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Analysis of Image and Loyalty for Exhibitions and Host Destinations

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ABSTRACT

The study examined the image-loyalty relationship in the context of exhibition tourism. Attendees' perceptions of exhibitions, venues and destinations were explored as an image package in relationship to their satisfaction and loyalty. Through the structural equation modeling, the study found that the image package of exhibitions, venues, and destinations influences attendee loyalty to exhibitions. Among the three constructs of image package, venue image is the most influential. By including different levels of image in an image package, the findings of the study contribute to the existing image-loyalty framework. This and other academic and practical implications were discussed.

Key Words: Image; Loyalty; Exhibitions; Convention tourism

INTRODUCTION

The trade literature is abundant on the key factors for an exhibition or a trade show to achieve high attendance and thus success of the event. It appears that large exhibition centers, better facilities, and appealing of destinations are considered important to attract an optimum number of visitors and the long-term growth of an exhibition. According to Tradeshow Week Research (2008), exhibition space in the U.S. has nearly doubled since 1989. There are 71 new venue and expansion projects currently underway or in the planning process despite the economic downturn. Other regions in the world have also witnessed a substantial increase in exhibition space. Exhibition space in Asia expanded 86% between 2000 and 2005 and is predicted to increase 20% more between 2006 and 2010 (UFI, 2007). In order to lure long staying and big spending visitors, destinations continue to focus on exhibition-related business by rebranding their images and developing a full range of attendance support programs. The Hong Kong Trade Development Council (TDC), for example, begins with the construction of impressive-looking exhibition venues and provides a full range of venue services for exhibitors, such as legal advising onsite, express buyer registration, and supporting services outside the exhibition venue. The TDC's objectives are to provide professional services to increase attendee satisfaction with an aim of building up long-term and stable attendee loyalty to Hong Kong exhibitions (Lam, 2007). However, evidence has yet to emerge that rebranding through facility enhancement leads to long-term attendee loyalty to exhibitions or their venues. Academically, little empirical literature is available on the effects of image on attendees' satisfaction and loyalty in the exhibition industry.

Built on the concept of product levels, this study sought to investigate if there is a causal relationship between different levels of images and exhibition attendees' loyalty. The study examined both the direct and indirect effect of image on loyalty with satisfaction as a mediating factor. In relation to the primary purpose of the study, three objectives were identified. They are: 1) to explore attendees' perceptions of exhibitions, venues and destinations; 2) to explain the potential relationship between these images; and 3) to measure the effects of different image layers on attendees' satisfaction and attendee loyalty.

LITERATURE REVIEW

Images of exhibitions, venues and destinations

The primary purpose for exhibition attendees to visit a place is to attend exhibition events (Mill & Morrison, 2006; Weber & Chon, 2003). Thus, the perceptions of an event can be viewed as a core image construct. Although no empirical study has been conducted on the image-loyalty relationship in the exhibition industry, research shows that successful participating experience significantly increases attendees' interest in future attendance (Smith et al., 2003). Exhibition image as a function of attendance experience was addressed in some studies (Kein & Cron, 1987;

Hultsman, 2001). One earlier study was Kein & Cron (1987)'s work on trade show functions and performance. They found that both the selling dimensions (e.g. opportunities for achieving business objectives) and the non-selling dimensions (e.g. opportunities for learning and customer relationship building) received high ratings from the exhibit managers and marketing executives. Recently, Hultsman (2001) evaluated exhibitors' perceptions of an art exhibition in the U.S. Twenty-seven different characteristics of the exhibition experience were identified. Networking was found to be the greatest interest for the exhibitors to attend the exhibition. Similarly, Smith et al. (2003) identified the successful attributes of a trade show for Japanese attendees. Several factors were perceived important, such as developing relationships with suppliers, gathering business information and being educated through attendance.

Conference, congresses and other major events take place at convention and exhibition centers. Host venues facilitate the use of the core product, which is a convention or an exhibition. The image of exhibition centers may play a facilitating role in the total exhibition image package. Researchers in convention tourism claimed that although conventions or exhibitions are the major reason for attendees' participation, venue attributes present an important consideration in attendees' future participation (Wu & Weber, 2005). Attempts have been devoted to identifying the important attributes of a venue, for example, convention facilities, public facilities and service at the venue (Breiter & Milman, 2006; Wu & Weber, 2005). The measures, however, are ambiguous, mixing venue features with exhibition attributes and destination image dimensions.

Destination image is a major player in the convention industry (Oppermann, 1994; Oppermann & Chon, 1997). Extant research provides evidence that the image of a place influences touristic decisions (Hunt, 1975). Convention organizers often build high attendance at their conventions or exhibitions by simply selecting more favorably perceived destinations (Lee, & Back, 2007). There has been increasing number of research on convention destination image (Lee, & Back, 2007; Oppermann, 1994; Oppermann & Chon, 1997). Researchers have identified several lists of destination attributes affecting meeting planners' decisions to select particular convention sites. Previous studies were mainly approached from the perspective of convention and exhibition organizers. Indeed, the perceptions of event organizers and attendees are both of relevance (Wu & Weber, 2005). Most recently, Lee & Back (2007) investigated the role of destination image in association meeting participation from attendees' perspective. The findings revealed that destination image, which is very closely linked to convention image, positively affects attendees' decision on participation.

Relationships of image, satisfaction and loyalty

Image has been described as the "overall impression" left on the minds of customers (Mazursky & Jacoby, 1986). Two principal components of image, functional and emotional, were identified (Kennedy, 1977). The functional component is related to tangible cues that can be measured more easily, while the emotional component is associated with psychological states that are manifested by feelings and attitudes. Image is considered to have the ability to influence customers' perception of the products and service (Zeithaml et. al., 1996). Thus, image may have an impact on customers' buying behavior (Osman, 1993). There is some evidence that image directly influences customer loyalty (Sirgy & Samli, 1985; Martineau, 1958). If customers have a favorable image of the product, they are likely to develop a certain degree of loyalty to the product (Martineau, 1958). Most previous studies on the image-loyalty relationship, however, only included functional image attributes. Indeed, both the functional qualities and affective attributes were embodied in customers' mind and help customers make buying decisions (Berman & Evans, 1995). Thus, it is suggested that emotional values should be incorporated into a model of loyalty (Hung, 2008).

Customer satisfaction is a well-known and established concept in several fields including marketing (Fornell & Wernefelt, 1988), consumer research (Yi, 1990), and economics (Van Raaij, 1981). Customer satisfaction is described as a judgment made on the basis of a specific service encounter (Cronin and Taylor, 1992). Based on the cumulative transaction viewpoint, customer satisfaction results in customers' evaluation of all purchase products or service experience (Anderson et al., 1994). Satisfaction evaluations have been linked to perceived image and customer loyalty to products or service (Anderson & Sullivan, 1993; Johnson et al., 1996). Customer loyalty (e.g. repurchase intentions, willingness to provide positive word-of-mouth) is a function of customer satisfaction. Satisfaction positively affects customer loyalty (Johnson et al., 1996). Customers are more likely to be retained as satisfaction increased (Anderson & Sullivan, 1993).

The link between customer satisfaction and image has been acknowledged in the literature (Anderson, et al.,

1994; Chang & Tu, 2005). Customer satisfaction requires experience with the service and is influenced by the quality of it (Anderson et al., 1994). Chang and Tu (2005) divided image dimension into four operational variables and found that customer satisfaction can be effectively predicted by each of the image variables. Each image assessment may have an effect on the satisfaction levels derived from each service encounter. Based on the above literature review, the image-loyalty framework in the exhibition industry and the hypotheses were developed as illustrated in Figure 1.

- H1a: Exhibition image influences attendees' satisfaction with the exhibition.
- H1b: Venue image influences attendees' satisfaction with the venue.
- H1c: Destination image influences attendees' satisfaction with the destination.
- H2a: Satisfaction with exhibitions influences attendees' overall satisfaction with the exhibition trip.
- H2b: Satisfaction with venues influences attendees' overall satisfaction with the exhibition trip.
- H2c: Satisfaction with destinations influences attendees' overall satisfaction with the exhibition trip.
- H3: The overall satisfaction with the exhibition trip influences attendees' loyalty to the exhibition.
- H4a: Exhibition image influences attendees' loyalty to the exhibition.
- H4b: Venue image influences attendees' loyalty to the venue.
- H4c: Destination image influences attendees' loyalty to the destination.

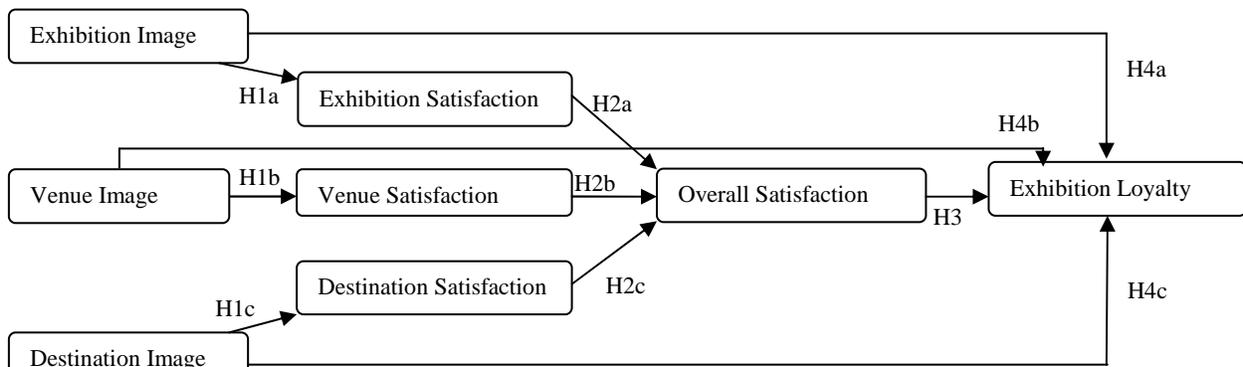


Fig.1. the Proposed Model and Hypotheses

METHODOLOGY

In this study data were collected from business attendees at exhibitions. The primary set of questions was about attendees' perceptions of the exhibitions, venues and destinations. Other questions asked about their experiences and satisfaction at the exhibition and the destination. The interview was conducted at the exhibitions held in Guangzhou and Shenzhen of China. The respondents were randomly approached at the conventions and exhibition centers during May and June of 2008. Of 262 collected questionnaires, 242 were completed and usable for data analysis.

The questionnaire contained four major parts. Part one of the questionnaire dealt with the images of exhibitions, venues and destinations. Based on the review of the previous studies, cognitive and affective image attributes were developed for each image construct, with 11 for the exhibition image, 14 for the venue image and 15 for the destination image. The levels of agreement or disagreement with a series of statements were based on 5-point Likert scale. Part two of the questionnaire examined attendees' satisfactions. Seven-point Likert scale was used to measure attendees' overall satisfaction and their satisfactions with the exhibition, the venue and the destination respectively. Part three of the questionnaire was about attendees' intention of purchase and recommendation for the exhibitions. This part was measured on 5-point Likert scale. Part four involved the basic information of the respondents, such as the position they held in their companies and their company sizes.

The data was analyzed in the following sequence. In the first place, an exploratory factor analysis was performed to establish the image structure. In the second step, a confirmatory factor analysis was carried out to validate the factors derived by the exploratory factor analysis. In the final stage, structured estimation method (SEM) was used to test the hypotheses in the proposed model.

FINDINGS

Of the 242 respondents, 34.7% were from the firms with less than 100 employees, 33.10% from the firms

with 100 to 1,000 employees, and 12% from the firms with more than 1,000 employees. With regard to job positions, the majority of the respondents (66.5%) were holding a managerial position. When asked about exhibition experience, a large number of the respondents (60.9%) attended exhibitions for 1 to 3 times every year.

After eliminating items with loading lower than 0.40 or of 0.40 higher on more than one factor), factors were derived from exploratory factor analysis (EFA) for each image component. Results of this process were presented in Table 1. Two factors of exhibition image were generated, explaining 53.25% of the overall variance of exhibition image. Four factors of venue image were generated, explaining 64.43% of the overall variance of venue image. Three factors of destination image were generated, explaining 68.07% of overall variance of destination image.

Table 1: Exploratory Factor Analysis Results

Constructs	Factors	Items	Var (%)	EV
Exhibition Image	Exhibition cognitive image	Exhibition time	53.25%	3.85
		Exhibition attendees		
		Exhibition reputation		
		Learning opportunity at the exhibition		
		Business opportunity at the exhibition		
		Exhibition related events		
		Social opportunity at the exhibition		
	Exhibition affective image	Arousing exhibition		
		Exciting exhibition		
		Pleasant exhibition		
Venue Image	Venue cognitive image I	Convention service facilities/equipment	64.43%	6.12
		Public service facilities		
	Venue cognitive image II	Venue capacity		
		Venue accessibility		
		Venue cleanliness		
	Venue cognitive image III	Venue staff professionalism		
		Venue staff willingness to help		
		Venue service promptness		
		Venue catering service		
	Venue affective image	Arousing venue		
		Exciting venue		
		Pleasant venue		
	Destination Image	Destination cognitive image I		
Destination shopping				
Destination climate				
Destination cognitive image II		Destination accessibility		
		Destination local transportation		
		Destination safety		
		Local people friendliness and hospitality		
Destination affective image		Destination restaurants		
		Arousing destination		
		Pleasant destination		

In the next stage, confirmatory factor analysis (CFA) was performed using AMOS 16.0 to validate the factors generated from exploratory factor analysis. Results of this process were shown in Table 2. Model fit indices for the 3 measurement models exceeded the respective common acceptance levels. The composite reliability coefficient and the average variance extracted (AVE) coefficient were 0.70 and 0.54 for the exhibition image, 0.77 and 0.47 for the venue image, and 0.80 and 0.58 for the destination respectively. Additionally, t-values for all the standardized loadings of the dimensions were found significant ($p < 0.01$). The results of the discriminant validity showed that all the sub-dimensions were clearly distinct from each other ($p < 0.001$). The results of reliability and validity of the factors allowed for the following hypothesis testing with structured estimation method (SEM).

Table 2: Confirmatory Factor Analysis Results

Constructs	Items	Loadings	CR	AVE
Exhibition Image	Exhibition cognitive image	0.771	0.70	0.54
	Exhibition affective image	0.697		
Venue Image	Venue cognitive image I	0.882	0.77	0.47
	Venue cognitive image II	0.758		
	Venue cognitive image III	0.566		
	Venue affective image	0.555		
Destination Image	Destination cognitive image I	0.712	0.80	0.58
	Destination cognitive image II	0.704		
	Destination affective image	0.852		

CR: Composite reliability, AVE: Average variance extracted
 Measurement model fit indices:
 Exhibition image model: $\chi^2/d.f. = 1.37$, CFI = 0.983, RMSEA = 0.039
 Venue image model: $\chi^2/d.f. = 1.78$, CFI = 0.974, RMSEA = 0.057
 Destination image model: $\chi^2/d.f. = 1.39$, CFI = 0.987, RMSEA = 0.040

In the last stage, the proposed model was estimated. The fit statistics of the model indicated that the model fit the data reasonably well ($\chi^2 = 168.9$, N=242, d.f. = 63, CFI = 0.90, RMSEA = 0.084). Figure 2 and Table 3 showed the parameter estimates of the structural model.

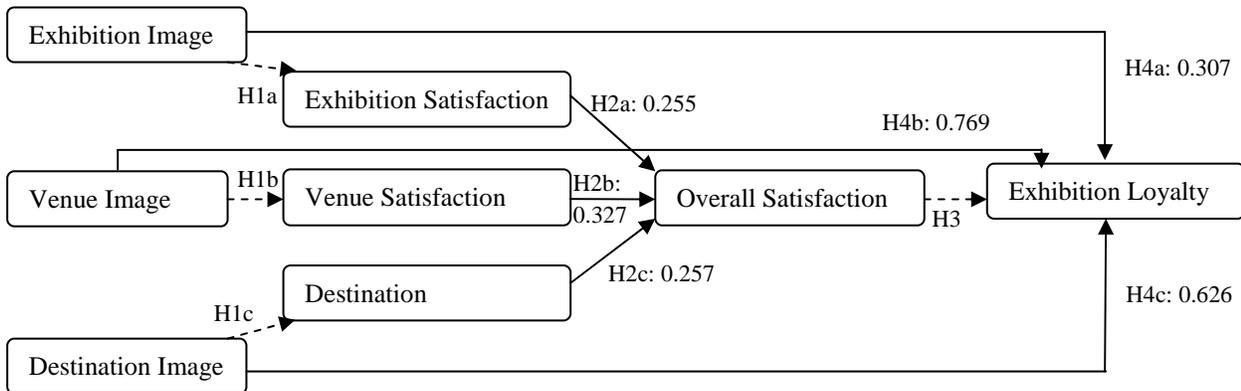


Fig 2. Hypotheses Testing Results

Table 3: The Estimated Path Coefficient of the Structural Equation Model

Hypotheses	From	To	Estimated Value (t-value)	
H1a	Exhibition Image	Exhibition Satisfaction	-.087 (-1.104, $\rho > .05$)	Rejected
H1b	Venue Image	Venue Satisfaction	.155 (1.566, $\rho > .05$)	Rejected
H1c	Destination Image	Destination Satisfaction	-.452 (-3.850, $\rho > .05$)	Rejected
H2a	Exhibition Satisfaction	Overall Satisfaction	.255 (5.107, $\rho < .05$)	Accepted
H2b	Venue Satisfaction	Overall Satisfaction	.321 (6.421, $\rho < .05$)	Accepted
H2c	Destination Satisfaction	Overall Satisfaction	.257 (6.629, $\rho < .05$)	Accepted
H3	Overall Satisfaction	Attendee Loyalty	.004 (.103, $\rho > .05$)	Rejected
H4a	Exhibition Image	Attendee Loyalty	.307 (2.358, $\rho < .05$)	Accepted
H4b	Venue Image	Attendee Loyalty	.769 (5.067, $\rho < .05$)	Accepted
H4c	Destination Image	Attendee Loyalty	.626 (5.106, $\rho < .05$)	Accepted

As the results showed, the images of exhibitions, venues and destinations influence attendees' loyalty. Among the three constructs of image package, venue image is the most influential, followed by destination and exhibition images. The results also showed that satisfaction does not present as a link between the image constructs and attendee loyalty to the exhibitions.

CONCLUSIONS AND DISCUSSIONS

The current study examined the image-loyalty relationship in the context of convention and exhibition tourism. Attendees' perceptions of exhibitions, venues and destinations were explored as an image package in relationship to their satisfaction and loyalty. The image package includes exhibition image, venue image, and destination image. Each image construct is composed of both cognitive and affective attributes. Through the structural equation modeling (SEM), the study found that image package of exhibitions, venues, and destinations influences attendee loyalty to exhibitions. Among the three constructs of image package, venue image is the most influential. It is also found that attendees' satisfactions with exhibitions, venues, and destinations contribute significantly to their overall satisfaction with the exhibition experience, but have no impact on their loyalty.

Results of the current study have established a causal relationship between different levels of image and attendees' loyalty to exhibitions. The results are consistent with findings of previous research that image has direct effects on loyalty (Sirgy & Samli, 1985; Martineau, 1958). Positive impressions of exhibitions, venues and destinations lead to attendee loyalty to exhibitions. The findings of the current study, however, did not support the argument of satisfaction as a mediating factor in the image-loyalty framework (Martenson, 2007; Chi & Qu, 2008). In the absence of image constructs, such finding may lead to the explanation that satisfaction of attendees is not sufficient to create loyal attendees; and increasing attendees' satisfactions with exhibitions, venues and destinations does not necessarily result in increased attendee loyalty to the exhibitions. In the presence of the three image constructs, however, the more plausible explanation is that the effects of image on loyalty already capture those of satisfaction on loyalty. There is a methodological implication associated with this finding.

The findings of the study contribute most to the knowledge of the image-loyalty framework by broadening the image concept to include consumers' perceptions and experiences of other related objects. Drawing on the concepts of product levels and product and service package (Gronroos, 1987), the image constructs are treated as consisting of different levels in a total package to consumers. Such treatment was examined in relation to other concepts in the image-loyalty framework of customer buying behavior. The image package includes the levels of exhibition, venue, and destination. The exhibition image was viewed as a core level in the package, as attending exhibitions constitutes the primary travel purpose for exhibition attendees. The venue image plays a part at facilitating level. As a host, the destination provides essentials for exhibition attendees such as lodging and foodservice. Therefore, the role of destination image is at the support level. The conceptualization of image as a package enables researchers to include all image elements related to the core object under investigation. In this manner, researchers can take a more holistic approach to achieve their study objectives.

The study's findings also provide several practical implications for exhibition professionals, destination marketing organizations, and other exhibition supporting entities. First, an understanding of the relationship between different image levels and loyalty is important from a managerial point of view in that it is not adequate to attract exhibition attendees by simply organizing a fine exhibition. Second, the finding of the strongest influence of the venue image on attendee loyalty provides support for investing in facilities enhancement and attendance service programs by destinations. Third, exhibition image is the least influential on attendee loyalty attendees' buying behavior compared to the images of venues and destinations. This finding may indicate a lack of differentiation in exhibitions surveyed in the sample. Such finding should not be generalized beyond the geographic region where the data was drawn. As exhibition industry is still in its fledging stage in China, albeit its large scale and rapid development, there has been a tendency of imitations in how exhibitions are organized and staged. This may not be true elsewhere. The fourth practical implication is related to the finding that destination image affects the attendees' loyalty. This finding suggests that destinations should not only lobby planners and organizers of exhibition events, but also make efforts to attract individual exhibition attendees to host destinations.

REFERENCES

Anderson, E. W., Fornell, C., & Lehman, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58, 53-66

- Anderson, E., & Sullivan, M. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12 (2), 125-143.
- Berman, B., & Evans, J. R. (1995). *Retail management: A strategic approach (6th ed.)*. London: Prentice-Hall International Press.
- Breiter, D., & Milman, A. (2006). Attendees' needs and service priorities in a large convention center: Application of the importance-performance theory. *Tourism Management*, 27, 1364-70.
- Chang, C-H., & Tu, C-Y. (2005). Exploring store image, customer satisfaction and customer loyalty relationship: Evidence from Taiwanese hypermarket industry. *Journal of American Academy of Business*, 7 (2), 197-202.
- Chi, G-Q, & Qu, H. (2008). Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: An integrated approach. *Tourism Management*, 29, 624-36.
- Cronin, J. J., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56 (3), 55-68.
- Fornell, C., & Wernefelt, B. (1988). Model for customer complaint management. *Marketing Science*, 7, 271-86.
- Gronroos, C. (1987). *Developing the service offering: A source of competitive advantage*. The proceeding of the 6th Annual Services Marketing Conference, Sep. 27-30, 1987, San Diego, Calif.
- Hung, C-H. (2008). The effect of brand image on public relations perceptions and customer loyalty. *International Journal of Marketing*, 25 (2), 237-246.
- Hunt, J. D. (1975). Image as a factor in tourism development. *Journal of Travel Research*, 3 (3), 1-7.
- Hultsman, W. (2001). From the eyes of an exhibitor: Characteristics that make exhibitions a success for all stakeholders. *Journal of Convention & Exhibition Management*, 3 (3), 27-44.
- Johnson, M. D., Nader, G., & Fornell, C. (1996). Expectations, perceived performance, and customer satisfaction for a complex service: The case of bank loans. *Journal of Economic Psychology*, 17, 163-182.
- Kerin, R. A., & Cron, W. L. (1987). Assessing trade shows functions and performance: An exploratory study. *Journal of Marketing*, 51, 84-87.
- Kennedy, S. H. (1977). Nurturing corporate image. *European Journal of Marketing*, 11 (3), 120-164.
- Lam, F. (林天福) (2007). 会展助推香港经济[Exhibitions a driver of Hong Kong's economy]. 南风窗[Nanfengchuang], 9, 66-67.
- Lee, J. S., & Back, K. J. (2007). Attendee-based brand equity. *Tourism Management*, 29 (2), 331-344.
- Martineau, P. (1958). The personality of the retail store. *Harvard Business Review*, 336, 47-55.
- Martenson, R. (2007). Corporate brand image, satisfaction and store loyalty. *International Journal of Retail & Distribution Management*, 35 (7), 544-555.
- Mill, R. C., & Morrison, A. M. (2006). *The Tourism System (5th ed.)*. Dubuque, Iowa: Kendall/Hunt Publishing Company.
- Oppermann, M. (1994). Modeling convention location choice and participation decision making process: A review with emphasis on professional associations. *Cahiers du Tourisme*, 188 (1), 1-31.
- Oppermann, M., & Chon, K. S. (1997). Convention participation decision-making process. *Annals of Tourism Research*, 24 (1), 178-191.
- Osman, M. Z. (1993). A conceptual model of retail image influences on loyalty patronage behavior, International review of retailing. *Distribution & Consumer Research*, 3 (2), 133-48.
- Sirgy, M. J., & Samli, A. C. (1985). A path analytic model of store loyalty involving self-concept, store image, geographic loyalty, and socioeconomic status. *Academy of Marketing Science*, 13 (3), 265-291.
- Smith, A., Sparks, L., Hart, S., & Tzokas, N. (2003). Retail loyalty schemes: Results from a consumer diary study. *Journal of Retailing and Consumer Services*, 10, 109-19.

- The Global Association of the Exhibition Industry (UFI). (2007). *The exhibition industry in the Middle East & Africa*. Abu Dhabi, UAE: Middle East & Africa Office, UFI.
International CHRIE Conference-Refereed Track, Event 15 [2009]
- The Global Association of the Exhibition Industry (UFI). (2007). *The global exhibition venue industry*. Barcelona, Spain: Wallance, C.
- Tradeshaw Week. (2008). *Tradeshaw Week 200*. Los Angeles: Author.
- Van Raaij, W. F. (1981). Economic psychology. *Journal of Economic Psychology*, 1 (1), 1-24.
- Weber, K., & Chon, K. (2003). *Convention tourism: International research and industry perspective*. Binghamton, NY: The Haworth Press, Inc.
- Wu, A., & Weber, K. (2005). Convention center facilities, attributes and services: The delegates perspective. *Asia Pacific Journal of Tourism Research*, 10 (4), 399-410.
- Yi, Y. (1990). A critical review of consumer satisfaction. In Zeithaml, V. (Ed.). *Review of Marketing*. Chicago, IL: American Marketing Association Press.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60 (2), 31-46.