

Web-Based Learning Resources and Students' Engagement: An Exploration

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ABSTRACT

Web-based learning is evolving as the new archetype of modern education. The present research examined the extent to which student engagement (Vigor, Dedication, and Absorption) is affected by Web-Based Learning Resources (Availability, Usefulness, Easiness and Quality). Further, this study investigated the effects of need for achievement and self-efficacy on Web-Based Learning Resources (WBLR). The proposed study model was tested by employing higher order structural equation modeling. The results of the study established positive significant effect of WBLR on student engagement. Based on the results of this study, it is argued that the instructors of management education may efficiently assign their time and efforts to improve the student engagement.

JEL Classification: M5, M31, M37

Keywords: student engagement, web based learning resources, self-efficacy, need for achievement, exploratory factor analysis, structural equation modeling

I. INTRODUCTION

The Association to Advance Collegiate Schools of Business Standard 13 (AACSB, 2013) states that students engage academically and professionally when they are “actively involved in their educational experiences, in both academic and professional settings, and when they are able to connect these experiences in meaningful ways”. Web Based Learning Resources (WBLRs) have the capability to deliver rich learning environments in an autonomous and collaborating modes. WBLRs have become more available to enable learning to all the stakeholders in the learning ecosystem due the availability of advanced technologies during these times.

WBLRs are thought to help learning organizations better manage teaching and learning processes by offering spaces for the storage, collection, and management of helpful materials. In order to make teaching and learning resources accessible to all stakeholders free from constraints of time and location, educational institutions and corporate trainers are putting their sincere efforts to make study material virtually available. Khan (2000) claims that wise use of all these internet resources could result in positive learning results. The author continued by saying that facilitators should make an effort to pinpoint any potential issues that students may encounter.

Understanding the distinctions amongst learners based on their demographic and personality features is crucial for building and implementing successful learning management systems (LMS) for students (Gardner et al., 2002). These variations will handle different WBLR dimensions in different ways. All administrators must comprehend the fundamental workings of WBLRs and how they affect students’ intellectual engagement in order to adopt virtual learning effectively. The effectiveness of WBLR is essential for student involvement, which ultimately results in their pleasure (Chou and Liu, 2005).

Academicians are given more power by WBLRs to evaluate students’ abilities in a variety of scenarios, including learning application, synthesis, and creative problem-solving. A full use of Wikipedia, forums, blogs, integrating blogs across classes, leveraging blogs to boost off-campus student interaction, and even employing audio and visual learning materials for engaging students are all examples of web-based resources.

II. WEB BASED LEARNING RESOURCES (WBLRS)

The terms “web-based learning”, “online education”, “virtual learning environment” and “computer mediated learning” are well-known synonyms for e-learning and Web-based learning materials, according to Khan (2001). Due to their many helpful properties, such as ease of use, instructiveness, adaptability, etc., WBLRs have gained a lot of traction in the effort to build a platform for learners to share knowledge. Massive Open Online Courses (MOOCs), which first appeared in 2012, have elevated the importance of these resources throughout all educational processes. LMSs built on WBLRs are extremely capable of allowing a variety of functions (Gardner et al., 2002). For students, these solutions guarantee an efficient and efficient learning environment.

The majority of institutes of higher learning offer their courses through online learning platforms. Governmental or non-governmental educational institutions are thrilled to construct digital learning centres and develop digital libraries that contain numerous carefully prepared and accurate instructional databases for learners, according to Hsu et

al. (2011).

WBLR systems like WebCT, Learnwise, and Blackboard offer formative assessment tasks including multiple-choice and fill-in-the-blanks questions, as well as discussion boards for cooperative learning activities (Lane et al., 2006). A LMS is created when WBLR technology is modified and tailored for the convenience of the end user.

A LMS is a group of online learning tools and materials that are accessible via a common administration interface. LMS makes WBLR more convenient for the user by customizing and adjusting it (Chou and Liu, 2005). LMS is made up of technology that make it easier to access online courses for both teaching and learning.

Although WBLR is a very impressive online learning approach, its growth pace falls short of expectations. The failure of WBLR implementation had been attributed in large part to low student involvement and an inability to satisfy learners. To fully benefit from the installation of such systems, it is essential to determine how to boost students' involvement and participation with WBLR. By providing feedback that encourages the student to read more thoroughly about the subject, these systems can promote deep learning experiences.

III. ADVANTAGES OF WBLRS

The potential of WBLR technology to facilitate the simplicity of interaction between instructor and learner is its main asset (Sun et al., 2008). The usage of an online learning system "transfers control and responsibility to the student, therefore increasing independence and autonomy in the learning process", claim Chou and Liu (2005).

When compared to traditional learning models, adopting a WBLR system has been shown to increase learner engagement in numerous research studies. Because WBLR systems are so thoroughly designed, they encourage constant involvement, two-way communication, the learner's capacity to publish or email thoughts and reflections instantly, and increased engagement with the course materials. According to Smith et al. (2005), because students have more time to interact with the learning material, reflective abilities may emerge.

By including web-based problem-solving instructions in the system, WBLRs have the ability to improve and maintain the learners' problem-solving abilities. Higher-order cognitive processes are thought to be involved while looking for information to address difficulties. It is worthwhile to create digital libraries since they can be used to perform more web-based problem-solving activities. Students that completely engage with WBLR systems are observed to experience higher levels of deep learning and significantly higher levels of strategic learning as compared to traditional learning, according to Dale and Lane (2007).

The adoption of WBLRs gives students a lasting competitive advantage. From this vantage point, the operant conditioning theory of Skinner (1938) and the classical learning theories of Pavlov (1903) are also utilized. Better learning interfaces are made possible as a result, encouraging students to seek self-directed learning. According to research, students who use WBLRs exhibit greater "connectedness" with one another and with staff members than students who do not utilize WBLRs, which results in higher completion rates (Pavey and Garland, 2004; Enjelvin, 2005; Thurston, 2005). Examples of online tools used by WBLRs include online courses, online quizzes, feedback forms at the end of courses, assignments that assist assess students'

understanding, etc. WBLRs assist students in honing their analytical abilities through the use of online games like Sudoku, crosswords, and logical-reasoning puzzles. WBLRs could serve as a data warehouse that, at its best, could be utilized to examine how courses and students perform (Gardner et al., 2002).

WBLRs may be able to assist instructors with test scoring and analysis. WBLRs assist trainers in keeping track of questions and whether they were correctly or erroneously answered. It also suggests the appropriate design interventions. The inclusion of multimedia elements including music samples, images, and animations can enhance the learning process. According to Arbaugh (2005), adding more media to course websites and uploading course materials in a variety of formats enhance the web-based learning experience. Combining text, audio, and visual information can increase the depth of the content.

IV. FACTORS AFFECTING THE USE OF WBLR

Learner involvement with WBLRs is a result of the system's design and heuristic usage. The level of interaction with WBLRs is determined by aspects such as learning style, motivation, content, design, and system functionality (Gardner et al., 2002). Additionally, a learner's attitude toward WBLR, interactions with other learners, and learner-specific characteristics all have a significant impact on how well WBLRs are used.

Learners Favor WBLR systems that have an easy-to-use interface and convenient ways to interact with the system. This fosters a friendly and laid-back environment for the students. It is common knowledge that students pursuing higher education prefer to have access to content of the highest calibre, and comprehensiveness is also desired (Chou and Liu, 2005). Learners may experience anxiety when trying to access online courses due to technical difficulties. "Factors like huge volume of content, quality of content, perfect access to content effect student satisfaction towards online learning and are closely related to the WBLR system implementation", claims Malik (2009).

The design and implementation of the WBLR system pedagogy are crucial factors determining learner acceptance and usage frequency, according to Patel and Russell (2001). Sun et al. (2008) state that "learner's computer anxiety, instructor attitude toward e-learning, e-learning course flexibility, e-learning course quality, perceived usefulness, perceived ease of use, and diversity in assessments are the critical factors affecting learners' perceived satisfaction and engagement with WBLR".

Interactivity has a social influence that encourages knowledge sharing among peers and motivates them to adopt WBLR (Jong and Wang 2009; Šumak et al., 2011). There is evidence in the literature that learners' behaviour intentions to use WBLR were highly influenced by their attitude toward using technology, conducive conditions, performance anticipation, self-efficacy, and social influence. "Attitude, anxiousness to strive, and self-efficacy are determinants of satisfaction and behavioural intentions toward WBLR", claim Jong and Wang (2009).

The Unified Theory of Acceptance and Use of Technology (UTAUT) theory (Venkatesh et al., 2003), which has been the subject of previous research, contends that students' engagement is increased by their behavioural intention to use Web-based learning resources when they are satisfied with their ease of use, flexibility, Internet competence, and academic achievements. "Behavioral intention depends on system quality or interactive learning activities that are supported by system quality and

interactive collaboration leading to knowledge exchange and development that aid to attain Effective-learning”, claims Liaw (2008).

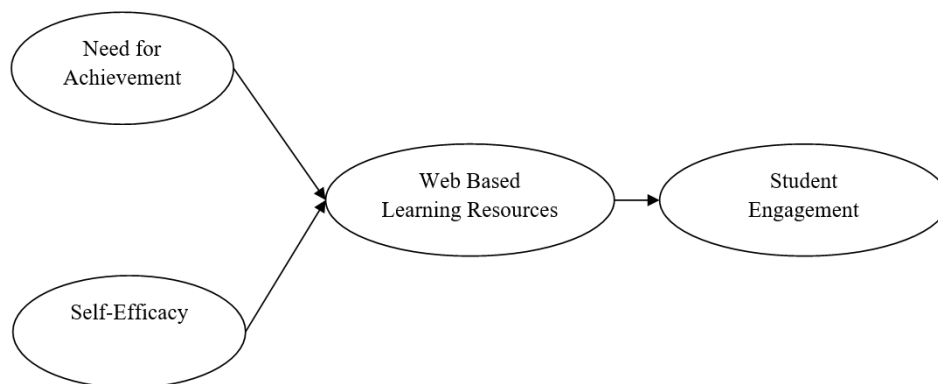
The degree to which students positively perceive the system’s quality and usefulness is crucial in boosting their behavioural intention to utilize e-learning and their level of pleasure. The technical quality, content effectiveness, user self-efficacy, internet experience, perceived usefulness, and behavioural intention, according to Lau and Woods (2009), “influence the actual use of WBLR”. Perceived utility and perceived simplicity of use were identified by the authors as important variables. The comprehension of user acceptance of learning items was aided by this research project.

The individual diversity and differences in age groups, experience, and student perception also have an impact on the effectiveness of learning when using web-based learning resources (Wright, 1936), demonstrating that degrees of student engagement may vary for different learners. Lemos et al. (2012) state that “course design, instructors, learning approaches, evaluations, and technical infrastructure are all factors that affect student engagement”. A few tactics that aid in boosting student engagement include immediate feedback response and meaningful participation on discussion boards based on pertinent issues.

Additionally, students are more engaged when they can collaborate, feel like they belong to a community, connect with peers one-on-one, and work on documents using one of the many free online collaboration tools, such as social media discussions, social bookmarking tools, blog and vlog posts, infographics, concept maps, multimedia presentations, and many other tools.

A. Conceptual Research Framework

Figure 1
Study Model



B. Objectives of the Study

1. To test the effect of ‘Need for Achievement’ and ‘Self Efficacy’ on management students’ perceptions regarding WBLRs.
2. To examine the impact of WBLRs on students’ engagement.

V. RESEARCH METHODOLOGY

A. Sample

The National Capital Region (NCR) provided the sample data, which included 156 students in the last year of the two-year Post Graduate Program in Management.

B. Data Collection

A structured questionnaire was used to gather the primary data. Seven demographic factors were among the sixty-two total questions on the research instrument. The management institution's respective classrooms were where the offline survey was given out.

Table 1
Study Questionnaire

Serial Number	Name of Construct	Number of Items
1	Student Engagement	15
2	WBLR	22
3	Self-Efficacy	9
4	Need for Achievement	9
Total		55

The need for achievement was assessed using Schuler's nine-item scale (2002). To evaluate various facets of web-based learning resources, 22 items were used. Self-Efficacy was assessed using a nine-item Schwarzer and Jerusalem (1995) scale. Using the 15-item scale recommended by Schaufeli et al. (2002), the student involvement construct was measured. Three sub-dimensions, including vigour, absorption, and dedication, made up this scale. All scale items were measured on 4-point Likert's scale (0 = Not at all True, 1 = Somewhat True, 2 = Largely True, 3 = Absolutely True). The research instrument included demographic variables such as; age; gender; graduation, and rural/urban background, students' WBLR knowledge, WBLR frequency, and Cumulative Grade Point Average (CGPA).

After six replies were disregarded because they were "No" responses on the WBLR Knowledge, the final sample size of 150 students was employed for the data analysis.

C. Data Analysis

This study used descriptive analysis, reliability analysis, exploratory factor analysis (IBM SPSS 21.0), confirmatory factor analysis and structural equation modeling (IBM AMOS 21.0).

D. Demographic Profile

Table 2
Demographic Profile

S.N.	Parameter	N	Range	Distribution (%)
1	Age	156	21 - 28	23 years = 57%
2	Gender	156	1 – 2	Male = 63.5% Female = 36.5%
3	Graduation Stream	156	1 – 6	Engineers = 23.1% Science = 5.8% Commerce = 49.4% Arts = 1.9% Business Administration = 16.7% Others = 3.2%
4	Rural / Urban	156	1 – 4	Village = 1.9% Small Town = 7.7% City = 53.8% Metro = 36.5
5	WBLR Knowledge (means knowledge about WBLR)	156	1 – 2	Yes = 96.2% No = 3.8%
6	WBLR Frequency (Means how often you use WBLR)	150	1 – 5	Monthly = 18.7% Bimonthly = 10.7% Weekly = 18.7% Twice a week = 14.0% Daily = 37.3%
7	CGPA	156	4 - 9.53 (on a 10-point scale)	

E. Exploratory Factor Analysis Results

To explore underlying factor structure among study variables of WBLR, a Principal Component Analysis with varimax (variance maximization) rotation was carried out. To determine the suitability of sample size for better factor structure, Kaiser-Meyer- Olkin (KMO) measure of sampling adequacy was first computed

KMO value of 0.899 indicates adequate sample size for the study. Significant value of Bartlett's Test of Sphericity concludes that item to item correlation matrix is not an identity matrix. Hence factor analysis can be conducted for study variables.

The Table 4 shows that the four factors identified by exploratory factor analysis, which accounts for 59.555% of the variance in the study construct, provides a solution to the problem. Due to inadequate factor loadings, two products were abandoned. The first factor, with an Eigen Value of 7.797, explained 38.986% of the variance; the second factor, with an Eigen Value of 1.531, explained 7.654% of the variance; the third factor, with an Eigen Value of 1.419, explained 7.097% of the variance; and the fourth factor, with an Eigen Value of 1.164, explained 5.819% of the variance.

The four factors identified through thematic analysis are availability, easiness, usefulness, and quality. After doing a reliability analysis, we discovered that Cronbach's alpha values vary from 0.756 to 0.836. Additionally, the overall Cronbach's alpha for the entire WBLR construct was found to be 0.916. Additionally, the constructs of Need for Achievement, Self-Efficacy, and Student Engagement had Cronbach's alpha values of 0.707, 0.735, and 0.845, respectively. As a result, the trustworthiness of the entire study tool was established.

Table 3

KMO and Bartlett's Test of Sphericity		
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy		0.899
Approx. Chi-Square		1395.721
Bartlett's Test of Sphericity	Df	190
	Sig.	0.000

Table 4

Exploratory Factor Analysis Results						
S.N.	Factor	Item Number	Eigen Value	% Variance Extracted	Factor Loadings	Cronbach's Alpha
1	Availability	42	7.797	38.986	0.524	0.826
		44			0.650	
		46			0.609	
		47			0.661	
		48			0.637	
2	Easiness	51	1.531	7.654	0.681	0.756
		37			0.554	
		40			0.658	
		41			0.680	
		43			0.664	
3	Usefulness	45	1.419	7.097	0.530	0.836
		34			0.748	
		35			0.702	
		36			0.740	
		38			0.629	
4	Quality	39	1.164	5.819	0.566	0.764
		49			0.679	
		50			0.749	
		52			0.505	
		53			0.648	
Cumulative Variance Explained by all 4 Factors						59.555
Cronbach's Alpha for Total WBLR Scale (all 20 items)						0.916
Cronbach's Alpha for Need for Achievement (9 items)						0.707
Cronbach's Alpha for Self-Efficacy (9 items)						0.735
Cronbach's Alpha for Student Engagement (15 items)						0.845

Structural model with two first order constructs and two second order constructs with causal relationships had a total of 119 distinct parameters and 1431 distinct sample moments. The model was identified and a minimum was achieved. All the study parameters were practicable and standard errors in acceptable limits. Statistical significance of the parameter estimates was established as a test-statistic (t-value) and in each case was greater than threshold limit of 2.58. It can be seen from the table that all goodness-of-fit indices exceeded the recommended threshold levels (Browne and Cudeck, 1993; Bagozzi and Yi, 1988). Hence the structural model was ascertained fit.

It can be seen from the higher order Structural Equation Modeling results that WBLRs had positive significant impact on Student Engagement ($\beta = 0.304$, $p = 0.007$), self-efficacy had positive significant impact on WBLRs ($\beta = 0.291$, $p = 0.005$), whereas need for achievement had an insignificant impact on WBLRs ($\beta = 0.130$, $p = 0.103$). So, it can be concluded that two study hypotheses (WBLRs significantly impact student engagement, and SEF significantly impacts WBLRs) were supported and one study

hypothesis (NOA significantly impacts WBLRs) was not supported at 5 percent level of significance.

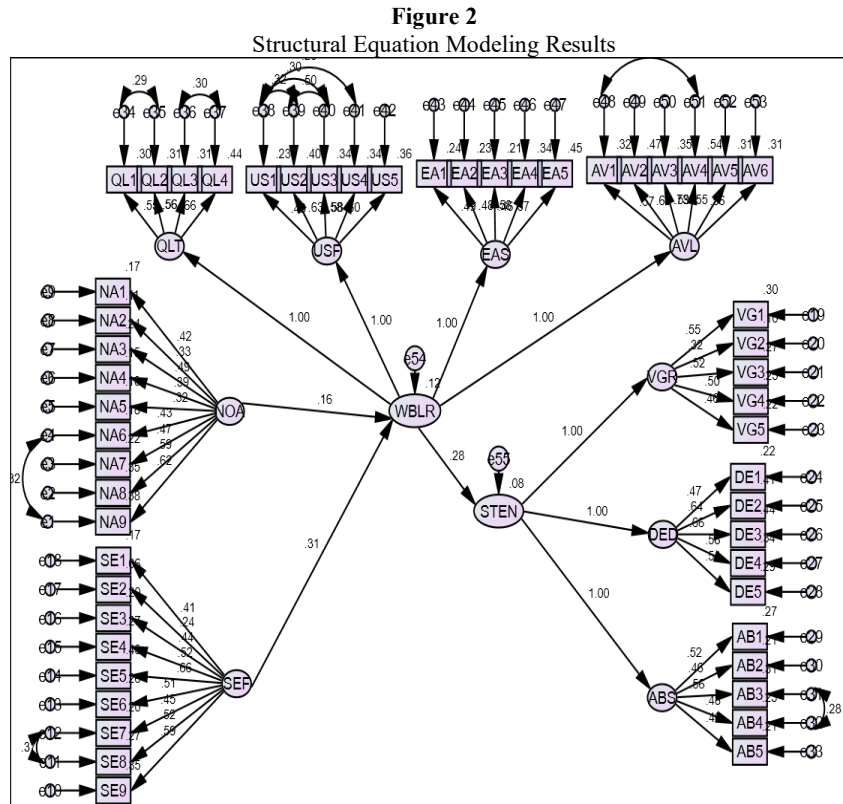


Table 5
Fit Indices

S. N.	Goodness of Fit Index	Value	Acceptable Threshold Value (Hair et al., 2010)
1	CMIN	2112.791	-
2	Df (Degrees of Freedom)	1312	-
3	CMIN/DF	1.610	good if < 3
4	PRATIO (Parsimony Ratio)	0.952	good if ≥ 0.90
5	CFI (Comparative fit Index)	0.708	Range 0 -1, good if more towards 1
6	RMSEA (Root Mean Square Error of Approximation)	0.063	good if < 0.08
7	P Close	0.000	good if close to or equal to 1
8	RMR (Root Mean Squared Residual)	0.073	good if < 0.08
9	ECVI (Expected Cross Validation Index)	Default Model = 15.166 ECVI value for Saturated Model = 18.465 ECVI value for Independence Model = 17.617	Default model should have least ECVI value

Table 6
Structural Model Results

Relationship	Unstandardized Estimates	Standardized Estimates	S. E.	C. R.	p-value	R-Square
NOA→WBLR	0.130	0.164	0.080	1.233	0.103	0.120
SEFWBLR	0.291	0.305	0.103	2.819	0.005	
WBLR→STEN	0.304	0.277	0.112	2.715	0.007	

VI. CONCLUSION AND IMPLICATIONS OF THE STUDY

Students can access the web-based learning tools by using technology. When students use these tools regularly rather than infrequently, a favorable opinion of the many aspects of WBLR will emerge. Self-efficacy becomes crucial as a result. We discovered that self-efficacy had a positive, significant impact on WBLR.

Furthermore, the findings of our empirical investigation supported the strong influence of WBLR on student involvement. The ability of web-based learning materials to engage students in learning, which will ultimately reflect in terms of their academic success, may be linked to these results. We were unable to verify a significant effect of need for achievement on WBLR, though. We can deduce that learning exclusively through web-based resources may not be required of the achievement-oriented students.

Focus should be placed on student attentiveness, content relevancy, an inclusive environment, difficult activities, and a sense of accomplishment in order to increase the frequency of usage of WBLR. Students must believe they are in charge of their learning and committed to it in order to be successful in an online environment (Mahawish, 2009). Giving students the chance to engage with the material, impart what they have learned to others, and investigate topics that interest them can motivate them to pay attention and actively participate (Liaw, 2008).

The learning process may be enhanced if institutions make investments in user-friendly, content-rich, accessible information bases using technological interfaces. Furthermore, in a self-directed learning environment, future technologies must create solid solutions to support self-efficacy as a component influencing the perception of web-based learning materials.

VII. LIMITATIONS AND AVENUE FOR FUTURE RESEARCH

Even though we made an effort to validate the results throughout the Indian population, there are still some limitations that need to be taken into account. The first drawback is the use of subjectivity in naming and recognizing the WBLR variables. Second, we used cross-sectional primary data to test our study model. Although we anticipate that the results in other semi-peripheral countries will be similar to ours, we still anticipate that these results will need to be confirmed in different national situations.

The authors strongly suggest that open-ended questionnaires and/or interviews might be used to gain more insights into students' web based learning behaviors in further studies. Studies concerning the gap between WBLR toward web-based learning in general and WBLR toward a specific course may offer potential insights for the enhancement of implementing online courses. And discovering change in students' engagement across both the aspects may provide a different perspective.

REFERENCES

- AACSB, 2013, Eligibility Procedures and Accreditation Standards for Business Accreditation. Retrieved 2022-09-17 from <http://www.aacsb.edu/accreditation/standards/2013business/Academic%20and%20Professional%20Engagement%20standards/standard13.aspx>
- Arbaugh, J.B., 2005, "Is there an Optimal Design for On-line MBA Courses?," *Academy of Management Learning & Education*, 4, 135-149.
- Hsu, C.K., Hwang, G.J., Chuang, C.W., and Chang, C.K., 2012, "Effects on Learners' Performance of Using Selected and Open Network Resources in a Problem-based Learning Activity", *British Journal of Educational Technology*, 43, 606-623.
- Chou, S-W., and Liu, C-H., 2005, "Learning Effectiveness in a Web-Based Virtual Learning Environment: A Learner Control Perspective", *Journal of Computer Assisted Learning*, 21, 65-76.
- Dale, C., and Lane, A.M., 2007, "A Wolf in Sheep's Clothing? An Analysis of Student Engagement with Virtual Learning Environments", *Journal of Hospitality, Leisure, Sport and Tourism Education*, 6, 100-108.
- Enjelvin, G., 2005, "Investigating VAT (Value-Adding Technologies) and Effectiveness in a French Department", *Journal of Further and Higher Education*, 29, 155-167.
- Gardner, L., Sheridan, D., and White, D., 2002, "A Web-based Learning and Assessment System to Support Flexible Education", *Journal of Computer Assisted Learning*, 18, 125-136.
- Hsu, J.-L., Hwang, W.-Y., Huang, Y.-M., and Liu, J.-J., 2011, "Online Behavior in Virtual Space: An Empirical Study on Helping", *Educational Technology & Society*, 14, 146-157
- Johnson, D.W., and Johnson, R.T., 2005, "New Developments in Social Interdependence Theory", *Psychological Monographs*, 131, 285-358.
- Jong, D., and Wang, T.S., 2009, "Student Acceptance of Web-based Learning System", In Proceedings. *The 2009 International Symposium on Web Information Systems and Applications (WISA 2009)*, 533.
- Khan, B.H., 2000, "Discussion of Resources and Attributes of the Web for the Creation of Meaningful Learning Environments", *Cyberpsychology & Behavior*, 3, 17-23.
- Adelsberger, H.H., Collis, B., Pawlowski, J.M. (Eds.). 2013, *Handbook on Information Technologies for Education and Training*. Springer Science & Business Media.
- Khan, B.H., 2001, *A Framework for Web Based Learning*, Educational Technology Publications.
- Butcher, K.R., and Sumner, T. 2011. "Self-directed Learning and the Sensemaking Paradox", *Human-Computer Interaction*, 26, 123-159.
- Lane, P.J., Koka, B.R., and Pathak, S., 2006, "The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct", *Academy of Management Review*, 31, 833-863.
- Lau, S.H., Woods, P.C., 2009, "Understanding Learner Acceptance of Learning Objects: The Roles of Learning Object Characteristics and Individual Differences", *British Journal of Educational Technology*, 40, 1059-1075.
- Lemos, S., and Pedro, N., 2012, "Students' Expectation and Satisfaction in Postgraduate Online Courses", In *Proceeding of International Conference on Information communication Technologies in Education (ICICTE)*, 568-580.

- Liaw, S.S., 2008, "Investigating Students' Perceived Satisfaction, Behavioral Intention, and Effectiveness of E-learning: A Case Study of the Blackboard System", *Computers & Education*, 51, 864-873.
- Malik, M.W., and Mubeen, G., 2009, "Student Satisfaction towards E-learning: Influential Role of Key Factors", *In Proceeding of COMSATS International Business Research Conference (CBRC)*.
- Pavey, J., and Garland, S.W., 2004, "The Integration and Implementation of a Range of Activities to Enhance Students' Interaction and Learning", *Innovations in Education and Teaching International*, 41, 305-315.
- Pavlov, Ivan, 1903, "The Experimental Psychology and Psychopathology of Animals", *The 14th International Medical Congress*, Madrid, Spain, April 23-30, 1903.
- Schaufeli W.B., Salanova M., Gonzalez-Roma, V., and Bakker, A.B., 2002. "The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach", *Journal of Happiness Studies*, 3, 71-92.
- Schuler, H., Thornton III, G.C., Frintrup, A., and Mueller-Hanson, R., 2002, *Achievement Motivation Inventory (AMI)*. Göttingen, Bern.
- Schwarzer, R., and Jerusalem, M., 1995, "Generalized Self-efficacy Scale", *J. Weinman, S. Wright, & M. Johnston, Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs*, 35, 37.
- Skinner, B.F., 1938, *The Behavior of Organisms: An Experimental Analysis*. New York: Appleton-Century.
- Smith, K. A., Sheppard, S. D., Johnson, D. W., & Johnson, R. T. 2005. Pedagogies of engagement: Classroom-based practices. *Journal of engineering education*, 94, 87-101.
- Šumak, B., Heričko, M., Pušnik, M., and Polančič, G., 2011, "Factors Affecting Acceptance and Use of Moodle: An Empirical Study based on TAM", *Informatica*, 35.
- Sun, P.C., Tsai, R.J., Finger, G., Chen, Y.Y., and Yeh, D., 2008, "What Drives a Successful E-Learning? An Empirical Investigation of the Critical Factors Influencing Learner Satisfaction", *Computers & Education*, 50, 1183-1202.
- Thurston, A., 2005, "Building Online Learning Communities", *Technology Pedagogy and Education*, 14, 353-369.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. 2003. User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Wright, T.P., 1936, "Factors Affecting the Cost of Airplanes", *Journal of Aeronautical Sciences*, 3, 122-128.

A Study of Consumer's Online Buying Intention on Tourism Products from the Perspective of Perceived Value and Promotional Strategies

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ABSTRACT

Targeting at online shopping websites for tourism products, this research used two studies to explore the factors that affect consumers' willingness to purchase tourism products online based on perceived value and promotional strategies using the concept of Benefit, Opportunity, Cost and Risk. A total of 570 valid questionnaires were obtained. The analysis empirical data of first study showed that the reference price, opportunity rarity, searching cost and performance risk all exerted a positive impact on perceived value and group buying intentions. Among the three promotional strategies, only price discounts had a significant impact on consumers' willingness to participate in group buying. This means that the higher the price discount, the greater its impact on perceived value and group buying intentions will be. It is hoped that online travel agents can use the results of this study as a reference to better understand the needs of consumers. The present study finds that the perceived value is positively affected by reference price, opportunity rarity, performance risk, and searching cost. Whereas, perceived value will positively affect the group buying intention if the product has a good discounted price and which enhance the public's interest to pay for a good or service. The present study sufficiently addresses the available research gaps that can be remarkable research for the researchers, academicians, and the industry towards setting up online buying intention of the tourists on tourism Products.

JEL Classification: M2, M3, M31

Keywords: BOCR, online shopping intention, perceived value, promotional strategy

I. INTRODUCTION

Previous literature revealed that the group buying behavior has become a major purchasing behavior of consumers gradually. During online group buying, to a great extent, consumers' "perceived value" of a product determines whether they decide to make the purchase because they are unable to physically assess the goods. This study combined perceived value (Hsu and Chang, 2005) with BOCR (i.e. reference prices, opportunity rarity, searching costs and performance risks) to identify the key factors that consumers take into consideration when making online group buying decisions. The advantage of group buying not only includes convenience, but also the possibility of obtaining the product at a lower price. Many businesses need promotional strategies to compete in the online group buying market or to maintain their market share. This study referred to the categories of promotional strategies proposed by Shimp (1993), and set price discounts, bonus packs and complimentary gifts as moderators based on the immediate inducements for consumers. Thus, this study examined the aforementioned factors that consumers take into account when deciding to participate in group buying, namely reference prices, opportunity rarity, searching costs, performance risks, perceived value, group buying intentions, and promotional strategies.

In the past research, there is much discussion on the advantages of the tourism products but the group buying intention and perceived value was scantily addressed. It is a significant motivation to conduct the present research. The present research can provide the answers for the identified research questions of the study these are: (1) why group buying behaviors appear and what are its characteristics; (2) what are the impact of reference prices, opportunity rarity, searching costs, and performance risks on perceived value; (3) how promotional strategies, namely price discounts, bonus packs, and complimentary gifts, influence perceived value and group buying intentions. The research questions were solved in the study by accomplishing various objectives of the study these are:

1. To understand the impact of perceived value (using tourism products) on group buying intentions.
2. To verify the relationship among performance risk, searching cost, reference price and opportunity rarity.

Due to the increase in the number of consumers in the group buying market, many merchants have been attracted to this online trading market. The difference between online group buying and online shopping lies in the emergence of group buying initiators. The exchange of group buying information allows consumers to share information and interact with each other in the virtual community. This study investigated the influence of perceived value and promotional strategies on consumers' willingness to purchase tourism products online, and explored the factors that can increase consumers' willingness to participate in group buying. The results of this study can be used by businesses who intend to enter the online group buying market as a reference to help them understand which sales promotion is the most attractive to consumers.

II. LITERATURE REVIEW

A. Growing Online Buying Market vs Changing on Group Buying Behavior

The number of online market consumers is continually growing because online shopping has allowed them to purchase products and services anytime and anywhere (Strauss and Frost, 2014). Online shopping sites attract consumers mainly because they offer 24-hour shopping which is convenient, time-saving, private, and non-regional. In addition, they offer preferential prices, complete product and service information, a wide range of products and services to choose, and price comparison. According to the Directorate General of Budget, Accounting, and Statistics of the Executive Yuan, in 2016, the total B2B (business-to-business) sales reached NTD 3.137 trillion, which accounted for 85.1% of online sales. Further, the total B2C (business-to-consumer) sales reached NTD 525.7 billion, accounting for 14.9% of online sales. The B2C sales in 2016 have an increase of NTD 91.7 billion in comparison with that of 2015. The B2B sales of the industrial sector reached NTD 2.5593 trillion due to its application of the Electronic Data Interchange (EDI), accounting for 98.1% of its total online sales. The B2C sales of the service sector reached NTD 476.9 billion, accounting for 90.7% of the total B2C sales. In this context, various businesses of tourism products and services have set up online stores in order to keep abreast of this online shopping trend. Under the interactive influence of B2B and C2C (consumer-to-consumer), a new e-commerce model, B2C2C, i.e. business to group initiator (consumer) to team buyer (consumer), was formed. The B2C2C marks the emergence of online group buying.

The Internet provides consumers with a group buying platform, which boasts of its non-regionality, allowing different consumers with the intention of buying the same goods to place an order together over the Internet. In this way, consumers have more bargaining power to get preferential prices and share the freight costs, thereby achieving the effect of economies of scale. Through the mechanism of online group purchase, the seller can reduce the cost of the product, allowing the buyer to purchase it at a lower price. The attractiveness of group buying lies in the enhancement of consumers' bargaining power which enables them to obtain goods at a lower price and overall cost. This study aims to explore the factors that influence consumers' purchase decisions before they participate in group buying. Group purchase motives are also affected by the interactive effects of influential factors. This study used the BOCR (Benefit, Opportunity, Cost, and Risk) proposed by Saaty (1980) as the consumers' manifest variables (Wijnmalen, 2005), aiming to identify the variables that conform to the BOCR and influence consumer's purchase decision. Therefore, for this study, benefit corresponds to *reference price*, cost to *searching cost*, risk to *performance risk*, and opportunity to *opportunity rarity*. The opportunity rarity is a new variable that is used to measure group buying behaviors. Since the most important aspect that affects group buying is the lowered price of a product, businesses take advantage of group buying and initiate sales promotions to stimulate consumers to buy their product. This study utilized three promotional strategies, which are price discounts, bonus packs and complimentary gifts, as moderators.

Group buying mechanisms over the Internet are commonly used in B2B and B2C transactions (Anand and Aron, 2003). The Internet provides consumers with a group buying platform. Because of its non-regionality, it allows consumers to purchase any goods or services online, anytime and anywhere. In this way, the bargaining power of consumers is increased, which permits them to obtain preferential prices and share freight costs among each other, achieving the effect of economies of scale. Through online group

buying, the seller can reduce the cost of the goods that consumers need, and the buyer can purchase the goods at a lower price. Hence, sellers and buyers reap mutual benefits (Yamamoto and Sycara, 2001; Kauffman and Wang, 2002). In the past, Group buying was not an easy feat for consumers due to geographical restrictions; most of them gave up group buying and chose to purchase separately because it was time and energy consuming. However, the development of the Internet has made it easier for consumers to initiate group buying and purchase the same goods with other team buyers at a lower price. Further, the buyer is able to obtain products at a lower price while the seller benefits from group buying due to lower transaction costs from a large transaction volume (Sheu et al., 2006).

B. Perceived Value

According to Pandža Bajs (2015), perceived value provides producers with guidance for creating products that satisfy consumers' expectations between cost and perceived benefits. Perceived value has been explored in the marketing literature for examining variables that are related to future use, purchase decisions, and future product offerings (Jamal and Sharifuddin, 2015). Tourist purchasing decisions have been analyzed and understood using the concept of perceived value (Jamal and Sharifuddin, 2015). Hence, perceived value is positively correlated with behavioral intentions and satisfaction (Chua et al., 2015; Kim et al., 2015). It is defined as the gap between the highest price that consumers are willing to pay for a product or service and the price that they actually pay for it. The higher the consumer's perceived value of a product is, the greater the consumer surplus will be. The consumer's interest on a product or service is usually judged based on the price level; this study refers to *price* as the amount that consumers are willing to pay based on previous similar purchase behavior or on what they have in mind because of an external stimulus. This is known as benchmark or reference price, which will be discussed in the next section. It is the tourist's judgments that determine the perceived value of the experience, and their evaluation includes the information before the purchase, the quality of the service, the tourist resources, the natural surroundings, and the amount of time, money, and effort invested (Jamal and Sharifuddin, 2015). Due to this, measuring perceived value in tourism can have a wide-ranging impact (Petrick, 2002). Therefore, the focus on perceived value is also very useful for attracting responsible tourists to tourism products (Kim and Park, 2017). In the same way, perceived value has been considered a reliable concept for predicting tourist behavior (Eid and El-Gohary, 2015; Pandža Bajs, 2015). Opportunity cost in Economics refers to the cost incurred by the abandonment of one commodity to obtain another. When consumers are presented with an "opportunity", which is an unpredictable stimulus, they abandon one commodity to obtain the other partly based on the present environment or limited resources, not entirely on their rational thoughts or will (Hsing, 2002). The environment and the limitation in resources also reflect the concept of opportunity rarity.

Consumers' product satisfaction depends on the expenditure cost and the expected benefit. Product information is relatively important when consumers are making the decision to purchase. Based on the searching cost of the transaction cost theory, consumers first consider whether it is convenient for them to get the product before purchasing. Consumers also take into account the cost of the product based on their perceived value. The cost involves risks (Murphy and Enis, 1986) that consumers may

encounter when making purchase decisions; consumers are often not completely certain that they can achieve their purchase goals (Cox and Rich, 1964). Consequently, they also consider the risks involved when they are evaluating a commodity's perceived value. Perceived value, proposed by Tam (2004), is a consumer's assessment of the cost to obtain the product or service. This assessment is a comparison of a product or service's get and give components (Sweeney and Soutar, 2001). Zeithaml (1988) argued that some consumers perceive value when there is a low price. others perceive value when there is a balance between quality and price. Online shoppers participating in group buying are unable to physically assess the goods. Thus, the only basis for their perceived value of goods is the information provided, which becomes the focus of consumers' purchasing decisions.

C. Reference Price

Reference price refers to any price that consumers associate with when they come into contact with product information (Biswas and Blair, 1991). The previous price levels of commodities can affect consumers' current demand (Kalwani, 1990). The perceived value of a product is indirectly affected by its market price (Chang and Wildt, 1994). The consumers' lowest and highest estimates of the market price (Urbany et al., 1998) form an internal reference price range that serves as the basis for future price judgments. Biswas and Blair (1991) proposed that the categories of reference prices can be further divided into "external reference price" and "internal reference price". The external reference price refers to the price that retailers provide to consumers, while the internal reference price, also known as the "adaptation level price", refers to the price that consumers expect a product would cost them. The external reference price can significantly increase the perceived value of the consumer during their assessment of internal prices and can affect their searching intention; the external reference prices can significantly increase the perceived value of consumers (Urbany et al., 1988; Lichtenstein and Beardeb, 1989; Grewal et al., 1998). Based on the definition of the reference price and perceived value, it can be deduced that during group buying, consumers compare the price of a product among different channels, which enhances the external reference price. At this time, consumers are able to form an adaptation level price. In terms of perceived value, group buying provides consumers with large bargaining power, resulting in a lower price than the market price. Through this, consumers form an internal reference price range and acceptable price range. When the group buying cost proposed by the group buying initiator is acceptable to consumers, and lower than the internal reference price, the perceived value of the product is relatively improved. Therefore, the first hypothesis is proposed which is as follows:

H1: The higher the reference price of group buying, the higher the consumers' perceived value of the product will be.

D. Opportunity Rarity

The rarity of resources increases the demand of consumers (Wernerfelt, 1984). Under certain circumstances, a consumer makes a purchase decision immediately due to limitations in time and in product quantity, quality, and price. The "opportunity" of time

when the consumer has to decide whether to purchase the product or not becomes “rare”. Opportunity rarity integrates the “opportunity”, or the consumer’s purchase decision, planned or unplanned, which becomes a final decision due to the unexpected stimulation provided by product information, and the “rarity”, including those of prices, waiting time, and product efficacy. Online group buying often has restrictions of time in terms of when to place orders and on the number of team buyers, which often prompts consumers to evaluate the purchase and make the decision before the deadline is passed or the quota is full. Group buying has the advantages of low prices and short waiting time. These restrictions and advantages enable consumers to have the speculative mentality that they cannot miss an opportunity, thereby encouraging or preventing them from deciding on making a purchase. Opportunity Rarity is a creative variable in this study. It is a concept that integrates trading “opportunity” deduced from “transaction frequency”, and “rarity” from the resource-based view. The opportunity rarity in this study represents the consumers’ perceived rarity of the product’s quantity, quality, price, and availability. That perception leads to the formation of trading opportunities. This illustrates that the higher the rarity of the group buying products that a team buyer initiates, the less likely it will be for consumers to give up group buying, and the higher the corresponding perceived value will be. This study deduces that opportunity rarity exerts a positive impact on perceived value and proposes the following hypothesis:

H2: The higher the opportunity rarity of group buying is, the higher the consumers’ perceived value of the product will be.

E. Searching Cost

When consumers are faced with problems related to consumption, they need to search for supplementary information to assist them in making decisions. In a study conducted by Abubakar and Ilkan (2016) the “word of mouth”, is an effective way of gathering information especially for consumers who feel at risk with online shopping. Since tourism products and services aren’t accessible until consumption, potential visitors consult online reviews before making a purchase (Abubakar and Ilkan, 2016). Accordingly, positive WOM messages are most powerful at the end of a buying process; they reduce fear, and uncertainty, and enact confidence (Martilla, 1971). A WOM message is a way of reducing risk and uncertainty regarding a product or service based on the opinions of others. According to Murray’s (1991) influential study, consumers use WOM messages to reduce the risk they perceive as a result of uncertainty associated with service purchasing decisions. Settle and Aleck (1989) explained that the WOM message, is one of the most influential and popular means of eliminating risk and uncertainty associated with a product or service purchase. Significantly, a simple “word of mouth” can circulate rapidly on the internet and could influence the buying intention of the consumer. When a team buyer initiates group buying and sends messages to other potential team buyers, the message receivers would need to recall whether similar purchase information had been encountered previously. This means that they are already searching for internal information. When the message receiver does not recall any previous purchase experience, and the initiator did not provide any expected information on the product, they would need to search for external information. When the perceived searching cost is low, this means that consumers do not need to spend much time looking

for the information they need, thereby reducing the amount of time and costs. This increases their perceived value on the product. The lower the searching cost, the faster and easier it will be for consumers to obtain product information. On the contrary, when they are not satisfied with the product recommended by the group-buying initiator, they would need to search for other group buying information, which increases their searching cost. This study deduces that the searching cost directly exerts a negative impact on perceived value. Therefore, the following hypothesis is proposed:

H3: The lower the searching cost of a product during group buying, the higher the consumers' perceived value of the product will be.

F. Performance Risk

Performance risks involve the possibility that the purchased product may not offer the expected efficacy or it is not usable as expected (Jacoby and Kaplan, 1972; Brooker, 1984; Schiffman and Kanuk, 1994). During group buying, it is important for consumers that the products they are to buy will meet their expectations. Therefore, the difference between the expected and the actual physical product entails the risk that a consumer needs to take. When consumers search for products of interest in group buying blogs, the risk of group buying is formed through their previous purchase experiences or other buyers' evaluation. Since the products for group buying is displayed in a virtual platform, the products cannot be physically assessed prior to purchasing. Under this circumstance, the consumer will form expected efficacy of the product between the time consumers decide to participate in group buying and the time they receive the physical product. It is important for consumers that the purchased product functions as effectively as their previous experience or as how other previous buyers have described. The lower the performance risk of group-buying products is, the higher the perceived value will be. This study deduces that the performance risk has a direct negative impact on perceived value. Therefore, the following hypothesis is proposed:

H4: The lower the performance risk of the group-buying product is, the higher the consumers' perceived value of the product will be.

G. Group Buying Intentions

The willingness to purchase refers to the likelihood that a consumer will buy a product at a certain period of time. The willingness to purchase is an important indicator of the occurrence of consumer buying behaviors (Spear and Singh, 2004). In the virtual community, the willingness to participate in group buying is that a buyer decides to buy group buying products with the initiator. The higher the perceived value of the product for group buying is, the higher the consumers' willingness to purchase and the higher their willingness to participate in group buying will be. This study deduces that the perceived value directly exerts a positive impact on the willingness to participate in group buying. Hence, the following hypothesis is proposed:

H5: The higher the perceived value of the product for group buying is, the higher the consumers' willingness to participate in group buying will be.

III. PROMOTIONAL STRATEGY EFFECT (STUDY 2)

Sales promotions refer to a variety of incentives that aim to stimulate target consumers or dealers to produce an immediate or enthusiastic response of buying a specific product or service, most of which are of a short-term nature (Schultz and Robinson, 1982; Kotler, 2000). The American Marketing Association (2010) defined “promotion” as the behavior when a consumer, retailer, or wholesaler uses a predetermined media or non-media as an incentive to encourage consumers to try a certain product, increase their demand for a certain product, or improve the effectiveness of a certain product at a limited period of time. In another perspective, businesses tend to create innovative websites to promote their product that could draw the attention of their consumers. The presentation strategy of the product can affect the consumers purchased behavior while browsing their websites (Alcántara-Pilar et al., 2018).

In this study, group buying promotion is defined as the diverse short-term incentives that are used to stimulate target consumers to buy specific products or services, achieving specific short-term and immediate sales targets. In order to sell their goods or services, manufacturers often use different promotional strategies. These promotions are designed to attract consumers’ attention, and change their purchasing behaviors. Since this study aims to explore consumers’ willingness to buy tourism products online, the formulated promotional strategy is expected to achieve the effect that consumers are immediately responsive to it. The most direct stimulus for consumers is the price. An inexpensive product can make a consumer think that it gives the best value for money. Bonus packs as a promotional strategy involves adding another item with the product to be purchased as a “bonus”, which leads to increase in consumers’ willingness to purchase. The use of complimentary gifts as a promotional strategy involves providing a “gift or freebie” as a reward for buying the product or service. These strategies, namely price discounts (e.g. tipping to guides at a discount), bonus packs (e.g. fare-free door-to-door transportation), and complimentary gifts (e.g. offering free theatre performances), are used in this study to promote online group buying of tourism products. This study adopted second study to explore whether they can directly exert a positive impact on perceived value and the willingness to participate in the group purchase. With this, the following hypotheses 6a to 6c are proposed specifically for study 2:

H6_a: Price discounts have a positive effect on consumers’ perceived value and willingness to participate in group buying.

H6_b: Bonus packs have a positive effect on consumers’ perceived value and willingness to participate in group buying.

H6_c: Complimentary gifts have a positive effect on consumers’ perceived value and willingness to participate in group buying.

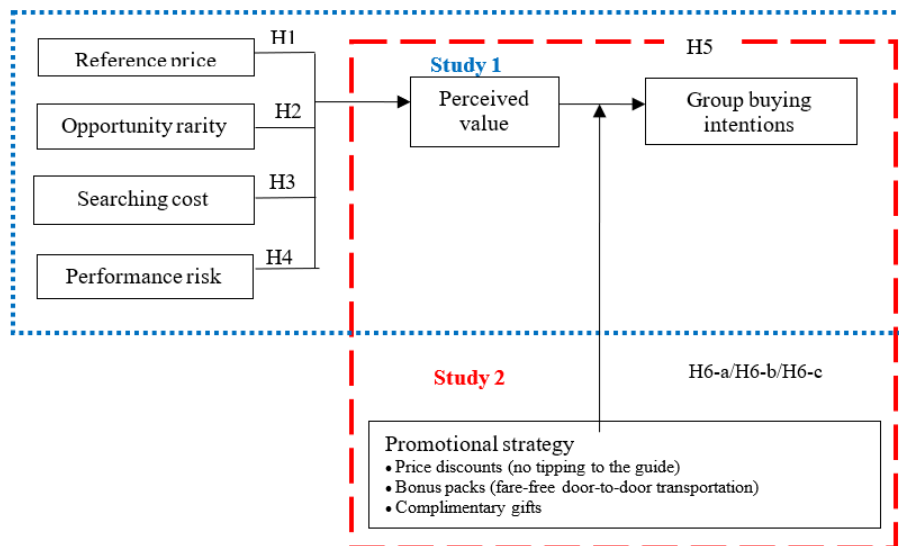
IV. METHODOLOGY

This research explores the online group-buying behavior of consumers with multiple concepts, such as reference prices, opportunity rarity, searching cost, performance cost, perceived value, the willingness to participate in group buying, and promotional strategy (including price discounts, bonus packs, and complimentary gifts). The research framework is shown as Figure 1. The empirical data of this study were obtained through

administration of a survey questionnaire, which was designed based on relevant literature review. The following variables were used: reference price, opportunity rarity, searching cost, performance risk, perceived value, willingness to participate in group buying, and promotional strategies (price discounts, bonus packs and complimentary gifts). The participants of this study were obtained through purposive sampling, and those who booked rooms online were recruited to participate in answering the survey questionnaire. The questionnaire included a total of 34 items and a seven-point Likert scale was used as the method for measurement. In this study, the SPSS 18.0 software package was used to analyze the reliability and validity of the collected data. Moreover, the AMOS18.0 was utilized to construct the structural equation model. Also, the moderating variables were analyzed to examine the extent to which the interaction terms influenced the dependent and independent variables.

This study distributed a total of 600 survey questionnaires. All were recovered but only 570 questionnaires (effective recovery rate reached 95%) were considered valid; the remaining 30 questionnaires were considered invalid due to various reasons such as missing and/or repeated responses. A total of 371 (65.1%) respondents are females, while 199 (34.9%) are males. Moreover, the majority of the respondents (347, 60.9%) attended college or university. In addition, 283 (49.6%) respondents were aged between 20 and 29 years old, while 96 respondents (16.8%) were aged between 30 and 39 years old. In addition, 39.5% of the respondents have participated 1-2 times in group buying within the last six months, 29.3% have not participated in any group buying activities within the last six months, and 20.5% have engaged 3-4 times in group buying in the last six months. For the number of occurrences in group buying participation, “0 times” was added as a control variable since it can provide information about the factors that can stimulate the group buying participation of those who never engage in group buying.

Figure 1. Research Framework of this Study



V. ANALYSIS

A. Study 1: Reliability, Validity, Path Analysis

The composite reliability of latent variables is a component of the reliability of all of the observed variables, and Fornell and Larcker (1981) recommends a value of 0.6 or higher. Hair et al., (1998) suggested that the factor loadings for individual construct should exceed 0.5. The square root of the AVE is greater than the correlation coefficient, so the questionnaire had discriminant validity (Fornell and Larcker, 1981). Table 1 shows the Cronbach's alpha values for each variable of the questionnaire which were: 0.889 for the reference prices, 0.81 for opportunity rarity, 0.808 for the searching cost, 0.913 for the performance risk, 0.905 for perceived value, 0.881 for willingness to participate in group buying, 0.912 for price discounts as a promotional strategy, 0.918 for bonus packs as a promotional strategy, and 0.913 for complimentary gifts as a promotional strategy. The Cronbach's alpha values indicated that the internal consistency for each scale was good. In terms of validity analysis, the factor loading values were obtained using SPSS18.0 software and the results are as follows: between 0.689 and 0.785 for reference price, between 0.785 and 0.863 for opportunity rarity; between 0.789 and 0.866 for searching cost, between 0.815 and 0.856 for performance risk, between 0.838 and 0.898 for perceived value, and between 0.767 and 0.874 for group buying intention. Overall, the questionnaire had a considerable degree of validity. And the square root of average variance extracted (AVE) is greater than the correlation coefficient, which suggests that the questionnaire had convergent and discriminant validity (See details in Table 1).

This study used structural equation modelling (SEM) to explore the interaction effect between the various constructs, and to verify H1, H2, H3, H4, and H5. The path diagram for the theoretical framework was obtained based on the research framework. The results indicate that the higher the reference price for group buying products, the higher the consumers' perceived value will be; the higher the opportunity rarity of group buying products, the higher the consumers' perceived value will be; the lower the searching cost of group buying products, the higher the consumers' perceived value will be; the lower the performance risk of group buying, the higher the consumers' perceived value will be; the higher the perceived value of group buying is, the higher consumers' willingness to buy will be, and so the higher the willingness to participate in group buying. As shown in Figure 2 and Table 2: H1, H2, H3, H4, and H5 are all supported (See details in Table 2 and Figure 2).

Table 1
Analysis of Discriminant Validity and Coefficients for the Variables

	(1)	(2)	(3)	(4)	(5)	(6)	C.R	AVE
(1) Reference Price	0.696	0.257**	0.048	-0.032	0.213**	0.323	0.8239	0.4851
(2) Opportunity Rarity		0.788	0.122**	0.104*	0.100*	0.233**	0.8906	0.6205
(3) Searching Cost			0.866	0.766**	-0.347**	0.134**	0.9225	0.75
(4) Performance Risk				0.886	-0.392**	0.131**	0.9369	0.7878
(5) Perceived Value					0.89	0.292**	0.9385	0.7926
(6) Group Buying Intention						0.817	0.8885	0.6667
Mean	5.6733	5.2523	4.2789	4.2509	5.0136	5.1513		
Cronbach's alpha	0.889	0.881	0.808	0.913	0.905	0.881		

Note: The diagonal value is the square root of the AVE. Data source: collected by this study

Table 2

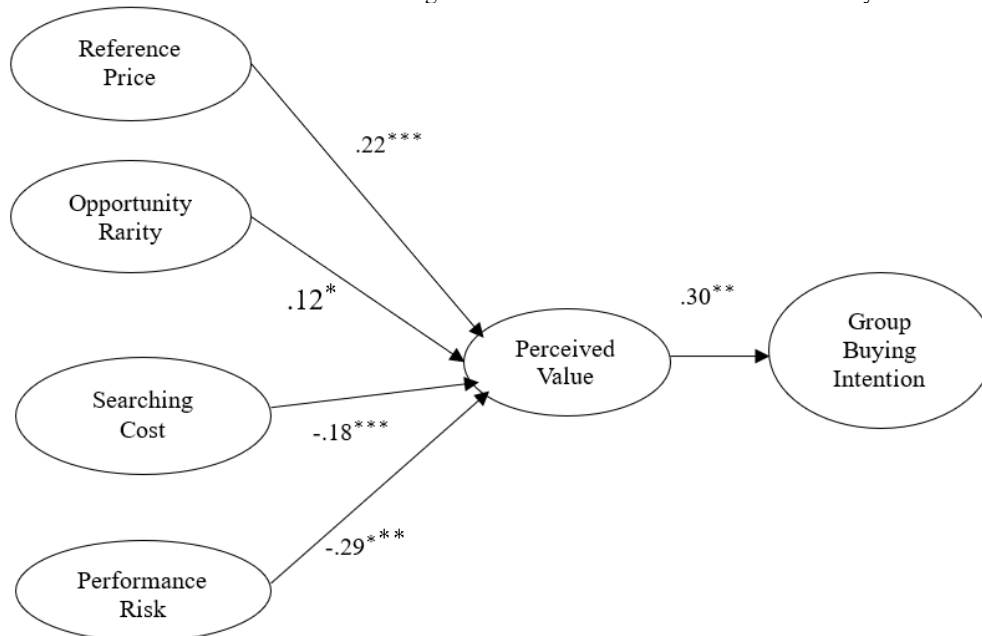
The Relationship between the Paths of the Variables and the Test of Goodness-of-Fit of H1 to H5

Hypothesis	Independent variable	Dependent variable	Relationship	Std. Coefficient	P values	t values
H1	Reference price	Perceived value	+	0.219***	< 0.001	4.785
H2	Opportunity rarity	Perceived value	+	0.118*	< 0.05	2.802
H3	Searching cost	Perceived value	-	-0.181***	< 0.001	-4.383
H4	Performance risk	Perceived value	+	-0.290***	< 0.001	-6.920
H5	Perceived value	Group-buying intention	+	0.298***	< 0.001	6.623

Note: * p < 0.05; ** p < 0.01; *** p < 0.001 Data source: collected by this study

Figure 2

The Test Results on the Path Diagram of the Research Framework of this Study



B. Study 2: Reliability, Validity, Path Analysis

In order to extensively examine the influence of promotional strategies on perceived values, the authors further executed study 2 to test the effect between promotion strategies of price discounts, bonus packs, and complimentary gifts on perceived values. This study used AMOS 18.0 software for computation. The three promotional strategies were compared to explore their moderating effects on perceived value and group buying intention. The factor analysis approach was used to compute and analyze whether the moderating variables are supported or not. The confirmatory factor analysis (CFA) models for promotional strategies are shown in Figures 3 to 5. All latent variables (price discounts, bonus packs and complimentary gifts) were estimated by allowing every two factors to correlate for each CFA model, after which the factor weights were used to compute the factor scores (see Figure 3a, 3b, 3c, 3d for CFA model details and Table 3 for path diagram coefficient details). Figure 3a shows the regressions of all interaction

terms obtained through factor scores, while the path analysis is of the research framework for this study. Figure 3d shows the moderating effect on the path analysis results for variables of Discount, Bonus Packs and Complimentary Gifts. The relationship among various variables and the test of goodness of fit, indicating that H6-a is supported, while H6-b and H6-c are not. The use of promotional strategies does not necessarily result in consumers purchasing the product or service. In this study, bonus packs exerted a significant, negative impact on perceived value and group buying intentions. The complimentary gift had a positive impact on perceived value and willingness to participate in group buying, but the result was not significant. For some consumers, the likelihood to become attracted to complimentary gifts depends on whether they need the gift. If they are unlikely to use the gift, the promotional strategy of complimentary gifts indirectly leads to a lower willingness to purchase the product. That is probably why the impact of complimentary gifts on perceived value and group buying intentions was not significant.

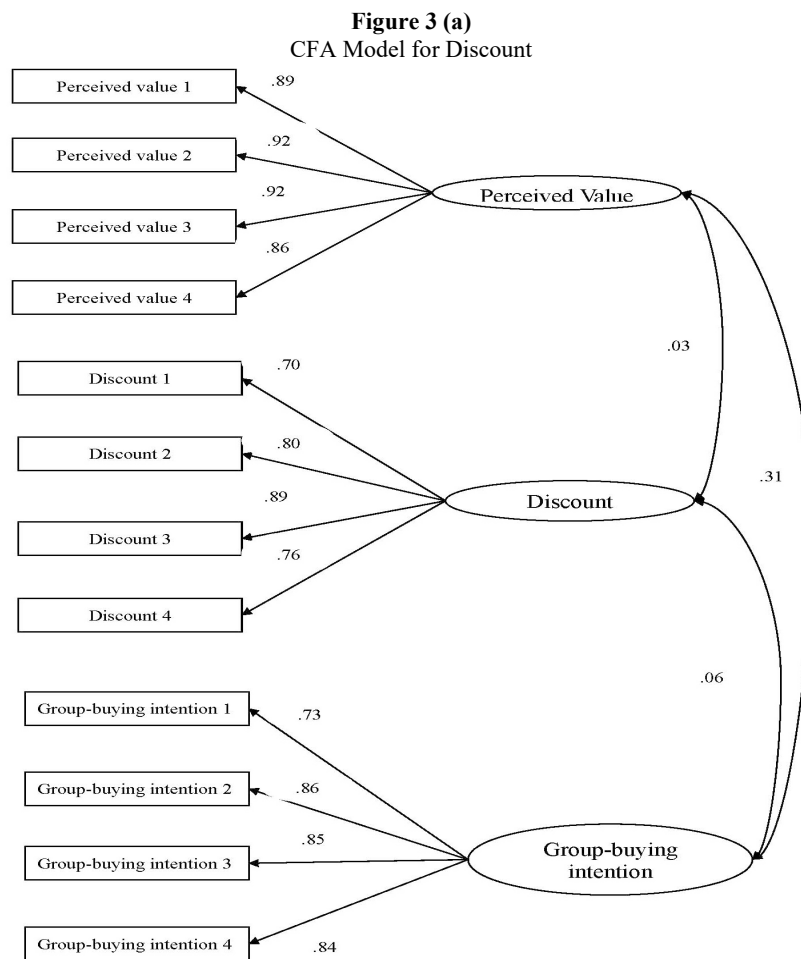
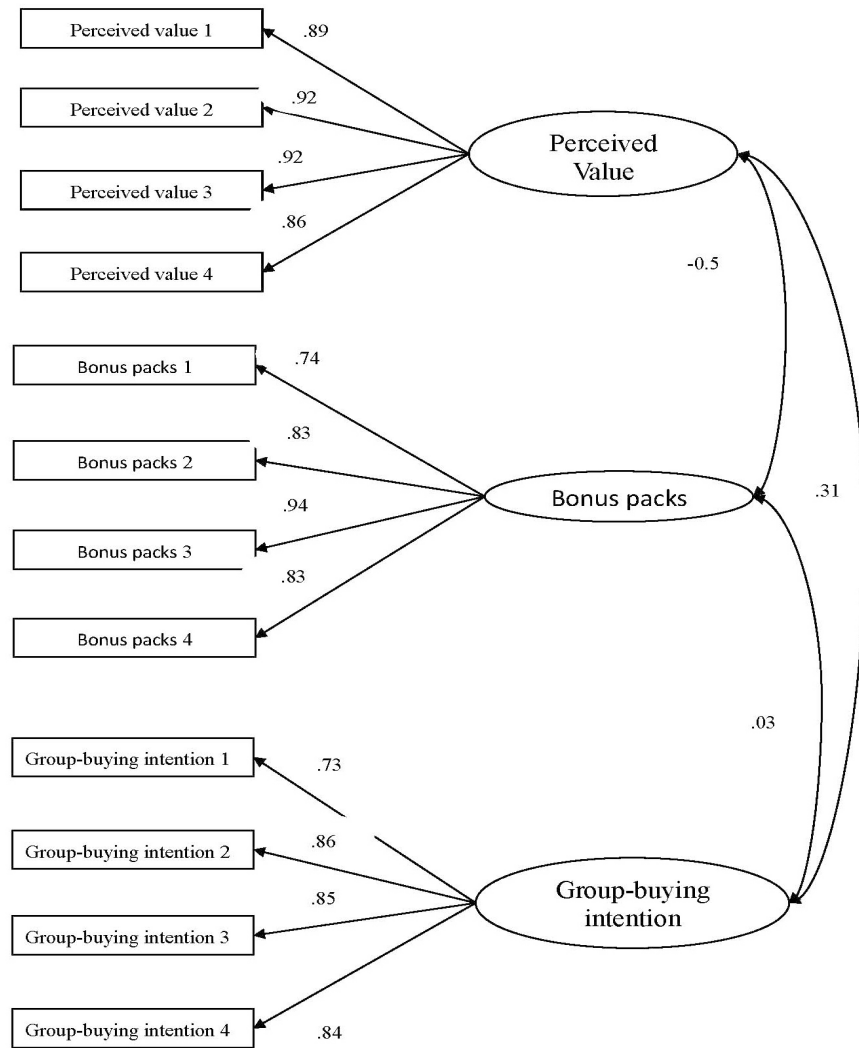


Figure 3 (b)
CFA Model for Bonus Packs



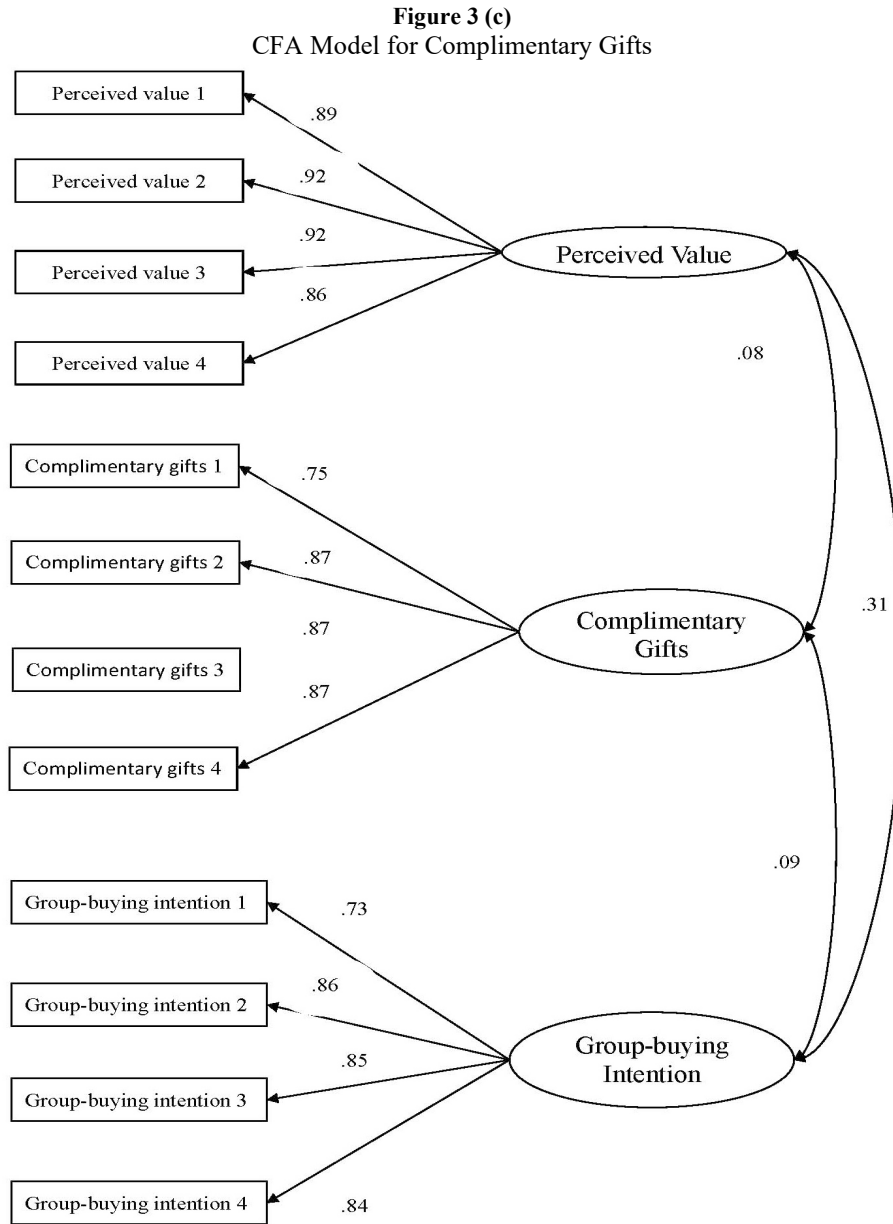


Figure 3 (d)
Moderated Path Analysis for Discount Bonus Packs and Complimentary Gifts

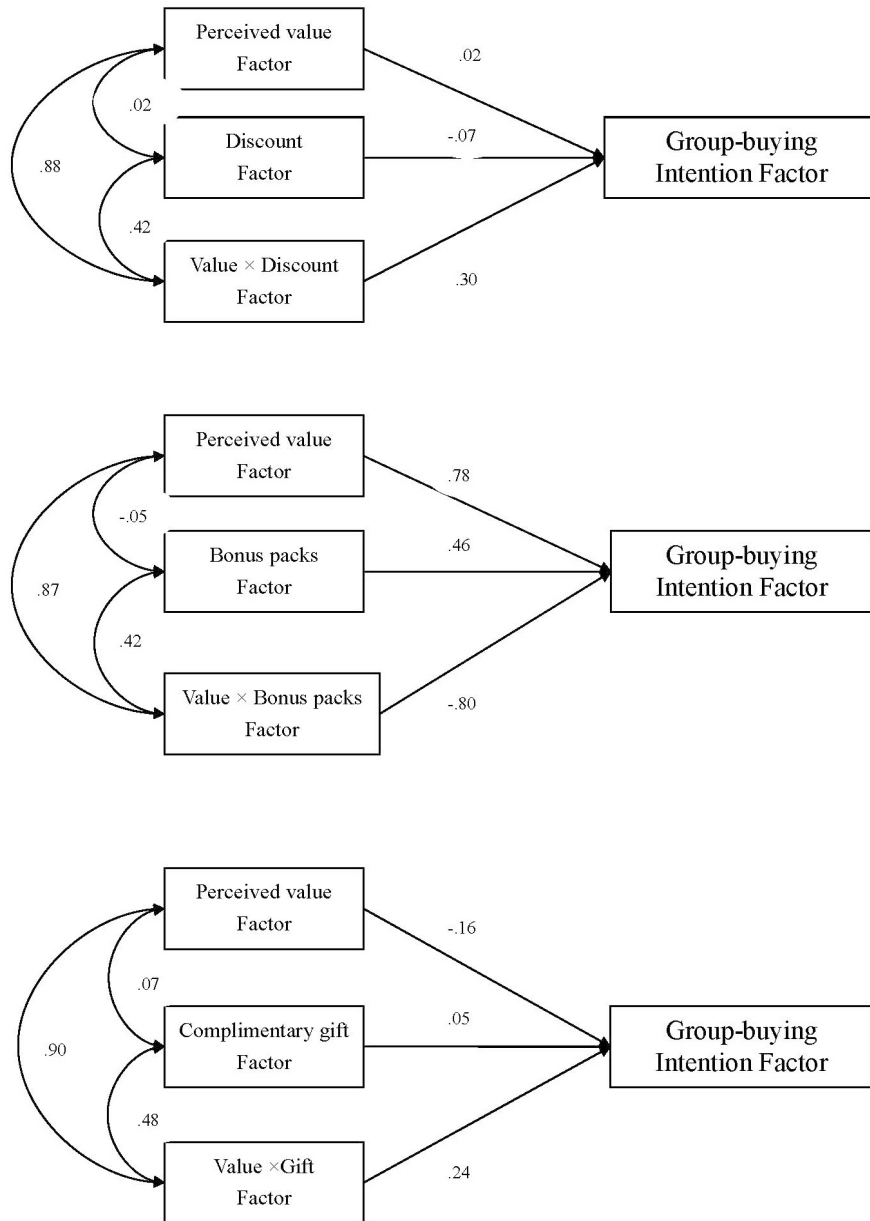


Table 3
Test result of Promotion Strategy

Hypothesis	Independent Variable	Dependent variable	RLAT.	Sig.	Std. Coefficient	p values	t values
H6-A	Price discounts	→ Perceived value	+	Sig.	0.296*	< 0.001	(1.978)
H6-B	Bonus packs	→ Perceived value	-	Sig.	-0.797*	< 0.05	(-2.472)
H6-C	Complimentary gifts	→ Perceived value	+	Not Sig.	0.239		-0.798

Note: * p < 0.05; ** p < 0.01; *** p < 0.001

VI. CONCLUSION

The present study examined customers' discernment and belief towards online tourism products. This study was based on the concept of BOCR proposed by Saaty (1980). The results also examines the positive impact of reference prices, opportunity rarity, searching costs, and performance risks on perceived value and group buying intentions. Whereas, perceived value also positively affect the group buying intention because the products are available in a good discounted price which enhance the public's interest to pay for a good or service. The online availability of tourism products is a good way to attract tourist's attention towards various products and as a result of which it enhances the group buying intention. As a marketing tool, online marketing can also be used to promote products or services using various locations or items. Also, among the three promotional strategies, only the price discount showed a significant, positive impact on perceived value and group buying intentions. This means that the higher the discount is, the stronger the interaction effects of price discounts among perceived value and group buying intentions will be. Complimentary gifts also had a positive impact on perceived value and group buying intentions, but the result was not significant. On the other hand, bonus packs had a significant but negative impact on perceived value and group buying intentions.

The study mainly has two parts: the first part explored the impact of manifest variables (reference price, opportunity rarity, searching cost, and performance risk) on perceived value and group buying intentions; the second part explored the moderating effects of promotional strategies (price discounts, bonus packs, and complimentary gifts) on perceived value and group buying intentions. The arguments that consumers' perceived value is influenced based on the results of the study are explained as: (1) the reference price and performance risk had a relatively deep impact on consumers' perceived value. It is relatively convenient for online shoppers to compare prices between different online sellers. However, consumers are unable to physically assess the products or service prior to purchasing. Therefore, online shoppers would need to base their decision-making on the price of the products, making them highly sensitive to prices. In addition, consumers are only able to base their purchase decisions on the photos and information about the product provided online. Consequently, they are apprehensive about the functionality of the product and whether it will work as expected. (2) Opportunity rarity had different impacts on perceived value. Due to various characteristics and categories of products for online group buying and different preferences of consumers, opportunity rarity varies for every individual, which leads to consumers having different sense of perceived value for group buying products. (3) Price discounts had a positive impact on consumers' group buying intentions. Among the three promotional strategies, only the price discount showed a direct effect on consumers.

When consumers want to purchase a product, their group buying intentions can be affected by the price discount being offered by the online seller. In other words, the higher the discount, the stronger the interaction effects of price discounts among perceived value and their willingness to participate in group buying. (4) The success of bonus packs and complimentary gifts as promotional strategies depends on the characteristics of the product. The use of bonus packs and complimentary gifts as promotional strategies in this study were not successful. The complimentary gifts and bonus provided by the seller could not satisfy the needs of every consumer. As a result, the impact of these two promotional strategies on consumers' perceived value and group buying intentions did not reach a significant level. Overall, consumers are willing to participate in group buying when the perceived value of products is high; that is, the reference prices and opportunity rarity are high, while the searching costs and performance risks are low. Consequently, price discounts as a promotional strategy can be used to enhance consumers' perceived value of the product and their willingness to participate in group buying.

This study revealed that among the three promotional strategies, price discounts were the most effective in enhancing consumers' willingness to participate in group buying. In addition, this study used the variable of opportunity rarity to measure the attributes of opportunity, which is an abstract concept. Opportunity costs in Economics suggest that the opportunity benefit is highly important when consumers need to make purchase decisions within a short amount of time when faced with opportunities. This study was able to classify the opportunity rarity and describe its characteristics. In summary, to enhance consumers' willingness to participate in group buying, the businesses can take into account the factors that influence the group buying intentions, namely reference price, opportunity rarity, searching cost, performance risk, perceived value and promotional strategies.

This study is aimed at exploring online shopping sites for travel products, using two studies, as well as the concept of BOCR, in order to understand the perceived value of consumers and the response to promotional strategies. In the end, the authors hope to accumulate the knowledge about the factors that influence consumers' willing in putting orders for online travel products. The empirical analysis of these two studies proves that reference price, opportunity scarcity, search cost and performance risk all have a positive impact on perceived value and group purchase willingness, while in promotional strategies, price discounts, bonus packages and gift gifts. Among them, only price discounts have a significant impact on consumers' willingness to participate in group purchases. This means that the higher the price discount, the greater the impact on perceived value and group buying willingness. This study can be used by companies operating online travel agencies to use the results of this study as a reference to better understand consumer needs. Therefore, it is suggested that future studies could also perform one-on-one interviews aside from administering survey questionnaires to obtain additional and more in-depth information. It will also allow researchers to better understand the consumers. Also, previous researches on group buying focused on individual consumers only or on group purchase initiators only; succeeding studies could explore both, and further investigate the relationship between them.

CONFLICT OF INTEREST

The authors state that they are free of any personal or business association that could

represent a conflict of interests regarding the article submitted, and we have respected the research ethics principles.

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REFERENCES

- Abubakar, A.M., and Ilkan, M., 2016, "Impact of Online WOM on Destination Trust and Intention to Travel: A Medical Tourism Perspective", *Journal of Destination Marketing & Management*, 5, 192-201.
- Alcántara-Pilar, J.M., Blanco-Encomienda, F.J., Armenski, T., Del Barrio-García, S., 2018, "The Antecedent Role of Online Satisfaction, Perceived Risk Online, and Perceived Website Usability on the Affect towards Travel Destinations", *Journal of Destination Marketing & Management*, 9, 20-35.
- Anand, K.S., and Aron, R., 2003, "Group Guying on the Web: A Comparison of Price–Discovery Mechanisms", *Management Science*, 49, 1546-1562.
- Biswas, A., and Blair, E., 1991, "Contextual Effects of Reference Price in Retail Advertisement", *Journal of Marketing*, 55, 1-12.
- Brooker, G., 1984, "An Assessment of an Expanded Measure of Perceived Risk", *Advances in Consumer Research*, 11.
- Chang, T.Z., and Wildt, A., 1994, "Price, Product Information, and Purchase Intention: An Empirical Study," *Journal of the Academy of Marketing Science*, 22, 16-27.
- Chua, B.L., Lee, S., Goh, B., and Han, H., 2015, "Impacts of Cruise Service Quality and Price on Vacationers' Cruise Experience: Moderating Role of Price Sensitivity", *International Journal of Hospitality Management*, 44, 131-145. <https://doi.org/10.1016/j.ijhm.2014.10.012>
- Cox, D.F., and Rich, S.U., 1964, "Perceived Risk and Consumer Decision-making—The Case of Telephone Shopping", *Journal of marketing research*, 1, 32-39.
- Eid, R., and El-Gohary, H., 2015, "The Role of Islamic Religiosity on the Relationship between Perceived Value and Tourist Satisfaction", *Tourism Management*, 46, 477-488. <https://doi.org/10.1016/j.tourman.2014.08.003>
- Fornell, C., and Larcker, D.F., 1981, "Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics", *Journal of Marketing Research*, 18, 382-388.
- Grewal, D., Monroe, K.B., and Krishnan, R., 1988, "The Effects of Price-Comparison Advertising on Buyers' Perceptions of Acquisition Value, Transaction Value, and Behavioural Intentions", *Journal of Marketing*, 62, 46-59.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., and Tatham, R.L., 1998, *Multivariate Data Analysis*, 5, 207-219, Upper Saddle River, Prentice Hall.
- Hsing, I.L., 2002, *Application of the Theory of Planned Behavior to Leisure Choice – Predicting and Explaining the Leisure Intention and Behavior of National Dong Hwa University Students*. [Dissertation, National Dong Hwa University].
- Hsu, T.H., and Chang, K.F., 2007, "The Classification and Evaluation Model for Product Bundles", *Journal of American Academy of Business*, 11, 64-70.
- Jacoby, J., and Kaplan, L., 1972, "The Components of Perceived Risk", *Proceedings of*

- the 3rd Annual Convention of the Association for Consumer Research.*
- Jamal, A., and Sharifuddin, J., 2015, Perceived Value and Perceived Usefulness of Halal Labeling: The Role of Religion and Culture. *Journal of Business Research*, 68, 933-941. <https://doi.org/10.1016/j.jbusres.2014.09.020>
- Kalwani, M.U., Yim, C.K., Rinne, H.J., and Sugita, Y., 1990, "A Price Expectations Model of Consumer Brand Choice", *Journal of Marketing Research*, 27, 251-262.
- Kauffman, R.J., and Wang, B., 2002, "Bid Together, Buy Together: On the Efficacy of Group-buying Business Models in Internet-based Selling", *Handbook of Electronic Commerce in Business and Society*, 99-137.
- Kim, H., Woo, E., and Uysal, M. 2015, "Tourism Experience and Quality of Life among Elderly Tourists", *Tourism Management*, 46, 465-476. <https://doi.org/10.1016/j.tourman.2014.08.002>
- Kim, K.-H., and Park, D.-B., 2017. "Relationships among Perceived Value, Satisfaction, and Loyalty: Community-based Ecotourism in Korea", *Journal of Travel & Tourism Marketing*, 34, 171-191. <https://doi.org/10.1080/10548408.2016.1156609>
- Kotler, P., 2002, *Marketing Management: Analysis, Planning, Implementation and Control 10th eds.*, New Jersey, Englewood Cliffs: Prentice Hall.
- Kuo, Y.F., Wu, C.M., and Deng, W.J., 2009, "The Relationships among Service Quality, Perceived Value, Customer Satisfaction, and Post-Purchase Intention in Mobile Value-added Services", *Computers in Human Behavior*, 25, 887-896.
- Lichtenstein, D.R., and Bearden, W., 1989, "Contextual Inferences on Perceptions of Merchant Supplied Reference Price", *Journal of Consumer Research*, 15, 55-66.
- Martilla, J.A., 1971, "Word-of-mouth Communication in the Industrial Adoption Process", *Journal of Marketing Research*, 8, 173-178.
- Murphy, P.E., and Enis, B.M., 1986, "Classifying Products Strategically", *Journal of Marketing*, 50, 24-42.
- Murray, K.B., 1991, "A Test of Services Marketing Theory: Consumer Information Acquisition Activities", *Journal of Marketing*, 55, 10-25.
- Pandža Bajs, I., 2015, "Tourist Perceived Value, Relationship to Satisfaction, and Behavioral Intentions: The Example of the Croatian Tourist Destination Dubrovnik", *Journal of Travel Research*, 54, 122-134. <https://doi.org/10.1177/0047287513513158>
- Petrick, J.F., 2002, "Development of a Multi-dimensional Scale for Measuring the Perceived Value of a Service", *Journal of Leisure Research*, 34, 119-134. <https://doi.org/10.1080/00222216.2002.11949965>
- Saaty, T.L., 1980, *The Analytic Hierarchy Process: Planning, Priority Setting, Resource Allocation*, McGraw-Hill.
- Schiffman, L.G., and Kanuk, L.L., 1982, *Consumer Behavior*, NJ, Englewood Cliffs: Prentice-Hall.
- Schultz, D.E., and Robinson, W.A., 1982, *Sales Promotion Management*. Chicago, Crain Book.
- Settle, R.B., and Alreck, P., 1989, "Reducing Buyers' Sense of Risk", *Marketing Communications*, 14, 34-40.
- Sheu, I.C., Lai, C.C., and Yang, H.C., 2006, "The Study of Relationships among Methods in Practice, Attitudes in Practice and Grade of Musical Achievement of the Gifted Students with Strings Major in the music-talented Class", *Journal of Gifted Education*, 6, 115-137.

- Shimp, T.A., 1993, *Promotion Management & Marketing Communications*, The Dryden Press.
- Spears, N., and Singh, S.N., 2004, "Measuring Attitude Toward the Brand and Purchase Intentions", *Journal of Current Issues and Research in Advertising*, 26, 53-66.
- Strauss, J., and Frost, R., 2014, *E-marketing*, Pearson.
- Sweeney, J.C., and Soutar, G.N., 2001, "Consumer Perceived Value: The Development of a Multiple Item Scale", *Journal of Retailing*, 77, 203-220.
- Tam, J., 2004, "Customer Satisfaction, Service Quality and Perceived Value: An Integrative Model", *Journal of Marketing Management*, 20, 897-917.
- Urbany, J.E., Bearden, W., and Weibaker, D., 1998, "The Effect of Plausible and Exaggerate Reference Prices on Consumer Perceptions and Price Search", *Journal of Consumer Research*, 15, 95-110.
- Wernerfelt, B., 1984, "A Resource-Based View of Firm", *Strategic Management Journal*, 5, 171-180.
- Wijnmalen, D.J., 2005, "Improved BOCR Analysis with the AHP/ANP", *Proceedings of ISAHP*, 8-10.
- Yamamoto, J., and Sycara, K., 2001, "A Stable and Efficient Buyer Coalition Formation Scheme for E-Marketplaces", *Proceedings of the Fifth International Conference on Autonomous Agents*, 576-583.
- Zeithaml, V.A., 1988, "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence", *Journal of Marketing* 52, 2-22.