Tourism Management*, 23:207-220
- Carlsson, C. (2006). ECRA – Special issue on mobile technology and services. *Electronic Commerce Research and Applications*, 5(3): 189-191
- Datamonitor (2003). Enterprise Mobile Devices: strategies to enable the shift from devices to solutions. Published: Jul-03 Product Code: DMTC0904. Available from <http://www.datamonitor.com/~21e8731470c94d009b48bf5620b953f6~/Products/Free/Report/DMTC0904/010DMTC0904.pdf>. Accessed 10th January 2007.
- Easterby-Smith, M. Thorpe, R. and Lowe, A. (2001) *Management Research: An Introduction*, 2nd ed, London: Sage.
- Eastwood, G. (2005) *The Enterprise Mobility Market: Outlook*. *Business Insights/Reuters*. 2005.
- Elliott, G., Phillips, N. (2004) *Mobile Commerce and Wireless Computing Systems* (1st Edn), Pearson, Essex.
- Euromonitor (2006). *Travel and Tourism in United Arab Emirates* . Euromonitor International. October 2006 pp102.
- Gooroochurn, N. (2005) ‘Competitiveness indicators in the travel and tourism industry ’, *Tourism Economics*, 11(1): 25-43.
- Gratzer M., Werther H., Wintwarter W. (2004). Electronic business in tourism. *International Journal of Electronic Business*. 2(5): 450 - 468
- Henderson, J.C. (2006) Tourism in Dubai: overcoming barriers to destination development. *The International Journal of Tourism Research*, 8(2): 87-99
- Jarvenpaa, S.L., Lang, K.R., Takeda, Y., Tuunainen, V.K., (2003). Mobile commerce at the crossroads. *Communications of the ACM*, 46 (12): 41-44.
- Kalakota R., Robinson M. (2002) *M Business : The race to mobility*. McGraw Hill

- Kaplanidou K., Vogt, C. (2006). A Structural Analysis of Destination Travel Intentions as a Function of Web Site Features. *Journal of Travel Research*, 45 (2): 204 -218
- Katz, R. (2006). Q & A: DMCs: Then and Now. *Successful Meetings*, 55(6/1):18.
- Klemm, M., Parkinson, L., (2001). UK Tour Operator Strategies: Causes and Consequences. *International Journal of Tourism Research*, 3: 367-375.
- Mahatanankoon P., Wen J. H., Lim B. (2005). Consumer-based m-commerce: exploring consumer perception of mobile applications. *Computer Standards and Interfaces*, 27: 347-357.
- Morris, S., Dickinson, P. (2001) *Perfect M-Commerce*, Random House Business Book.
- Mort, G.S., Drennan, J. (2005). Marketing m-services: Establishing a usage benefit typology related to mobile user characteristics. *The Journal of Database Marketing & Customer Strategy Management*, 12(4): 327-341.
- OECD (2006). *Innovation and Growth in Tourism*. OECD Publications, Geneva. June 2006.
- OFCOM (2006). The Communications Market 2006. Office of Communications 10th August 2006. Available from <http://www.ofcom.org.uk/research/cm/cm06/main.pdf> viewed on 20th January 2007.
- Papathodorou A., Song H. (2005). International tourism forecasts: time-series analysis of world and regional data. *Tourism Economics*, 11(1):11-23.
- Porter M.E. (1998). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The Free Press, NY (2nd edition).
- Qudoos M.A. (2006). UAE Tourism Attracts World Travelers. *Khaleej Times*, 8th March 2006. Available from http://www.khaleejtimes.com/TravelInsideNew.asp?xfile=data/travel/2006/March/travel_March5.xml§ion=travel&col= accessed 20 Jan. 2007
- Sarker, S. Wells, J.D., (2003). Understanding mobile handheld devices use and adoption. *Communications of the ACM*, 46 (12): 35-40.
- Scharl A., Dickinger A., Murphy J. (2005). Diffusion and success factors of mobile marketing. *Electronic Commerce Research and Applications*, 4 (1):59-173.
- Sheng H, Fui-Hoon F., Siau K (2005). Strategic implications of mobile technology: A case study using Value-Focused Thinking. *The Journal of Strategic Information Systems*, 14 (3):1402-1408.
- Smith A.D., Rupp, W.T. (2004). E-Traveling via Information Technology: An Inspection of Possible Trends. *Services Marketing Quarterly*, 25 (4): 71- 93.
- Sultan F., Rohm, A. (2005). The Coming Era of “Brand in the Hand” Marketing. *MITSloan Management Review*, 47(1): 83-90.
- Tassabehji, R. (2003). *Applying E-Commerce in Business*. Sage Publications.
- Tepelus C. M. (2005). Aiming for sustainability in the tour operating business. *Journal of Cleaner Production*, 13: 99-107.
- Tsang N.K. and Ap, J. (2007). Tourists' Perceptions of Relational Quality Service Attributes: A Cross-Cultural Study. *Journal of Travel Research*, 45(3): 355-371.
- Wen J.H., Mahatanankoon P., (2004) M-Commerce operation modes and applications. *International Journal of Electronic Business*, 2(3): 301-312.
- WTO (2007). Available from <http://www.world-tourism.org/aboutwto/eng/menu.html> (accessed January 2007)
- WTTC, 2005 The World Market for Travel and Tourism (<http://www.wttc.org>), 19-Sep-2005, accessed from Global Market Information Database, <http://www.gmid.euromonitor.com/Reports.aspx>
- Wu J.H., Wang S., (2005) .What drives mobile commerce? An empirical evaluation of the revised technology acceptance model, *Information & Management*, 42: 719-729.
- Xu G., Gutierrez, J.A. (2006). An Exploratory Study of Killer Applications and Critical Success Factors in M-Commerce. *Journal of Electronic Commerce in Organizations*, 4 (3): 63-79.
- Yin, R. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publishing.