TITLE: Information technology and destination performance: Examining the role of dynamic capabilities.

ABSTRACT

Destinations can be considered as service ecosystems in which independent actors (largely firms) form elements in destination business networks. An understanding of resource capabilities and their configuration in relation to improved firm management, and competitive advantages within destination organisations, has implications for resource integration and ultimately destination performance. This study utilises dynamic capabilities theory and a survey approach with managers in different destination organisations to model resource configuration based on the fundamental role that information technology plays in competitive advantages and destination performance. The results confirm that information technologies cannot promote improved performance directly but contribute indirectly through enhancement of capabilities; coordination, integration and flexibility. The results provide implications for understanding links between management advantage, and destination performance and competitiveness.

KEYWORDS: Dynamic Capability theory; Information technology; Competitive advantage; Destination performance

INTRODUCTION

Despite sustained research, there are still substantial gaps in our understanding about the factors that contribute to an enhancement of destination competitiveness and performance (Haugland, Ness, Gronseth and Aarstad, 2011; Sainaghi and Baggio, 2017). While competitiveness has its origins in Porter's theory of competitive advantage (Mazanec and Ring, 2011), much research has focused on the macro-economic level outcomes of destination performance (e.g., increases in visitor numbers and spending, foreign exchange earnings, and tourism employment), emphasising indicators and measures at the expense perhaps of a more holistic understanding from a management perspective including both micro and macro factors.

Competitive advantage refers to the ability of an organisation to apply the its resources and competencies to provide consumers with higher value and obtain higher returns compared to its competitors in the market (Porter, 1991). Incorporating analysis of individual firm's relative advantages is particularly important in contributing to a comprehensive understanding of destination competitiveness (Enright and Newton, 2004). Strategies and tactics of firms, if formulated in relation to competitor actions in other destinations, can lead to improved performance and increase the likelihood of obtaining superior overall appeal and bigger market shares relative to alternative destinations (Corte and Aria, 2016). Therefore, theory on

competitive advantage has salience for a more complete understanding of the dynamics that contribute to destination performance and competitiveness.

Information technology is considered an essential supporting resource for tourism destinations and individual actors to gain competitive advantages relative to competitors (Ritchie and Crouch, 2010). For example, the World Economic Forum tourism competitiveness model considers information technology development as a factor in overall competitiveness. Much recent research has identified that information technology plays a crucial role in a functioning tourism system whereby investment in ~~information~~ such technologies~~y~~ contributes to relative advantage of tourism suppliers and improvements in destination performance (Boes, Buhalis and Inversini, 2016). Yet, most studies remain at a fairly abstract and theoretical level, lacking empirical measures or evidence (Mazs~~s~~anec and Ring, 2011).

Additionally, the existing literature does not yet provide a comprehensive explanation for how information technologies can deliver competitive advantages to tourism enterprises and destinations. For example, the utilisz~~z~~ation of information technologies as a stand-alone initiative is inappropriate, ~~which must~~and should be complemented with management capabilities to maximisz~~z~~e benefits~~ and achieve success~~ (Sainaghi and Baggio, 2017). We argue that information technologies affect competitive advantage~~s~~ through their function as a coordination and integration mechanism, which leads to improved management capabilities within firms and between partner organisz~~z~~ations, ~~leading to~~and ultimately, greater differentiation and enhanced performance. A better understanding of the relationships between information technologies and resource capabilities from a management theory perspective could add value to our understanding of competitiveness amongst destinations, and yield important practical outcomes for firm and destination level performance.

Dynamic capability theory has been widely utilisz~~z~~ed to understand sustainable competitive advantage~~s~~ in organisations (Beske, Land and Seuring, 2014) and is applied in this study to investigate the links between information technology and competitive advantages. Teece, Pisano and Shuen note that dynamic capabilities theory; “helps to explain how and why seemingly minor technological changes can have devastating impacts” on an organisation’s ability to compete in a market, offering potential to overcome some of the complexities in understanding the role technologies play in contributing to destination competitiveness (1997: 11). Thus, this study aims to understand how information technologies influence competitive advantages through dynamic capabilities within firms in the tourism destination ecosystem, which then overall, influences destination performance, addressing the following questions; How do information technologies influence organisz~~z~~ational capabilities? Does destination performance depend on organisz~~z~~ational capabilities and information technologies? And, how do capabilities and competitive advantages in management mediate the relationship between information technologies and destination performance?

DYNAMIC CAPABILITIES, INFORMATION TECHNOLOGIES AND TOURISM DESTINATION ECOSYSTEMS

Dynamic capability theory was originally developed to explain firm-level success and failure, however, much recent research has used it to exploit competences/capabilities in inter-organisational networks because of its usefulness in understanding operational performance (e.g., Beske et al., 2014). Dynamic capabilities refer to the organisation's ability "to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al. 1997: 8). Analysing dynamic capabilities cross organisations provides an optimal approach to complexity in a system characterised by market volatility and rapid technological innovation (Gimzauskiene et al, 2015). Globalisation and an information-rich environment have led to complex and dynamic uncertainties in tourism destination ecosystems, whereby deployment of resource capabilities leads to the acquisition of competitive advantages (Sainaghi and Baggio, 2017).

Information technology deployment in such complex, volatile environments are likely to be variable in terms of their role in functional areas of management and determined by the organisational capabilities in individual firms (e.g., Fawcett et al., 2011; Teece 2007). The information technologies considered most apposite for our context are those utilised in the management and marketing subsystems, such as Internet of Things, Public Service Platform of Smart Tourism, and Enterprise Resource Planning (e.g., Wang and Li, 2013). These technologies have been widely emphasised by the Chinese government in recent years, included in national strategy, and have been applied to many industries to promote economic development, including tourism.

Dynamic capabilities are generally embedded in organisational processes due to their coherence, rationality, and integration into routines (Teece et al., 1997). Further, organisational management processes refer to general practices that are conducted in the firm, or patterns of current business activities (Ambrosini and Bowman, 2009). Integration is important since it is significant for strategic advantage. "The degree of integration (vertical, lateral, and horizontal) is of quite some significance….strategic advantage requires the integration of external activities and technologies" (Teece et al. 1997: 10). Recognising the congruence among processes, and between processes and incentives, is critical to the understanding of organisational capabilities, and integration is an essential source of congruence (Teece, 2007). Flexible organisations have the ability to integrate new technologies, information, skills and activities amongst partners (Leuschner, Rogers and Charvet, 2013). Thus, ~~an understanding of~~ the integration of distributed resources and competencies to support personalised experiences for tourists contributes to generating organisational flexibility and competitive advantages for tourism enterprises.

Specifically, tourism firms should emphasise system integration between partners in the destination ecosystem, striving to create and sustain the compatibility of communication systems, including both hardware facilities and software equipment (Kim and Lee, 2010). The integration of cooperation mechanisms amongst partners plays a crucial role in establishing a collaboration network with robustness, involving incentives, restraint, consultation, and performance mechanisms (Cheng, Chen and Huang, 2014). Operational integration contributes to promoting ~~the~~ multi-level cooperation amongst partners; strategic cooperation helps to build long-term business relationships, operational cooperation helps to promote support between departments, and activities cooperation helps to maintain continuity of tourist experience.

Tourism destinations are defined as complex networked ecosystems, encompassing multitudinous co-producing actors and activities, offering an integrated value experience to tourists by supporting a variety of facilities, services and products (Sainaghi and Baggio, 2017). Organisational processes between individual actors in destinations are more likely to be unique, with differing levels of coherence or/and convergence, making replication and imitation difficult, thus potentially offering a source of competitive advantage for individual tourism firms and at the aggregate level, destinations where there is a high degree of coordination. Coordination refers to the adjustment of behaviours, purposes, decision-making, information, knowledge and funds within the organisation made possible by seamless and smooth transference of information (Fawcett et al., 2011). Organisational flexibility is embedded in distinct ways through coordination and combination activities (Kim and Park, 2013). Tourism ecosystems are cross-industry networks, containing diverse actors with distinct objectives and strategies, and competitive dynamics can generate conflict in the battle for tourist spending (Gomezelj and Mihalic, 2008). Thus, coordination activities play a crucial role within destination ecosystems, specifically in strengthening partnerships and information sharing between firms.

Further, cross-organisational coordination requires information sharing amongst partners, which can contribute to effective communication through timeliness, accuracy and extensiveness of information transfer (Zhao et al., 2011). Additionally, both trust and commitment are considered as critical elements in building and maintaining strategic partnerships that often characterise destination networks (Morgan and Hunt, 1994). Tourism firms with mutual trust and commitment are more transparent and likely to realise synergies, thereby helping individual actors and the entire ecosystem gain sustainable competitive advantages and improve operational performance (Corte and Aria, 2016).

One criticism of the research on management processes, and on dynamic capabilities, is that it largely adopts a static perspective. However, contingency theory, which takes into account the relationship between external environmental uncertainties and corresponding management concepts (Lawrence and Lorsch, 1967), can be useful in examining dynamic capabilities. Contingency theory is predicated on the idea that

there is not one best way of organising and indeed, different forms are needed in specific situations, contributing to a better understanding of management processes and activities, and how responsive they are to the exigencies of fluid external circumstances. Th~~us, th~~is, we argue can be characterised as organisation flexibility, and can be considered as a dynamic capability.

Flexibility is a common attribute embedded in competitive organisations, reflecting their ability to deal with uncertainties and risks (Gimzauskiene et al., 2015). Flexible organisational structure has an essential bearing on sustainable competitive advantages, providing an ability to adapt to market volatility, and effectively respond to competitor tactics (Beske et al., 2014). Given rapidly changing external circumstances, complexity and constant flow of information, organisation flexibility plays a more crucial role in promoting tourism suppliers' competitive advantages compared with other industries and requires further investigation (Orchiston, Prayag and Brown, 2016).

Specifically, tourism firms need to be responsive to consumers' changing needs and other market fluctuations, ~~and then increase product~~ adjusting the supply~~ing~~ flexibly~~ility~~ through innovation, ~~adjustment~~modification of specifications, and production processes (Beske et al., 2016). Furthermore, cross-organisational flexibility, compared to individual tourism firms, requires greater emphasis on transactional relationships and network systems in terms of robustness and reconfiguration capacity (Lee and Rha, 2016). Inter-organisational flexibility amongst tourism players in destinations highlights adaptability within the network to changes in the environment or interferences and the ability to rapidly and cost-effectively restructure service systems.

HYPOTHESIS DEVELOPMENT

Information technologies, capabilities and dynamic capabilities

Many studies have investigated the mechanisms underpinning how technologies can promote (dynamic) capabilities in organisations. For example, Sher and Lee (2004) demonstrated that the application of information technologies has significant effects on the enhancement of dynamic capabilities through knowledge management. Fawcett et al. (2011) used explorative methods to identify positive influences of information technology on dynamic collaboration capability in inter-organisational networks. In addition, the application of information technologies has been found to be conducive to systems and strategic collaboration, the enhancement of organisation responsiveness, and the achievement of strategic operational integration between suppliers and customers and between social media marketing activities (Kim and Lee, 2010). Particularly, Benaroch (2018) argues that information technology plays a crucial role in supporting knowledge transfer and activities innovation, and generating managerial flexibility.

Thus, we develop the following hypotheses:
H1: Information technology positively influences the enhancement of coordination amongst partners in tourism destination ecosystem.
H2: Information technology positively influences the enhancement of integration amongst partners in tourism destination ecosystem.
H3: Information technology positively influences the enhancement of flexibility in tourism destination ecosystem.

With regard to the relationships between these three capabilities, Gimzauskiene et al. (2015) maintain that both coordination and integration activities are beneficial to the improvement of organisational flexibility. Specifically, these two sub-capabilities contribute to buffering information asymmetry throughout the business network, thereby enhancing the robustness of partner relationships, and in turn promoting responsiveness to changing market conditions (Kim and Park, 2013). According to the research of Zhao et al. (2011), information sharing, trust and commitment are ~~driving~~powerful factors of organisation flexibility. Furthermore, Leuschner et al. (2013) reviewed the ~~external~~ integration literature and confirmed the significant role played by integration on inter-organisational flexibility. Therefore:

H4: Coordination positively influences the enhancement of flexibility in tourism destination ecosystems.
H5: Integration positively influences the enhancement of flexibility in tourism destination ecosystems.

Capabilities, competitive advantages and destination performance
Organisational learning involves organisational and individual skills and the performance of the latter depends on ~~the~~ specific ~~organisational and~~ business configurations~~settings~~ (Schulz, 2017). Thus, common codes of communication across departments and organisations play a crucial role in understanding and solving complex organisational problems. Teece et al. (1997) believed that dynamic capabilities act as~~s~~ a coordinative management process creating~~es~~ potentials and platforms for inter-organisational learning. Specifically, coordination contributes to the optimisation of business networks (Kim and Lee, 2010), and integration is conducive to the development of strategic resources (Leuschner et al., 2013), thereby helping organisations improve sustainable competitive position and operational performance.

The shortcomings associated with the static view of resources can be avoided through coordination and integration, which drives continuous updating, thus forming new strategic resources and bringing competitive advantages to enterprises and destinations (Gimzauskiene et al., 2015). Flexibility plays a critical role in mitigating the negative influence of uncertainties and risks in a destination and tourist market (Lee and Rha, 2016). These capabilities

amongst individual actors can reduce the complexity and dynamicity of a destination network, mitigate unreasonable or vicious competition, and utilise tourism resources and competencies efficiently, thus contributing to the enhancement of competitive advantages and destination performance.

We propose the following hypotheses:
H6: Coordination positively influences the enhancement of competitive advantages.
H7: Integration positively influences the enhancement of competitive advantages.
H8: Flexibility positively influences the enhancement of competitive advantages.
H9: Coordination positively influences the enhancement of destination performance.
H10: Integration positively influences the enhancement of destination performance.
H11: Flexibility positively influences the enhancement of destination performance.

Information technology, competitive advantages and destination performance
Technologies are fundamental to competitive advantage and destination performance in tourism by for example; enhancing tourist satisfaction, revisit and recommendation rates (Ritchie and Crouch, 2010); or through the quality of websites, which positively affects tourists purchase intentions (Liang, 2017). Additionally, information technologies contribute to the enhancement of employee productivity, and reductions in average service costs, thus creating greater profits for tourism businesses (Boes, Buhalis and Inversini, 2016).

Therefore, ~~our hypotheses are~~we propose that:
H12: Information technology positively influences the enhancement of competitive advantages.
H13: Competitive advantage positively influences the enhancement of destination performance.
H14: Information technology positively influences the enhancement of destination performance.

Based on the above theoretical analysis and hypotheses, a parsimonious model was proposed to study the specific processes between information technologies and destination performance (see Figure 1)

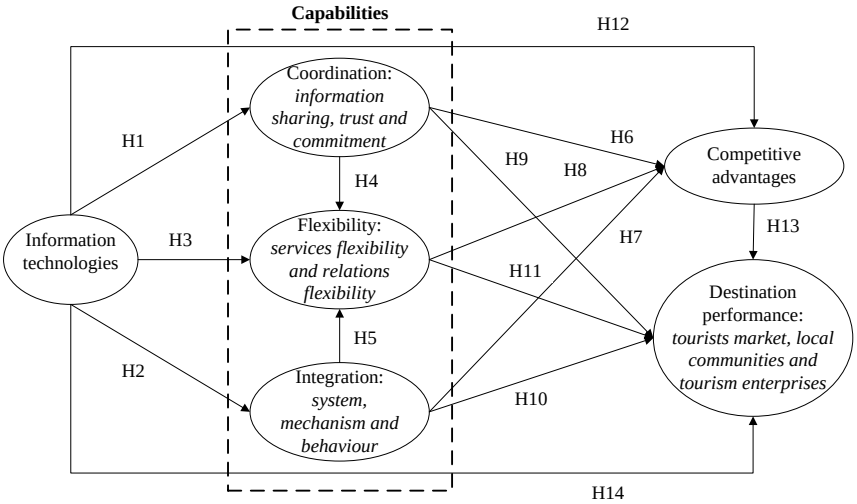

Fig. 1. Proposed research model

METHODS AND DATA

A structural equation modelling approach was applied to examine these relationships. Since destination management is a multi-dimensional phenomenon, consisting of; individual actors, inter-organisational processes, and ecosystem characteristics, other approaches (e.g., linear regression analysis, logistical regression) are less able to capture this complexity. This approach has proved especially useful in exploring complex, multi-dimensional problems, for example, multi-stage interrelationships amongst sociological and psychological constructs (Lindberg and Johnson, 1997). Thus, SEM offers an efficient solution to understand how information technologyies influences destination performance and the role of capabilities in the process. Given the previous theoretical analysis, coordination, integration, flexibility and destination performance have several facets, thus a second-order model was considered most appropriate for the study. Although a model that includes a second-order latent factor can never generate fit results better than a model with only first-order correlated factors, a second-order model that rivals the performance of a first-order correlated model can be an attractive alternative (Koufteros, Babbar and Kaighobadi, 2009).

Specifically, the data were firstly computed using Statistical Package for Social Sciences (SPSS 20.0) to conduct tests for the normal distribution and independent-samples T test for each observed variable, and to measure the reliability of each latent factor as well as the entire scale. The data collected via different methods (face to face, online and self-complete paper-based) were also compared to check for response style biases. Following that, an Analysis of Moment Structure (AMOS 20.0) was utilised to examine whether a second-order measurement model is

plausible, to assess the validity of the proposed model, to confirm or reject hypotheses, and to explore the mediating role of dynamic capabilities between information technologies and destination performance.

A critical issue is to determine whether the measurement approach is reflective or formative. Actually, considerable debate still exists on this issue. Some scholars (e.g., Borsboom et al., 2004) emphasise theoretical considerations and they maintain that researchers should determine the measurement model according to the definition, connotation and the relationships between constructs and their relating indicators and resist the temptation to conduct empirical tests. Others (e.g., Coltman et al., 2008) argue that both theoretical and empirical criteria are necessary to design and validate measurement models. In some contexts the connotations of constructs are complex and perhaps satisfy some criteria of both reflective and formative approaches simultaneously. Coltman et al. (2008) thus proposed a theoretical analysis be undertaken initially to determine which measurement model is more appropriate, which can then be verified and/or adjusted through empirical tests. Therefore, three theoretical considerations (the nature of construct, the direction between constructs and the items, and the characteristics of items) were analysed as a first step, from which we determined that the constructs are more appropriate as a reflective model. A range of empirical tests were then conducted to verify the feasibility and rationality of the measurement model, including: the presence of outliers, and whether the correlations between items and constructs demonstrated the expected directionality and strength.

Information technologies and competitive advantage are easily recognised following the above processes. The other four constructs are more complex and not measured directly by the indicators, however. Taking coordination for an example, its conceptual domain is extensive and literature has examined organisational coordination from different aspects, which can be divided into three facets: information sharing, trust and commitment. Thus we need to determine whether coordination is formed or reflected by these three facets and whether these in turn are formed or reflected by specific indicators simultaneously. Considering that coordination exists as an independent entity, having its own definition, and its three facets have similar significance of relationship with the antecedents of coordination, and if one or more of these three facets is deleted, the connotation and conceptual domain of coordination would not change correspondingly, we determined that a second-order reflective measurement model wa~~i~~s a more appropriate structure for testing these relationships. Following this, we tested the reliability, composite reliability, outliers and construct validity and the empirical results supported the theoretical analysis (see table 2). The processes were applied to analyse the other three constructs and similar results were obtained.

For the instrument, seven indicators were used to measure information technologies based on Kim and Lee (2010). Eleven indicators adopted from Morgan and Hunt

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Adapted = we made some tweaks to fit this context.

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(1994) and Zhao et al. (2011) were utilised to measure the three facets of coordination. Nine indicators adoaopted from Fawcett, Wallin and Allred (2011) and Cheng, Chen and Huang (2014) were applied to assess the three facets of integration. Nine indicators adopted from Lee and Rha (2016) and Maestrini et al (2018) were utilised to measure services flexibility and relations flexibility. Five indicators, extracted from Sher and Lee (2004), were applied to assess the competitive advantages in management. Finally, thirteen indicators, drawn from Dwyer and Kim (2003) and Ritchie and Crouch (2010), were used to measure the three facets of destination performance.

A survey was developed whereby questions were designed based on the theory- and evidence-based guidance proposed by Dolnicar (2013) because this method can effectively handle abstract objects and attributes and maintain the stability of responses. A five-point scale was used to evaluate the attitudes of respondents (1=extremely disagree; 5=extremely agree), because it offereds superior convergent validity and discriminant validity relative to other methods. Additionally, and the study of Dawes (2008) showed that either 5-, 7- or 10-point scales are all comparable for confirmatory factor analysis and structural equation models.

The instrument was face-validated using five academic experts and five destination managers. Before the final survey was implemented, three pretests were conducted to verify the relationships between information technologies, competitive advantages, destination performance, and the three specific capabilities. Each pretest focused on one capability and was undertaken on a sample of 100 managers from the management bureaus of selected tourism destinations in China. Using this feedback, the questions were improved to increase their readability and clarity. Additionally, two indicators that decreased the reliability and validity of the scale were deleted; foreign visitors are increasing these years, and the expenditure of foreign visitors is increasing these years.

Sample

The survey was conducted with middle/higher managers in different destination organisations, between March and July 2019, in three different ways; first, questionnaires were distributed to managers participating in the Asia Pacific Business Travel Future Conference held in Shanghai on May 22, 2019, and the 4th China Travel Consumption Innovation Summit held in Beijing from June 19 to June 20, 2019. Second, we sent questionnaires to specific managers who were contacted in advance by email. Third, we visited a range of tourism destinations and undertook face-to-face interviews with managers. The destinations were selected on these criteria; a scenic spot (natural or cultural) or a town rather than a city or a country, involving numerous service providers, having complete tourism service industries and its own business ecosystem.

In total, 1650 questionnaires were distributed, from which 1086 were completed representing a recovery rate of 65.82% of which 748 were valid with an effective rate

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of 68.88%. It should be emphasised that all samples with missing values were deleted as invalid samples. The majority of the respondents were male (62.43%), and 66.98% educated to master's or doctor's degree. Most respondents were aged between 35 and 50, and 63.77% had more than 5 year's work experience. In addition, 444 respondents were from hotels and travel agencies, 135 from destination bureaus, and 132 from local communities, accounting for 59.36%, 18.05%, and 17.65% respectively (see table 1).

Table 1
Respondents profile.

Demographic characteristics		Frequency (N=748)	Percentage (%)
Gender	Male	467	62.43
	Female	281	37.57
Age	<25	36	4.81
	25-35	246	32.89
	35-50	384	51.34
	50-60	61	8.16
	>60	21	2.81
Education level	Bachelor's degree	193	25.8
	Master's degree	473	63.24
	Doctor's degree	28	3.74
	Others	54	7.22
Work experience	<2	38	5.09
	2-5	233	31.15
	5-10	284	37.97
	>10	193	25.8
Affiliations	Destination bureau	135	18.05
	Hotel	263	35.16
	Travel agency	181	24.2
	Local community	132	17.65
	Tourism developer	24	3.21
	Others	13	1.74

Data analysis
First, a reliability test was conducted to assess the internal consistency and stability for each latent construct. We determined whether a particular item should be deleted or not using Cronbach's alpha coefficients and corrected items-total correlation (Parasuraman et al., 1988). Results indicated that all coefficients of thirteen first-order latent factors would exceed Nunnally and Bernstein's (1994) recommendation of 0.70 after deleting nine of the items. No increase resulted when any one of the remaining items was deleted and the items-total correlations were over the general criterion threshold of 0.30. The mean score of all indicators were higher than 3.5 and the values of corresponding standard deviation were lower than 1 (please see the appendix table).

It should also be pointed out that all variables were normally distributed according to the results of Shapiro-Wilk test and passed the independent-samples T test. Therefore, the remaining items within each factor had good reliability, and were kept for further analysis.

To further identify the structure of the ~~following four~~ constructs~~:~~ coordination, integration, flexibility and destination performance, four alternative measurement models suggested by Koufteros, Babbar and Kaighobadi (2009) were proposed to describe relationships between observed and corresponding latent variables. Confirmatory analysis was performed to test the validity of constructs with the maximum likelihood estimation technique and several fit indices: CMIN/DF, Normed-fit index (NFI), Comparative fit index (CFI), Non-normed fit index (NNFI) and Standardised root mean square residual (SRMR), were utilised to conduct comparison and evaluate whether a second-order model is plausible.

Table 2
Comparison of alternative measurement models.

(a) Confirmatory results for alternative models of coordination

Fit indices	Measurement models			
	Model 1	Model 2	Model 3	Model 4
χ^2/df	7.35 (198.45/27)	20.53 (554.31/27)	3.36 (80.59/24)	3.36 (80.59/24)
NFI	0.84	0.67	0.92	0.92
NNFI	0.80	0.57	0.90	0.90
CFI	0.85	0.68	0.93	0.93
SRMR	0.073	0.166	0.041	0.041

(b) Confirmatory results for alternative models of integration

Fit indices	Measurement models			
	Model 1	Model 2	Model 3	Model 4
χ^2/df	13.22 (185.08/14)	34.41 (481.67/14)	4.13 (45.45/11)	4.13 (45.45/11)
NFI	0.78	0.63	0.98	0.98
NNFI	0.68	0.54	0.97	0.97
CFI	0.79	0.64	0.98	0.98
SRMR	0.089	0.287	0.030	0.030

(c) Confirmatory results for alternative models of flexibility

Fit indices	Measurement models			
	Model 1	Model 2	Model 3	Model 4
χ^2/df	9.25 (83.25/9)	32.31 (290.77/9)	4.79 (38.32/8)	4.79 (38.32/8)
NFI	0.91	0.69	0.98	0.98
NNFI	0.85	0.59	0.97	0.97
CFI	0.91	0.70	0.98	0.98
SRMR	0.052	0.224	0.020	0.020

(d) Confirmatory results for alternative models of destination performance

Fit indices	Measurement models			
	Model 1	Model 2	Model 3	Model 4
χ^2/df	15.16 (409.35/27)	59.80 (1614.68/27)	3.38 (81.12/24)	3.38 (81.12/24)
NFI	0.93	0.71	0.99	0.99
NNFI	0.91	0.62	0.99	0.99
CFI	0.93	0.72	0.99	0.99
SRMR	0.042	0.493	0.019	0.019

Taking coordination for an example (see table 2), the fit results of model 1 consists of one first-order latent variable and nine observed indicators were as follows: CMIN/DF was 7.35, NFI, CFI and NNFI were 0.84, 0.85 and 0.8 respectively, and SRMR was 0.073, which indicated a poor model fit. Model 2 posits three first-order uncorrelated latent factors and the fit results were worse relative to the first model, specifically: CMIN/DF was 20.53, NFI, CFI and NNFI were 0.67, 0.68 and 0.57 respectively, and SRMR was 0.166. Thus these two models exhibit poor fit indices were not to advance to the next stage of scrutiny. Model 3 specifies that the three latent factors were free to correlate and the fit results all met respective criteria and were acceptable (CMIN/DF was 3.36, NFI, CFI and NNFI were 0.92, 0.93 and 0.90 respectively, and SRMR was 0.041). However, the results also indicated that the information sharing and trust were highly correlated, which meant that multicollinearity would be a critical problem and it would not resolve the issue of discriminant validity (Koufteros, Babbar and Kaighobadi, 2009).

Model 4 includes one second-order factor and three first-order factors with corresponding observed variables and is also well-fitting according to the fit results (the same as the third model). In a second-order measurement model, issues of discriminant validity are of less significance because the first-order factors are regarded as reflective indicators of corresponding second-order variables which indicates that they are expected to be highly correlated (Koufteros, Babbar and Kaighobadi, 2009). Thus, for the second-order measurement model, more attention should be ~~paid~~ given to the assessment of convergent validity. Results indicated that all factor loadings from first-order factors to items were above 0.65, associated with the corresponding t-values, exceeds the critical value at the 0.001 significance level. Loadings from the second-order factor to three first-order factors were above 0.82 and that the t-values were substantive and statistically significant. Therefore, the fourth model has convergent validity and is effective in representing the data.

The processes were applied to analyse the other three constructs and ~~a~~ similar results were obtained, ~~that is~~effectively, the model presenting~~s~~ a second-order factor was~~ere~~ considered to be the best choice among the four proposed models. It i~~'~~s worth~~y of~~ noting that the discriminant validity of the six constructs in the initial model should also be examined. If we regard the first-order factors as the indicators of corresponding second-order factors, the composite reliability estimates of all six constructs were~~would be~~ above the recommended level of 0.6 (Bagozzi and Yi, 1988), the average variance extracted (AVE) ~~would~~ exceeded the 0.5 cut off point (Fornell and Larcker, 1981), and the square root of the AVE estimates (values in the last row) for each construct was higher than the corresponding inter-correlations of the factors, demonstrating that there was discriminant validity (see table 3). Additionally, to examine the multicollinearity issue (Hau, Wen and Cheng, 2004), both an exploratory factor analysis of the scale and a correlation analysis for the six constructs ~~have been~~was conducted. The results demonstrated that the correlation between constructs ranged from 0.49 to 0.72 (see table 3) and six principal components with eigenvalues

above 1.0 were generated which i~~wa~~s in alignment with the initial model. H~~, h~~owever, the item "you are able to align (or re-distribute) skills to meet the current needs of the whole destination ecosystem" had a factor loading higher than 0.4 on both flexibility and competitive advantages, thus it was deleted to avoid multicollinearity.

Table 3
Correlations, composite reliability, and average variance extracted.

Six constructs	1	2	3	4	5	6
1. Information technologies	0.91[a] (0.62[b], 0.79[c])					
2. Coordination	0.66[d], 0.44[e]	0.93 (0.81, 0.90)				
3. Integration	0.69, 0.48	0.49, 0.24	0.82 (0.60, 0.77)			
4. Flexibility	0.62, 0.38	0.72, 0.52	0.55, 0.30	0.90 (0.81, 0.90)		
5. Competitive advantages	0.56, 0.31	0.51, 0.26	0.53, 0.28	0.65, 0.42	0.88 (0.61, 0.78)	
6. Destination performance	0.65, 0.42	0.67, 0.45	0.61, 0.37	0.72, 0.52	0.62, 0.38	0.95 (0.87, 0.93)

[a] Composite reliability is on the diagonal.
[b] Average variance extracted is on the diagonal in parentheses.
[c] Square root of AVE is on the diagonal in parentheses.
[d] Correlation and [e] Squared correlation.

Finally, a total of thirty-three exogenous observed variables (6 from information technology, 22 from dynamic capabilities, and 5 from competitive advantages), and nine endogenous observed variables from destination performance ~~would be~~were analysed in the initial and over-identified model. Referring to the guidelines proposed by Hooper, Coughlan and Mullen (2008), three measures were used to evaluate the goodness of fit of the initial models; the absolute, incremental, and parsimonious fit indices (see table 4). Despite no offending estimates occurring (e.g., a negative variance, an abnormal standard deviation) and all absolute and parsimonious fit measures being acceptable, one incremental fit measure, was under the standard value of 0.9. Given this situation, the initial model was deemed not satisfactory and required modification. The possible reasons are; first, some factors have not been considered, such as different types of destinations, cultural tolerance of local communities, and government capacity, etc. Second, the sample size is not sufficiently large. Although our sample satisfies the criteria of ten times the number of observed variables, the complicated relationships amongst the latent variables and observed variables possibly requires greater samples to estimate the numerous parameters.

Table 4
Test of default model and modified model (n=748)

Indices		Default Model	Modified model	Criteria
Absolute fit indices	χ^2/df	2.88(2289.701/794)	2.76 (2191.456/793)	(1,5)
	p	0	0	<0.05
	SRMR	0.050	0.049	<0.05
	RMSEA	0.054	0.052	<0.08
Incremental fit indices	CFI	0.94	0.94	>0.9
	TLI	0.93	0.93	>0.9
	IFI	0.94	0.94	>0.9
	RFI	0.89	0.90	>0.9
Parsimonious fit indices	PNFI	0.83	0.84	>0.5
	PGFI	0.76	0.76	>0.5

Method: maximum approximate estimation

To improve the model fit results, the largest modification indices, suggested by Hau, Wen and Cheng (2004), was utilised to modify the measurement model. We repeated the analysis by treating the covariance between the errors of items; *your major partners communicate with you the unexpected problems they are experiencing*, and *you trust all the time regarding your major partners*, as free parameters. After this modification, all indicators of the modified model, compared to the initial model, had been improved to an extent (see table 4). Particularly, the value of relative fit indicator increased from 0.89 to 0.9. The modified model reached an acceptable level and destination performance can be explained by the other five factors for 75.6 per cent of the variance.

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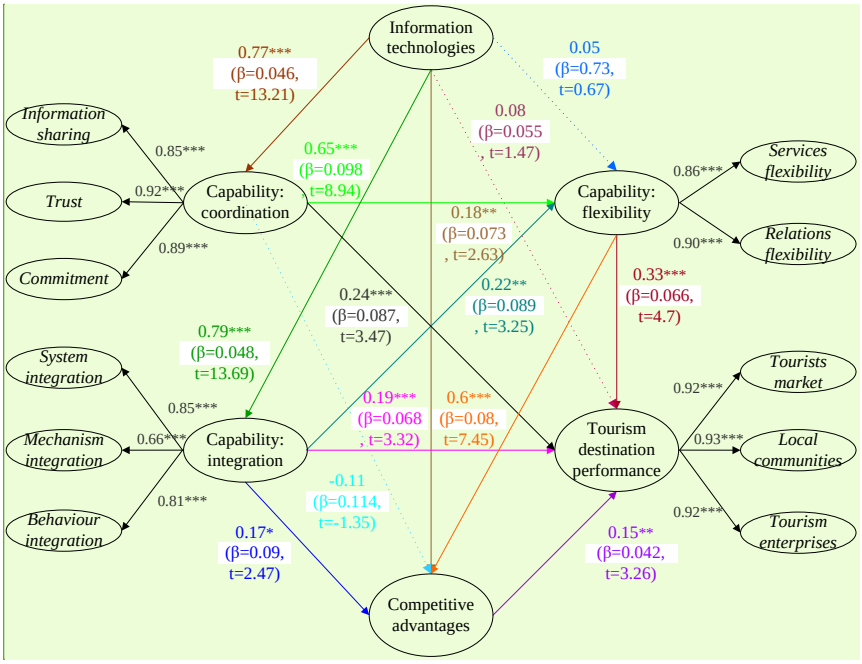
RESULTS

Relationships between information technologies and capabilities

Figure 2 indicates the standardised path coefficients between the six constructs in the structural model.



Note: standardised coefficients, ***p<0.001, **p<0.01, *p<0.05

Fig. 2. Test results of the modified model.

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Path hypothesis 1 was supported with an optimal level at t = 13.21 (p < 0.001) and β = 0.046. Path hypothesis 2 was supported with an optimal level at t = 13.69 (p < 0.001) and β = 0.048. These results are consistent with prior research ~~in~~ examining the relationships between information technologies and (dynamic) capabilities (e.g., Benaroch, 2018). More specifically, the application of technologies in a destination can promote information and knowledge sharing, mutual trust and commitment, ~~and~~ long-term strategic cooperation amongst individual actors, *and* contribute to the multilevel integration of dispersed resources and competencies throughout the tourism ecosystem.

However, path hypothesis 3, although positive (0.05), was not supported by tests (t = 0.67, β = 0.73). Many studies have shown that organisational flexibility can be improved to effectively and efficiently respond to uncertainties and changes in the market through enhancing the ability of information processing, particularly for tourism enterprises in a destination system (Mazanec and Ring, 2011). Unfortunately, this study failed to find a direct relationship between the application of information technologies in destinations and flexibility. One of the main reasons may be that coordination and integration are interposed between technologies and flexibility, which influenced the empirical results to some extent. Path hypothesis 4 was supported with a significance level of t = 8.94 (p < 0.001) and β = 0.098. Path

hypothesis 5 was supported with a significance level of t = 3.25 ($p < 0.01$) and β = 0.089. Much recent research has demonstrated that both coordination and integration have positive effects on organisational flexibility (e.g., Kim and Park, 2013). ~~Furthermore, t~~The current study confirms these relationships ~~synchronously~~.

Relationships ~~of~~ between capabilities ~~to~~ and competitive advantage

Path hypothesis 7 was supported with a level at t = 2.47 ($p < 0.05$) and β = 0.09. Path hypothesis 8 was supported with an optimal level at t = 7.45 ($p < 0.001$) and β = 0.08. These results are aligned with previous, related studies (e.g., Zhao et al, 2011; Leuschner et al., 2013). However, path hypothesis 6 was not supported from the model (t = -1.35, β = 0.114), which was not consistent with some existing studies regarding the relationship between coordination and competitive advantage (e.g., Kim and Lee, 2010; Boes, Buhalis and Inversini, 2016). The possible reasons are as follows; first, flexibility is interposed between these two latent factors. According to the results of tests for hypotheses 9 and 10, coordination could still influence competitive advantage indirectly through flexibility. Second, some respondents may have been concerned about the disclosure of the information they have provided about organisational performance (despite guarantees of anonymity and use of the data for scientific purposes). In this case, the information given by some respondents may not completely reflect the true situation of their firm or the destination.

Relationships between capabilities and destination performance

Path hypothesis 9 was supported with a significance level of t = 3.47 ($p < 0.001$) and β = 0.087. Path hypothesis 10 was supported with a significance level of t = 3.32 ($p < 0.001$) and β = 0.068. Path hypothesis 11 was also supported with a significance level of t = 4.7 ($p < 0.001$) and β = 0.066. These results aligned with previous studies (e.g., Cheng, Chen and Huang, 2014). Both local communities and enterprises can benefit from the enhancement of resources utilisation and the improvement of strategic management capacity of the whole destination. A highly flexible capability represents shortened learning curves and accelerated services innovation adoption within the destination, thus it ~~will~~ should be relatively easier for individual actors ~~involved~~ to quickly capture and respond to new market opportunities and needs.

Relationships between technologies, competitive advantage and destination performance

Finally, path hypothesis 12 was supported with an optimal level at t = 2.63 ($p < 0.01$) and β = 0.073. Path hypothesis 13 was supported with an optimal level at t = 3.26 ($p < 0.01$) and β = 0.042. These results aligned with previous studies (e.g., Corte and Aria, 2016). It is notable that path hypothesis 14, although positive (0.08), was not supported by tests (t = 1.47, β = 0.055). Most scholars believe that the application of information technologies leads to the improvement of organisational performance (e.g., Liang, 2017), but this study did not find a direct relationship between these two factors. This result could easily be explained by the so-called information technology productivity paradox, which describes the inconsistency

between the actual and expected returns of information technology investment (Brynjolfsson, 1993). However, ~~in connection with~~given the other regression results, this paper does not~~n't~~ support the productivity paradox in ~~a tourism~~this context, but ~~provides~~ offers an alternative explanation ~~for this phenomenon~~, that ~~is;~~ the ~~promotion of~~associated between information technologies ~~to~~ and destination performance is mainly ~~comes~~ derived from indirect approaches rather than direct ~~ones~~. Organisational management abilities largely determines the effect of information technologies on organisational performance. The application of information technologies without the support of excellent management capabilities is more inclined to generate incorrect~~wrong~~ predictions which produce ~~and~~ invalid decisions relating to the development of the market and industry, thus weakening the positive effect of information technologies on the production efficiency and operation ~~s~~ of~~tatus of~~ organisations. Additionally, another possible reason why hypothesis 14 has no~~'~~t been supported may be attributable to the fact that most destinations ~~taken into consideration~~in the sample had already ~~have~~ considerable levels of information technology ~~applications~~ and are already highly competitive in regional markets. Descriptive statistics of the indicators demonstrated that the mean score for~~of~~ six information technology indicators were higher than 4 and the mean values of all indicators from competitive advantages and destination performance ~~out~~numbered above 3.8 (see ~~the~~ appendix 1~~table~~), which meant that a considerable number of respondents came from mature and well-developed destinations. The results of the parameter estimations might ~~–~~be affected by this situation. Therefore, destinations at different stages of development should be taken into account in future research.

Table 5
Mediation results.
(a) Standardised direct, indirect and total effects of direct paths.

Paths	Total effect	Direct effect	Indirect effect
ITs→Coordination	0.773***	0.773***	0
ITs→Integration	0.786***	0.786***	0
ITs→Competitive advantages	0.659**	0.178**	0.481**
Coordination→Flexibility	0.645***	0.645***	0
Coordination→TDP	0.496***	0.24***	0.256***
Integration→Flexibility	0.222**	0.222**	0
Integration→Competitive advantages	0.305*	0.171*	0.134*
Integration→TDP	0.307***	0.188***	0.119***
Flexibility→Competitive advantages	0.604***	0.604***	0

Flexibility→TDP	0.421***	0.333***	0.088***
Competitive advantages→TDP	0.147**	0.147**	0

(b) Standardised direct, indirect and total effects of indirect paths.

Paths	Total effect	Direct effect	Indirect effect
ITs→ Coordination →TDP	0.35***	0.15***	0.2***
ITs→ Coordination → Flexibility →TDP	0.21***	0.17***	0.04***
ITs→ Coordination → Flexibility → Competitive advantages →TDP	0.04**	0.04**	0
ITs→ Integration →TDP	0.25***	0.15***	0.1***
ITs→ Integration → Competitive advantages →TDP	0.04*	0.02*	0.02*
ITs→ Integration → Flexibility →TDP	0.07**	0.06**	0.01**
ITs→ Integration → Flexibility → Competitive advantages →TDP	0.02**	0.02**	0
ITs→ Competitive advantages →TDP	0.1**	0.03**	0.07**
Squared Multiple Correlations Coordination: 0.6, Integration: 0.62, Flexibility: 0.7, Competitive advantages: 0.61, TDP: 0.76			

The mediating effects of capabilities

The mediating effects of three capabilities were further analysed (after Preacher and Hayes 2008), and results indicated that although information technologiesy could not promote destination performance directly, theyit could do so indirectly by influencing dynamic capabilities across the destination system. Furthermore, eight paths consisting of different combinations of the three dynamic capabilities between information technologies and destination performance were identified (see table 5). Six paths (with character shading) were shown to have mediating impacts on the relationships between technologies and destination performance. Particularly, the combination of coordination and flexibility had the biggest mediating effect in these six paths. In addition, squared multiple correlations were calculated and the figures showed that the percentage of competitive advantage interpreted by technologiesy, coordination, integration and flexibility was 61%, and destination performance was

interpreted by other five factors for 76%, demonstrating that the proposed model offered good potential for further analysis.

The moderating effects of information technology

In the proposed model, information technology is regarded as a driving factor of management capabilities, this section considers a related issue: whether information technologiesy acts as a moderator of the relationships between capabilities, competitive advantage and destination performance?

Table 6

Multi-group analysis of information technologies.

(a) Results of different models.

Models	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	186	2574.285	1146	.000	2.246
Measurement weights	162	2720.077	1170	.000	2.325
Structural weights	146	2799.090	1186	.000	2.360
Structural covariances	143	2841.164	1189	.000	2.390
Structural residuals	129	2938.149	1203	.000	2.442
Measurement residuals	93	3222.673	1239	.000	2.601

(b) Impacts of ICTs on path coefficients.

Paths	High (n=437)		Low (n=311)		Interaction term	
	Standardised coefficients	P	Standardised coefficients	P	Standardised coefficients	P
Coordination→Flexibility	0.658	***	0.486	0.003	0.001	0.988
Coordination→TDP	0.061	0.031	0.286	0.051	-0.095	0.029
Integration→Flexibility	0.164	0.022	0.35	0.038	-0.013	0.784
Integration→Competitive advantages	0.298	0.004	0.206	0.199	-0.113	0.026
Integration→TDP	0.245	0.007	0.099	0.468	-0.073	0.011
Flexibility→Competitive advantages	0.532	***	0.754	***	-0.172	0.336
Flexibility→TDP	0.428	***	0.405	***	-0.128	0.602
Competitive advantages→TDP	0.144	***	0.152	0.003	0.046	0.280

The sample was divided into two groups according to the total score of information technologies; high score (26 and more), and low score (25 and less). Specifically, the

high score group included 437 observations whereas the low score group comprised 311, and multi-group analysis was applied. The results (see table 6) lead to a conclusion that all paths in the high score group can be supported while three paths (from coordination to tourism destination performance, from integration to competitive advantages, and from integration to destination performance) in the low score group are not supported. Further, to test the differences between the standardised coefficients, interaction terms between information technologies and four constructs (coordination, integration, flexibility and competitive advantages) were created and the indicators of interaction terms were generated using the product-indicator approach. ~~Then~~ Following this,~~the~~ standardised coefficients and corresponding P values of interaction terms were calculated (table 6). According to the estimate results, the two groups have significant differences in the following three relationships: from coordination to tourism destination performance ($p=0.029$), from integration to competitive advantages ($p=0.026$) and from integration to destination performance ($p=0.011$). Specifically, the standardised coefficients estimates from the above three paths in the high score group are 0.061 ($p<0.05$), 0.298 ($p<0.01$) and 0.245 ($p<0.01$) respectively, while the corresponding estimates in the low score group fail to reach a 0.05 significant level. Therefore, information technologies~~y~~ do~~es~~ affect the leverage of management capabilities and contribute~~s~~ to strengthening the relationships between capabilities, competitive advantages, and destination performance.

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DISCUSSION AND CONCLUSIONS

The operational model developed and tested here aimed to measure destination advantages based on the fundamental role that information technologies~~y~~ play~~s~~ across firms in dynamic destination ecosystems. According to the empirical results, tourism destination performance is directly influenced by competitive advantages and corresponding management capabilities, and indirectly influenced by information technologies. This demonstrates that a management approach can be applied to model competitive advantages and evaluate the development status of tourism destinations with theoretical and practical implications as follows.

Theoretical contributions

The study supports the relevance of dynamic capabilities theory in tourism destination networks. The theory offers a great deal to tourism research, yet to date has been under-utilised with few examples in the literature. Tourism is replete with uncertainties due to intensive information flows, complexity and dynamicity of the sector (Sainaghi and Baggio, 2017) as the current Covid-19 pandemic has dramatically demonstrated (Zhang, Song, Wen, Liu 2021). Dynamic capabilities essentially theorises how resources can be deployed to rapidly respond to market volatility, to realise service and process innovation, and establish strategic cooperation between partners. This study identified the mediating role of a dynamic capability (organisational flexibility) between the application of information technologies and

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the enhancement of destination competitive advantages. The application of dynamic capabilitiesy theory contributes to a better understanding of destination competitive advantages from a management perspective.

Second, we provide a basis for measuring dynamic capabilities that can be applied to different management contexts, thereby expanding the application of dynamic capabilitiesthe theory, and contributing to the development of quantitative measures. Most existing literature on dynamic capabilities is conceptual in nature and lacks empirical grounding and accurate measurement, which may explain an absence of operationalisation (Ambrosini and Bowman, 2009). Although the instrument is built largely on previous studies and is not a completely original scale, this study is the first to attempt this in a tourism context.

Thirdly, we develop an operational evaluation model to explore destination performance and competitiveness, focusing on technologiesy and management capabilities aspects. This study emphasises the factors affecting destination performance from the perspective of management theory, contributing a novel and operational model to understand the development status of tourism destinations, by constructing and testing a theoretical framework highlighting a the destination's ability to incorporate disparate goals, integrate diverse resources and competencies as well as enhance operational and organisational flexibility. Therefore, we take the first steps to highlight optimal tools that can be used to evaluate and measure destination performance from a management lens.

Additionally, the empirical analysis explores the way information technologies act on destination performance, thereby answering the question of why some destinations, which possess large stocks of advanced technology assets, sometimes remain relatively less competitive compared to competitors others in the market. Existing studies have not fully taken into account the importance of inter-organisational management, consisting of multiple business processes and boundaries between different actors. We emphasised three management processes and capabilities of tourism ecosystems for a more comprehensive understanding of destination competitive advantages and destination performance.

Managerial contributions

Developing competitive advantages at the tourism destination level is a complex endeavour and the model developed in this paper can be a helpful device as it directs attention to the following critical aspects that both destination management organisations and individual actors should emphasiseconsider.

Firstly, information technologies are important strategic assets of tourism firms *and* the whole destination. Destination management organisations should lobby for the overall planning, investment and construction of information technologies infrastructure on behalf of the regional industry. The application of information

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technologies (e.g., internet of things) accelerates and improves communication between tourism service suppliers and tourists and contributes to the acquisition, processing and transfer of tourist information, thereby enhancing tourist's perceptions and satisfaction of destination experiences. This in turn enables business advantages, such as ~~low~~ cost reduction, added value, improved response speeds and satisfaction, loyalty etc.

Further, to obtain maximum value from information technologies, tourism firms need to consider technology sophistication, management skills and the integration between information technologies and other functional systems of strategic partners. It is also important to establish cross-functional and cross-organisational information systems to provide managers, especially top management, with timely, comprehensive~~ly~~ and authentic market and industry information to better understand changes in visitor demands. Our study confirms that the possession of information technologies assets is a necessary but not sufficient condition for achieving a destination's competitive advantages. For tourism destinations and firms, more attention should be paid to the coherence between information technology infrastructure and destination or firm strategy when making decisions. After all, information technologies are easy to be replicated, but this congruence is difficult to imitate, which is more valuable and rare and more likely to bring competitive advantages for tourism enterprises and destinations.

Secondly, it is important~~tce~~ to organise and develop management capabilities to maximise the competitive potential of information technologies. A firm's competitive advantages are usually embedded in cross-organisational capabilities and routines, and hence cross-organisational management plays a crucial role in coordinating and integrating vital complementary resources and competencies among firms ~~and thereby~~leading to differentiation. Our study demonstrates that it is not the application of information technologies that improves the performance of tourism firms and destinations, but rather, how resources and competencies are coordinated and integrated help to develop dynamic capabilities to gain competitive advantages and improve destination performance. Cross-functional and cross-organisational coordination and integration are essential ingredients of a firm's dynamic capabilities, contributing to bridging the divide between supplier-facing and consumer-facing sides of the business and reducing counterproductive decisions. To achieve high-level coordination and integration, firms in a destination ecosystem should establish some boundary spanning initiatives, for example: share and communicate new information and developments.

Indeed, many managers understand the significance of information sharing, but self-interest and concerns about the disclosure of core information usually leads to inaction. Given this situation, mutual trust and commitment are especially critical and hence firms should proactively establish strategic cooperation relations with partners and integrate functional systems and operational mechanisms to help partners break

down ~~the~~ resistance to~~of~~ information sharing. Further, to improve mutual trust and commitment, firms can document and disseminate existing success ~~experiences~~ stories, via for example, ~~through~~ cooperation pilot projects with partners and/or cultivate common culture and customs through regular management contacts and communication. Relationships based on s~~S~~trategic cooperation ~~relations~~ also contribute to mutual learning and the exchange of information and knowledge, which will promote innovative activities and improve service experience.

In addition, destination management organisations should make efforts to integrate dispersed resources and competencies to optimise and improve utilisation efficiency, thereby establishing a flexible marketing channel to rapidly respond to environmental changes. A standardised cooperation mechanism (e.g., incentives ~~and restraint,~~ and performance evaluation) and a set of operational guidelines (e.g., joint industry group) could be established to reduce transaction costs and improve the continuity of tourist experiences. A coordinated and integrated destination ecosystem is more likely to be achieved which reduces cross-organisational conflicts, combines resources and competencies and creates new capabilities to offer high-quality and seamless travel experiences for tourists.

Thirdly, both tourism firms and destinations ~~should~~ could make efforts to establish high-level service flexibility and relationship flexibility, which would help them to meet the needs of different tourists and to reconfigure the relational~~s~~ network to quickly and effectively respond to changing market environment. Organisational structure is regarded as the last remaining source of sustainable competitive advantage and hence establishing a flexible destination ecosystem through cross-functional and cross-firm coordination and integration could be~~is~~ especially critical. A flexible tourism destination ecosystem contributes to establishing a customer orientation strategy for the whole tourism destination, and better management of~~ing~~ the resources and competencies of partners ~~and developing novel strategic resources~~ to understand tourist needs, promote the development of tourist-experience ~~processes~~ and improve productivity, service quality and innovation.

Further research is needed however, ~~and should~~which takes into account the different stages of destination development and considers specific destination types ~~(e.g., natural scenic area, historical and humanistic area, rural tourism)~~. Indeed, dynamic capabilities play a crucial role in enhancing destination performance directly, mediating the relationship between information technologies and destination performance.~~,~~ H~~h~~owever, questions of how to enhance the efficiency of these capabilities requires further attention. This article provides a first step in examining the ways management theory approaches can be applicable to competitive advantages and overall destination performance.

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Appendix 1:

Latent factors and indicators.

Second-order factors	First-order factors	Indicators	Mean	Std. Deviation
	Information technology [a]	ITs are comprehensively constructed in your destination.	4.11	0.89
		ITs are comprehensively utilised by stakeholders in your destination.	4.23	0.87
		Top management in your destination is capable of applying IT.	4.18	0.89
		ITs facilitate acquisition of market and industry information.	4.25	0.85
		ITs facilitate processing of market and industry information.	4.22	0.85
		IT infrastructure is congruent with destination strategy.	4.14	0.92
Coordination [a]	Information sharing	Major partners keep you informed of new developments in time.	3.73	0.78
		Major partners communicate with you the unexpected problems.	3.79	0.86
		Major partners share with you the new information they acquire.	3.77	0.84
	Trust	You trust all the time regarding your major partners.	3.87	0.79
		You believe that major partners can be counted on to do what is right.	3.81	0.85
		You consider that your major partners have high integrity.	3.83	0.87
	Commitment	You are very committed to the relationships with major partners.	3.89	0.84
		You intend to maintain the relationships with major partners indefinitely.	3.98	0.85
		You have made maximum efforts to maintain relationship with major partners.	3.91	0.76
Integration [a]	System integration	You and major partners have identified and standardised data to be shared.	3.75	0.82
		You and major partners have established hardware and operating systems to ensure compatibility.	3.73	0.75
	Mechanism integration	You and major partners have periodical contacts with each other.	3.82	0.79
		You and major partners have a comprehensive set of norms of action which has been well developed in the cooperation.	3.85	0.85

	Behaviour integration	Strategic objectives are jointly developed by major partners.	3.66	0.82
		Major partners highly participate in your production/service design.	3.62	0.76
		Major partners highly participate in your procurement and production processes.	3.67	0.81
Flexibility [a]	Services flexibility	You can respond quickly and effectively to changing market environment.	3.80	0.83
		You can offer flexible services and products according to different tourists.	3.82	0.84
		You are able to align (or re-distribute) skills to meet the current needs of the whole destination ecosystem. (deleted)		
	Relations flexibility	You can successfully realign relations network in response to market changes.	3.78	0.85
		You have built stable collaborate relationships with major partners.	3.83	0.82
		You can quickly deal with conflicts with major partners.	3.81	0.81
		You can effectively integrate existing network resources into novel combinations.	3.85	0.82
	Competitive advantages [a]	You have higher learning effectiveness of new knowledge relative to competitors in similar destinations.	3.89	0.79
		You have higher decision quality relative to competitors in similar destinations.	3.90	0.87
		You do better in knowledge accumulation relative to competitors in similar destinations.	3.95	0.85
		You do better in resource deployment relative to competitors in similar destinations.	3.89	0.85
		Your strategic assets are more difficult to imitate relative to competitors in similar destinations.	3.92	0.91
Destination performance [a]	Tourists market	Tourists are satisfied with their experience in destination.	3.86	0.82
		The destination has a good market image.	3.91	0.84
		The destination is well-known in the market.	3.95	0.84
	Local communities	Local residents benefit a lot from tourism development.	3.88	0.87
		Tourism promotes the overall development of local communities.	3.91	0.85
		The environment of local communities is sustainable.	3.85	0.78

	Tourism enterprises	Entrepreneurs in destination have a high work enthusiasm.	3.87	0.85
		The utilisation of tourism resources is efficient.	3.86	0.84
		Tourism enterprises can obtain satisfactory profits.	3.81	0.77

[a] Six constructs in the initial model