

K

Knowledge Management Outcomes of Bank Branches in Thailand ผลลัพธ์ของการจัดการความรู้ ของสาขานาการในประเทศไทย

- **Chanin Yoopetch**
- Assistant Professor, Mahidol University
- International College
- Mahidol University
- E-mail: chaninyoo@yahoo.com

บทคัดย่อ

วัตถุประสงค์หลักของงานวิจัยนี้ คือ การศึกษาผลลัพธ์ของการจัดการความรู้ (Knowledge Management Outcomes) ในระดับของสาขานาการ ผลลัพธ์ของการจัดการความรู้หรือผลการดำเนินการขององค์การซึ่งเป็นผลมาจากความพยายามในการจัดการความรู้ขององค์การ นอกจากนี้ ยังมีปัจจัยที่สำคัญ 4 ประการในการศึกษานี้ คือ การสนับสนุนทางด้านเทคโนโลยีสารสนเทศ เครือข่ายทางสังคม การสื่อสารภายในองค์การ และการทำงานเป็นทีม ผลของการวิจัยนี้ พบว่า ผลลัพธ์ของการจัดการความรู้ได้รับอิทธิพลเชิงบวกจากปัจจัยทั้ง 4 ประการ นอกจากนี้ การสื่อสารภายในองค์การและเครือข่ายทางสังคมยังมีอิทธิพลสูงสุดต่อผลลัพธ์ของการจัดการความรู้

คำสำคัญ: ผลลัพธ์ของการจัดการความรู้

Abstract

The purpose of this research was to study the knowledge management outcomes at bank branch level. Knowledge management outcomes are also known as the organizational performance resulting from knowledge management efforts. In addition,

there are four other major factors affecting knowledge management: information technology support, social networking, internal communications and teamworking. The research findings showed that knowledge management outcomes were positively influenced by these four factors. In addition, internal communication and social networking indicated the highest influence on knowledge management outcomes.

Keyword: Knowledge Management Outcomes

Introduction

Currently, modern organizations focus on managing their organizational knowledge to keep up with the fast changing environment. Additionally, in a knowledge-based society, every firm has to acquire and apply resources effectively. Knowledge is clearly recognized as one of the most important resources of an organization. In this competitive environment, banks have to operate against one another in order to outperform their competitors.

Little academic research has been conducted on branch performance (Avkiran, 1997: 224). Branch performance or business outcome is measured mostly by practitioners, not academia. Therefore, academic research on this topic will contribute to this field of study. The need for effective knowledge management has been increasing and dominating the business world. In recent years, the development of hypercompetition has shortened the product life cycle, forcing organizations to find better ways to manage organizational knowledge (Lubit, 2001: 165).

In order to survive and to remain competitive, Thai banks have been significantly involved in knowledge management activities. Several banks have proposed programs to focus more on knowledge and to embrace the idea of knowledge-based organizations. For example, according to Kasikorn Bank (2009), it introduced a new dimension of knowledge that goes beyond financial services called “K Now”(pronounced “know”), aiming to provide a financial advisory service offering new vistas in access to financial information, news and tips. It is all smartly presented to ensure that it is all easy to digest to help customers efficiently manage their wealth.

Knowledge Management

Knowledge is considered one of the most important assets of organizations and this leads to the attempt by several organizations to organize and manage their knowledge assets. Knowledge management is one of the most important factors in business operations for organizations concerned with their competence and ability

to compete, and for those organizations relying heavily on their knowledge workers (Grover and Davenport, 2001: 5). In addition, knowledge management represents the process of improving organizational practices to become more reflective. Organizations have to clarify the guidelines and procedures within the organization in order to enhance the shared understanding among organization members and develop methods to create, codify, and apply knowledge assets (Tsoukas and Vladimirou, 2001: 974). To implement knowledge management (Gao, Li, and Clarke, 2008: 5), organizations have to be concerned with both explicit and tacit knowledge, and can thereby improve their business processes and outcomes.

Knowledge Management Outcomes

Knowledge management outcomes focus on the impact of managing knowledge resources within the organization. In addition, knowledge management outcomes represent an integrated view of organizational performance that results from managing the knowledge assets of the organization. Organizations have to manage many types of resources, such as tangibles and intangibles, and nowadays knowledge is one of the most important intangible resources in an organization.

Implementing knowledge management leads to improvement in an organization. The results of knowledge management can be seen as management performance (or knowledge management outcomes) based upon the following conditions (Gooijer, 2000: 306):

1. A framework for knowledge management performance (outcomes) cannot be isolated from organizational performance or, in other words, knowledge management outcome is an integral part of organizational performance.

2. There is a clear and direct alignment between individual work plans, team goals, business unit objectives, and the organization's key unit areas.

3. There are benchmarks or criteria by which types of performances can be measured or identified.

4. Indicators of knowledge management performance (outcomes) need to be unambiguous.

5. Knowledge management is a business principle and is embedded in all aspects of the work of the organization.

Moreover, knowledge management outcomes should be studied to evaluate the knowledge management efforts of the organization. Several scholars (Anantamula

and Kanungo, 2006: 26; Ruggles, 1998: 81; Van Buren, 1999: 71) have discussed the idea that the knowledge management outcomes of the organization can result in a variety of dimensions, including employee performance, organizational performance, business performance, market performance, and intellectual capital.

Teamworking

One of the key factors for developing knowledge within the organization is to have people working together to share information, discuss problems, and brainstorm ideas and solutions (Lubit, 2001: 168). Teams consist of a group of people committed to achieving a common goal in that team members are mutually accountable for the results of their attempt (Katzenbach and Smith, 1993: 111; Thorne and Smith, 2000: 350).

In order to facilitate both explicit and tacit knowledge, working as a team is crucial to assist in the process of knowledge acquisition, conversion, and application within an organization. In addition, teams are often capable of developing more creative solutions to problems than one person can. Teams can help the organization to create communities of practices where people within the organizations can join and work together on related projects and interests.

There are several activities created to support the benefits of teamworking in an organization (Greenough, 1998: 20), as can be seen by the following:

- The elimination of layers of management as the degree of supervisory responsibility is devolved to team leaders.
- The creation of a new role for managers who act as facilitators for a number of teams.

Internal Communication

For effective knowledge management and the flow of knowledge within the organization, organizations have to establish effective internal communication among departments and divisions (Nonaka, 1991: 98). Internal communication is crucial for organizational performance. Some researchers (Roy and Roy, 2002: 28) have studied the importance of internal communication and found that effective and strategic internal communication can reduce employee turnover, repeat past success, enhance further success, and eliminate inaccurate information sources.

Relations among employees are crucial in terms of information flow and effective communication; internal communication needs to be managed so that employees can have a knowledge-sharing attitude. Additionally, communication tools for sharing

knowledge and information about business objectives can enhance the effectiveness of internal communication.

Information Technology Support

Knowledge management is often said to rely on information technology. Information technology support can be useful for creating competitive advantages by improving goods and services with the application of computer-based information systems and advances in telecommunications (Farrell and Song, 1988: 12; Lee and Choi, 2003: 178). Information technology can assist an organization to achieve strategic goals. The uses of information technology are pervasive and have an impact on several aspects of an organization, including organization design, information processing, human resources, communication, and decision making. Moreover, the impact of information technology can also be varied, depending on types of industry/ firm, types of activity, and levels of managerial decision. Still, managers at any level in the organization have to evaluate the usefulness of information technology in such aspects as improving competitive position, creating effective knowledge flow, increasing revenues and profits, lowering costs, increasing market shares, and improving potential for future growth of the organization.

Social Network

One of the most important factors affecting an organization's knowledge is the social network. Social networks can be considered both internal and external. In this study, all references are only to external social networks. Social networks are also called knowledge networks (Gandhi and Sauser, 2008: 20; Ruggles, 1998: 81). It is crucial for an organization to analyze knowledge networks regarding the patterns of knowledge among people and organizations. A knowledge network provides substantial benefits, including:

- Retention of people with vital corporate knowledge by increasing the social capital of the organization. For example, workers that are connected to their work and the stakeholders involved with their work are more likely to stay with the organization.
- Increased innovation, productivity and responsiveness by managing the efficiency and effectiveness of knowledge assets throughout the organization and closing the gaps in terms of workers' experience and expertise. Another important aspect is reduction in time used to locate and access knowledge, both internally and externally.

The Proposed Model

The proposed model of four factors (information technology support, teamworking,

internal communication, and social networks) and knowledge management outcomes is shown below:

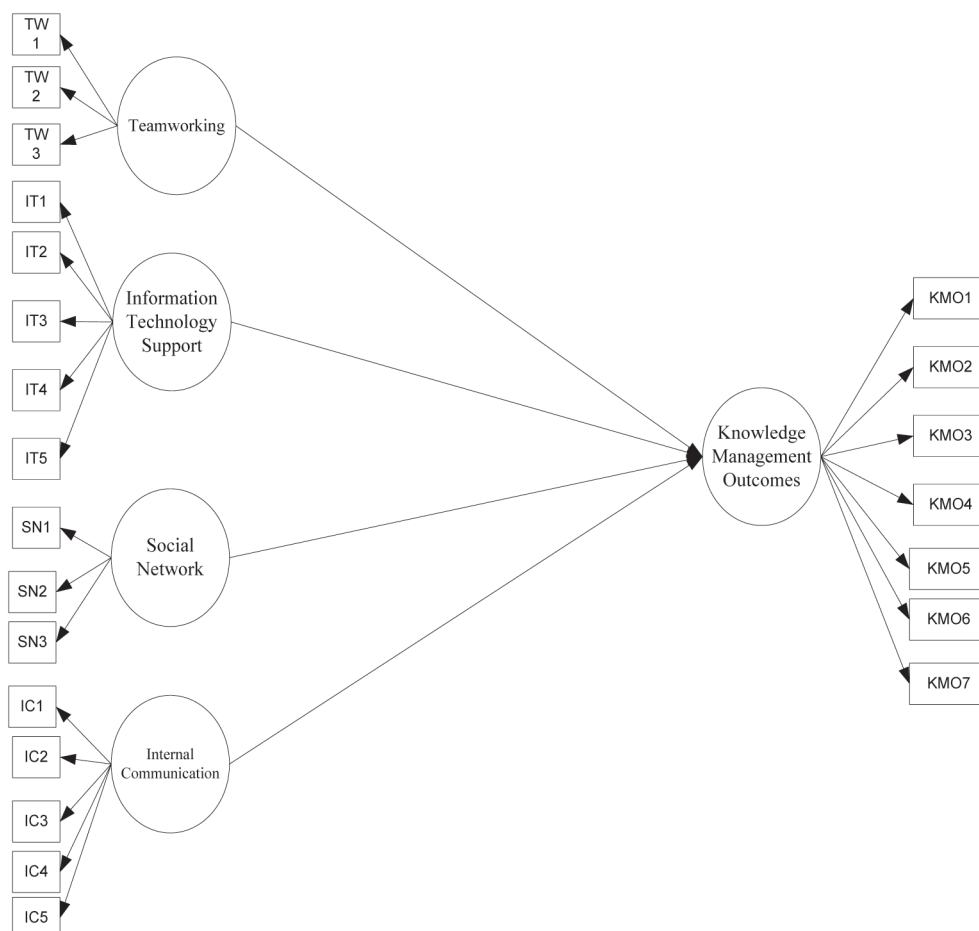


Figure 1: Proposed Model

Data Collection Method

The population of this study included bank branches of seven major commercial banks, accounting for 837 branches, or 76 percent of all bank branches operating in Bangkok areas (Bank of Thailand, 2007). Based on the population number, the

sample size of branches was determined to be approximately 277. Questionnaires were used as a tool to collect data for the data analysis. The researcher randomly selected the bank branches by using Microsoft Excel with random functions. When targeted branches were selected, the questionnaires were distributed and followed up by

telephone calls and bank visits.

Research Methodology

In this study, data was analyzed using structural equation modeling (SEM) and confirmatory factor analysis (CFA) techniques. The author analyzed data with EQS 6.1. Once the research questions were proposed, structural equation modeling and confirmatory factor analysis were chosen as the most appropriate method, because they offered the most appropriate and efficient estimation technique (Hair, et al., 2006: 711). In addition, the ERLS (elliptical reweighted least squares) method was applied because this method minimizes problems occurring from data skewness and kurtosis, and this method has been shown to provide unbiased parameter estimates for both normal and non-normal data (Sharma, Durvasula, and Dillon, 1989: 214).

Structural Equation Modeling (SEM)

Structural equation modeling is a multivariate technique combining dimensions of factor analysis and multiple regression, and allows researchers to simultaneously study a series of interrelated dependent relationships among the measures or observed variables and latent constructs. In addition, the relationships between or among many latent constructs can also be

observed (Hair, et al., 2006: 711). Structural equation modeling has three main characteristics that are different from other multivariate techniques.

1. It provides simultaneous estimation of multiple and interrelated dependence relationships.
2. It has the ability to represent unobserved (latent) concepts in these relationships and to correct for measurement error in the estimation process.
3. It can define a model to explain the entire set of relationships.

Model Fit Indices

In structural equation modeling, the validity of the measurement model relies on the goodness of the fit and sufficient evidence of construct validity. This goodness of fit shows how well the proposed or specified model can reproduce the covariance matrix among the indicator items.

There are several fit indices for model assessment. According to some researchers (Hair, et al., 2006: 711; Hu and Bentler, 1999: 13; MacCallum and Austin, 2000: 201), main fit indices are used for model assessment, including Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), and Root Mean Square Error of Approximation (RMSEA).

Table 1: Measures of the Structural Model Fit

Items	Criteria
Comparative Fit Index (CFI)	>0.90
Normed Fit Index (NFI)	>0.90
Non-Normed Fit Index (NNFI)	>0.90
Root Mean Square Error of Approximation (RMSEA)	<0.08

Source: Hair, et al., 2006: 749; Hu and Bentler, 1999: 1

Table 2: Descriptive Statistics of Observed Variables

Construct	Observed Variables	Mean	S.D.
Information Technology Support	it1: Our bank branch provides IT support for communication among members.	6.16	0.915
	it2: Our bank branch provides IT support for searching for and accessing necessary information.	6.16	0.895
	it3: Our bank branch provides IT support for systematic knowledge storing.	6.15	0.965
	it4: Our bank branch provides IT support for collaborative work with other branches.	6.16	0.895
	it5: Our bank branch provides IT support for data analysis.	6.00	1.068
Knowledge Management Outcomes	kmo1: Compared to last year, our bank branch has enhanced collaboration within the organization.	6.04	0.739
	kmo2: Compared to last year, our bank branch has a better decision making system.	5.99	0.834
	kmo3: Compared to last year, our bank branch has improved employee skills.	6.05	0.845
	kmo4: Compared to last year, our bank branch has improved productivity.	6.08	0.799
	kmo5: Compared to the last year, our bank branch has improved sharing best practices.	5.91	0.821
	kmo6: Compared to last year, our bank branch has new or better ways of working.	6.01	0.803
	kmo7: Compared to last year, our bank branch has improved staff learning capability.	6.01	0.825
Social Networking	sn1: Our bank branch has close co-operation with our stakeholders. Companies, universities, technical colleges, etc. are fomented.	5.74	1.018
	sn2: Our bank branch is in touch with professionals and expert technicians.	5.67	0.931
	sn3: Our bank branch encourages its employees to join networks made up of people (such as customers and suppliers) from outside the organization.	5.52	1.009
Teamworking	tw1: In our bank branch, we have a team-based working environment.	6.13	0.760
	tw2: In our bank branch, we have team-based problem solving.	5.96	0.811
	tw3: In our bank branch, we use team-based decision-making methods.	5.97	0.836
Internal Communication	ic1: Our bank branch has frequent communication within the organization.	6.24	0.752
	ic2: Our bank branch has effective processes for communication among departments.	5.94	0.823
	ic3: Our bank branch has processes for two-way communication between management and staff.	5.94	0.909
	ic4: Our bank branch has processes supporting information flow within the organization.	5.84	0.820
	ic5: Our bank has processes for exchanging information and ideas within our branch.	5.88	0.852

Reliability Analysis, Discriminant and Convergent Validity

Before analyzing the data, it is important that the researcher conduct reliability analysis and discriminant and convergent validity. Reliability analysis showed that all constructs had a Cronbach's alpha higher than 0.80, (the lowest value was 0.852) indicating highly reliable constructs (Hair, et al., 2006: 137). Some researchers (Anderson and Gerbing, 1988: 416) provided comprehensive understanding for convergent validity and discriminant validity, which are important validities to measure before conducting further research on structural equation modeling.

To measure convergent validity, confirmatory factor analysis was used by confirming that all scale items loaded significantly on their hypothesized construct factors (Anderson and Gerbing, 1988: 418).

When all the t-values exceed the standard of 2.00, satisfactory convergent validity is indicated (Anderson and Gerbing, 1988: 416). The chi-square statistic tests of both measurement models are significant as anticipated when the sample size becomes large. Other fit indices demonstrated good fit of the models. The results of this study provided the lowest t-value of 9.775, greater than 2.00. Discriminant validity can indicate that one construct differs from other constructs. (Anderson and Gerbing, 1988: 416; Jiang, Klein, and Crampton, 2000: 725). The discriminant validity was examined for each pair of constructs at a time to compare the difference between χ^2 test of fixed and free models, where the results should exceed $\chi^2 (1, 0.05)=3.841$ in order to conclude that two constructs have discriminant validity. In this study, the lowest difference between free and fixed models was 31.551, higher than 3.841, showing that the constructs had discriminant validity.

Table 3: The Results of the Proposed Model

Items	Fit Indices	Criteria
Comparative Fit Index (CFI)	.955	>0.90
Normed Fit Index (NFI)	.937	>0.90
Non-Normed Fit Index (NNFI)	.949	>0.90
Root Mean Square Error of Approximation (RMSEA)	.094	<0.08

From the table above, all three indices showed good model fit. CFI, NFI and NNFI exceed 0.90. RMSEA indicated slightly higher than the criteria. However, when at

least three indices provide a good fit, it can be concluded that the model adequately fit the data (Hair, et al., 2006: 749).

Table 4: The Relation of Parameters and Parameter Estimates of the Proposed Model

The Relation of Parameters	Standardized Estimates
Information Technology Support → Knowledge Management Outcomes	.303*
Teamworking → Knowledge Management Outcomes	.178*
Social Networking → Knowledge Management Outcomes	.308*
Internal Communication → Knowledge Management Outcomes	.335*

Note: * indicates statistical significance at 0.05

This model showed the direct effects of factors concerning information technology support (path coefficient = .303 and t-value = 6.489), social network (path coefficient = .308 and t-value = 4.511), teamworking (path coefficient = .178 and t-value = 2.906) and internal communication (path coefficient = .335 and t-value = 4.809) on knowledge management outcomes. This step indicates clearly the effects of four factors on knowledge management outcomes. The goal of this model is to study the direct impact of the four factors and knowledge

management outcomes. The results indicated that the four factors have a statistically significant and positive relationship with knowledge management outcomes. Moreover, internal communication had the highest positive influence on knowledge management outcomes, followed by social network. Information technology support and teamworking had a statistically significant and positive influence on knowledge management outcomes to a lesser degree than other factors.

Discussion

Results of this study revealed several crucial findings for the area of knowledge management. The influence of factors affecting knowledge management outcomes has been widely discussed in literature, but little has been done in the form of empirical studies. Moreover, a comparison of the influences of how each factor affects knowledge management is also provided in this study. Several practitioners pay significant attention to and investment in information technology support for improving knowledge management processes in the organization. The findings showed that internal communication and social networking had a stronger influence on knowledge management outcomes than information technology support. Moreover, the importance of teamworking and the empirical study indicated that, compared to other factors in this study, teamworking has the lowest influence on knowledge management outcomes (Nonaka, 1991: 98). Additionally, improving the role of social networking in knowledge management by activities to support a higher degree of social networking has been shown to enhance knowledge management outcomes.

Conclusions

The research indicated significant findings in that internal communication and

social networking were found to be the most important factors affecting knowledge management outcomes. This highlights the fact that organizations can achieve higher knowledge management outcomes by emphasizing the flow of communication and extending the social networking or connections with groups outside of the organization. In addition, organizations need to increase the importance of effective internal communication, including among and within divisions, units and departments. Moreover, the roles of information technology support and teamworking are also necessary to enhance the knowledge management outcomes, or organizational performance.

References

- Anantamula, V., and Kanungo, S. 2006. "Structuring the Underlying Relations among the Knowledge Management Outcomes." **Journal of Knowledge Management** 10, 4: 25-42.
- Anderson, J.C., and Gerbing, D.W. 1988. "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach." **Psychological Bulletin** 103, 3: 411-423.
- Avkiran, N.K. 1997. "Models of Retail Performance for Bank Branches: Predicting the Level of Key Business Drivers." **International Journal of**

- Bank Marketing** 15, 6: 224-237.
- Bank of Thailand. 2007. **Financial Data of Commercial Banks** [Online]. Available: http://www.bot.or.th/bothomepage/databank/Financial__Institutions/New__Fin__Data/CB__Menu__E.htm
- Farrell, C., and Song, Jae, H. 1988. "Strategic Uses of Information Technology." **SAM Advanced Management Journal** 53, 1: 10-16.
- Gandhi, J., and Sauser, B. 2008. "Knowledge Networks: How Independence and Subject Matter Experts Can Influence Project Reviews." **Engineering Management Journal** 20, 1: 19-28.
- Gao, F., Li, M., and Clarke, S. 2008. "Knowledge, Management, and Knowledge Management in Business Operations." **Journal of Knowledge Management** 12, 2: 3-17.
- Gooijer, J. 2000. "Designing a Knowledge Management Performance Framework." **Journal of Knowledge Management** 4, 4: 303-310.
- Greenough, R. 1998. "Empirical Study of Attitudes to Teamworking in Manufacturing System Maintenance." **Journal of Quality in Maintenance Engineering** 4, 1: 12-24.
- Grover, V., and Davenport, T.H. 2001. "General Perspectives on Knowledge Management: Fostering a Research Agenda." **Journal of Management Information Systems** 18, 1: 5-21.
- Hair, J., et al. 2006. **Multivariate Data Analysis**. 6th ed. Upper Saddle River, NJ: Prentice-Hall.
- Hu, L., and Bentler, P. M. 1999. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives." **Structural Equation Modeling: A Multidisciplinary Journal** 6, 1: 1-55.
- Jiang, J.J., Klein, G., and Crampton, S.M. 2000. "A Note on SERVQUAL Reliability and Validity in Information System Service Quality Measurement." **Decision Sciences** 31, 3: 725-744.
- Kasikorn Bank 2009. **Kasikorn Bank** [Online]. Available: <http://www.kasikornbank.com>.
- Katzenbach, J., and Smith, D. 1993. "The Wisdom of Teams: Creating the High Performance Organization." **Harvard Business Review** 71, 2: 111-120.
- Lee, H., and Choi, B. 2003. "Knowledge Management Enablers, Processes, and Organizational Performance: An Integrative View and Empirical Examination." **Journal of Management Information Systems** 20, 1: 178-228.
- Lubit, R. 2001. "Tacit Knowledge and Knowledge Management: The Keys to Sustainable Competitive Advantage." **Organizational Dynamics** 29, 4: 164-178.

- MacCallum, R.C., and Austin, J.T. 2000. "Applications of Structural Equation Modeling in Psychological Research." **Annual Review of Psychology** 51: 201-226.
- Nonaka, I. 1991. "The Knowledge-Creating Company." **Harvard Business Review** 69: 96-104.
- Roy, P., and Roy, P. M. 2002. "Tacit Knowledge Management in Organizations: A Move towards Strategic Internal Communications Systems." **Journal of American Academy of Business** 2, 1: 28-32.
- Ruggles, R. 1998. "The State of Notion: Knowledge Management in Practice." **California Management Review** 40, 3: 80-89.
- Sharma, S., Durvasula, S., and Dillon, W.R. 1989. "Some Results on the Behavior of Alternative Covariance Structure Estimation Procedures in the Presence of Nonnormal Data." **Journal of Marketing Research** 26: 214-221.
- Thorne, K., and Smith, M. 2000. "Accounting Control and Performance Measurement in a Teamworking Environment." **Managerial Auditing Journal** 15, 7: 348-357.
- Tsoukas, H., and Vladimirou, E. 2001. "What is Organizational Knowledge?" **Journal of Management Studies** 38, 7: 973-993.
- Van Buren, M.E. 1999. "A Yardstick for Knowledge Management." **Training Development** 53, 5: 71-77.



Chanin Yoopetch is an Assistant Professor at Mahidol University International College, Mahidol University, Nakhonpathom, Thailand. His research areas are knowledge management, dynamic capability, decision choice criteria, service quality, tourism research and consumer research.