
이란 전시회 성과요인 탐색 및 무역박람회 수정된 중요도-성취도분석 (R-IPA) 적용 방안

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Exploration of the dimensionality of Iran's trade show performance and application of R-IPA

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Abstract

This study aims to identify the dimensions of trade show performance in Iranian trade shows and apply the revised importance-performance analysis. The IPA method integrates two types of indirect importance and a composite I-P mapping using traditional four-quadrants, as well as a diagonal line on a two-dimensional grid. Based on the analysis results, this study presents several suggestions to contribute to the development of the trade show industry. First, it is noted that the dimensionality of trade show performance in a developing country context can be different from that of prior literature. Taking different industry development stages of a show hosting countries, examining the dimensions of each trade show performance with every effort to derive proper exhibitors' implications is necessary. Second, the use of statically-derived importance is recommended while considering respondents' convenience to reduce their time and fatigue when collecting data at the busy booths. Further, applying composite I-P mapping is suggested as an effective diagnostic tool to provide optimal trade show strategies for the exhibitors under the dynamic and ever-changing global business environment.

Keywords: Exhibition, Trade show, Trade show performance, Iran exhibition, R-IPA, Composite I-P mapping

JEL Classifications:

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I. Introduction

Since Bonoma (1983) grouped the benefits of trade show into selling and non-selling categories, exhibitor sales and non-sales performance have been studied in various ways. For example, the two types of performance have been used to evaluate achievement of objectives, effectiveness of personnel selling activities through trade shows (Kerin & Cron, 1987; Hansen, 2004), and show selection criteria (Kijewski et al., 1993; Shipley & Wong, 1993). Further, the concepts of sales and non-sales have been used as both dimensional names comprising several sub-items and measuring items on trade show performance.

The dimensionality of trade show performance, that has been developed in industrialized countries cannot be entirely applicable to developing country exhibitors (Korneliussen, 2011). However, many studies have referred to the dimensions from prior literature without exerting sufficient effort to extract distinctive dimensions with consideration of specific economic situations of trade show hosting countries. Owing to the apparent differences in economic development stages among countries, a dimensionality test on trade show performance research might be needed to improve exhibitors' performance.

Iran is classified as a developing country in the World Economic Situation and Prospects of United States (2019). Although Iran is stated as such, it has, since long before, already been strategically investing in the exhibition industry, recognizing the industry as an economic growth opportunity. For example, the Tehran International Exhibition Center of an astounding 96,335 sqm opened in 1969. As a result of such government efforts, Iran's exhibition industry has grown to become the third largest in the

Middle East and Africa region, with 196,334 sqm of venue space and 13.9% of the regional market share (UFI, 2018). This also indicates how the Iranian exhibition industry is suitable for testing performance factors of exhibition models for other developing nations.

Meanwhile, importance-performance analysis (IPA) is a simple but effective graphic analysis tool that guides firms for reallocating scarce resources to improve customer satisfaction (Server, 2015). However, only a few studies in the trade show field have analyzed trade show performance and trade show selection criteria using IPA (Kim & Jeong, 2019). Most studies have only utilized the direct importance of which measures rely on respondents' self-stated ratings similar to performance, despite the existence of drawbacks of direct importance. Moreover, these works applied the traditional four-quadrant mapping method to derive implications without considering the practical benefits of the composite I-P mapping method.

Conversely, many revised IPA methods have been applied to other fields since Martilla & James (1977) suggested the technique (Abalo et al., 2007; Azzopardi & Nash, 2013). Researchers have introduced indirect importance based on various statistical analyses. They also applied different mapping methods, such as combining traditional quadrants and diagonal lines on an I-P matrix to derive firms' optimal strategies in deploying resources (Abalo, 2007; Rial et al., 2008; Lai & Hitchcock, 2015).

In contrast, this study aims to examine the dimensionality of trade show performance in the context of a developing country. Further, we apply a revised IPA method to illustrate the effectiveness of IPA in deriving exhibitors' marketing strategies to improve trade show performance through empirical analyses.

Furthermore, while most of the previous works merely presented the degree of satisfaction by factor as a marketing strategy for exhibitors, this study extracts performance factors appropriate to the ongoing market situation. The study specifically suggests which factors show worse performances and shows, in detail, what further efforts should be made.

II. Literature Review

1. Trade show performance

1) Exhibitor sales and non-sales performance

Researchers have struggled to define trade show performance. Further, the concepts and types of trade show performance have not been clearly defined at the theoretical level. This is because trade show performance mainly depends on the marketing strategies of exhibitors in relation to the pre-specified objectives of show participation (Kerin & Cron, 1987; Sridhar et al., 2015). Typically, trade show performance is categorized into sales and non-sales outcomes, which are associated with sales personnel's outcome and behavior-based marketing efforts, respectively (Hansen, 1999; Tafesse & Skallerud, 2017). According to Hansen (2004), behavior-based marketing activities of marketing personnel are more subjective and complex than outcome-based activities. Further, the importance of behavior-based marketing efforts is increasingly emphasized in trade shows.

Historically, Bonoma (1983) triggered disputes on trade show functions by grouping them into selling and non-selling roles to measure trade show performance.

Based on the results of dimensionality tests, Kerin & Cron (1987) supported Bonoma's (1983) opinion on selling and non-selling functions. The selling function includes introducing new products, selling, and testing new products, while the non-selling function comprises identifying new prospects, servicing current customers, enhancing corporate image, and gathering information. However, Hansen (1999) argued that the previous claims on dimensionalities of trade show performance were at an observational level owing to their failure to provide clear evidence of validity. Hansen (2004) presented 23 attributes that mostly affect performance and subsequently grouped them into single outcome-based sales and four behavior-based non-sales dimensions comprising information gathering, relationship building, image building, and motivation.

Concurrently, some research has focused on evaluating sales outcomes referring only to sales metrics, such as actual sales, sales contracts, sales leads, and number of visitors (Williams et al., 1993; Gopalakrishna & Lilien, 1995; Dekempe et al., 1997; Seringhaus & Rosson, 2001). This approach is simple and useful in assessing performance through booth staff's outcome-based marketing activities. However, they overlooked the importance of non-sales and did not account for the booth staff's behavior-based marketing efforts, such as motivating customers, gathering information on the market trend, and even improving public relations (Tafesse & Skallerud, 2017).

2) Multi-stage marketing models related to trade show performance

The evaluation of trade show performance is closely connected to sales personnel's

marketing activities (O'Hara, 1993; Tanner & Chonko, 1995; Smith et al., 2004). To better understand the characteristics of trade show performance and to select the appropriate measuring items for this study, a thorough analysis of prior literature on exhibitors' marketing activities is required. There are two distinctive multi-stage marketing frameworks for the evaluation of marketing effectiveness (Tafesse & Skallerud, 2017). The first multi-stage marketing model is based on the time flow of trade shows comprising pre, at, and post-show that all interact and work together to obtain optimal trade show performance (Gopalakrishna & Lilien, 1995; Rossen & Seringhaus, 1995; Sridhar et al., 1995).

This temporal approach is considered a useful tool to evaluate personnel marketing effectiveness within the overall trade show scheme (Tanner, 2002). For the evaluation of outcomes in each stage, most studies tend to measure subjective assessments in both sales and non-sales performances based on respondents' ratings. Owing to the advantages of the approach in the overall scheme, studies have applied this three-stage marketing model to evaluate show performance in different countries, such as those by Lee & Kim (2008) in Korea, Chu & Chiu (2013) in China, and Cobanoglu & Turaeva (2014) in Turkey.

The second multi-stage marketing model is based on the flow of visitor traffic at the show stage and focuses on the measurement of objective sales without considering non-sales. Williams et al. (1993) suggested a method to measure booth staff's marketing effectiveness with visitor attraction and contact efficiency. Gopalakrishna & Lilien (1995) developed this method as a unique three-stage model with three equations for measuring sales efficiency in the following

order, visitor attraction to the booth, visitor contact with sales personnel, and contact conversion into sales leads. However, Dekimpe et al. (1997) disagreed with Gopalakrishna & Lilien's (1995) model. They argued that the model includes visitors who just stepped into booths to receive pamphlets without talking to booth staff.

Several studies have attempted to measure sales outcomes using a two-step temporal process without considering non-sales outcomes. For example, Sridhar et al. (2015) measured short-term sales at show and subsequently long-term sales, that is, after 120 days after the show, to examine the incremental effects of temporal marketing activities. Seringhaus & Rosson (2001) evaluated sales conversion efficiency from the sales leads acquired at show into actual sales a year later as delayed performance. From the literature review on trade show, sales and non-sales performance can be regarded as basic dimensions consisting of many attributes, and these performance items can be assessed differently depending on the purpose of the study.

2. Importance-performance analysis

1) Traditional IPA

IPA is considered to be a useful diagnostic decision tool in projecting analysis results simple graphical representations on a two-dimensional grid based on customers' perceived attributes. In addition, the results of I-P mapping provide managerial insights on deciding how to utilize a firm's resources to maximize customer satisfaction (Bacon, 2003; Matzler et al., 2003; Abalo et al., 2007). The IPA framework has been extended to a wide range of fields, including automotive

industry (Matzler et al., 2004), healthcare (Hawes & Rao, 1985), sports (Rial et al., 2008), and tourism (Oh, 2001; Deng, 2007) since Martilla & James (1977) introduced the IPA method.

The two-dimensional grid contains four quadrants using attribute importance and performance wherein the ratings are directly collected from respondents (Martilla & James, 1977; Sever, 2015). The four quadrants can be constructed with the x axis representing the performance and the y axis representing the importance (Hawes & Rao, 1985; Matzler et al., 2003). The plotted attributes in the four quadrants indicate different strategies for allocating scarce resources (Martilla & James, 1977). Each quadrant provides guidance on managerial action in a clockwise direction from the upper-right to the upper-left of the grid: "keep up the good work (quadrant one)", "possible overkill (quadrant two)", "low priority (quadrant three)", and "concentrate here (quadrant four)".

Over the four decades since IPA was first introduced, various techniques have been developed with modifications to disputes, owing to the inherent drawbacks of traditional IPA. This study focuses on three issues related to the methodology of IPA in this study: 1) drawback of scale mean, 2) problems of directly measured importance, 3) composite I-P mapping method using four quadrants together with a diagonal line on a grid.

2) Revised IPA methods

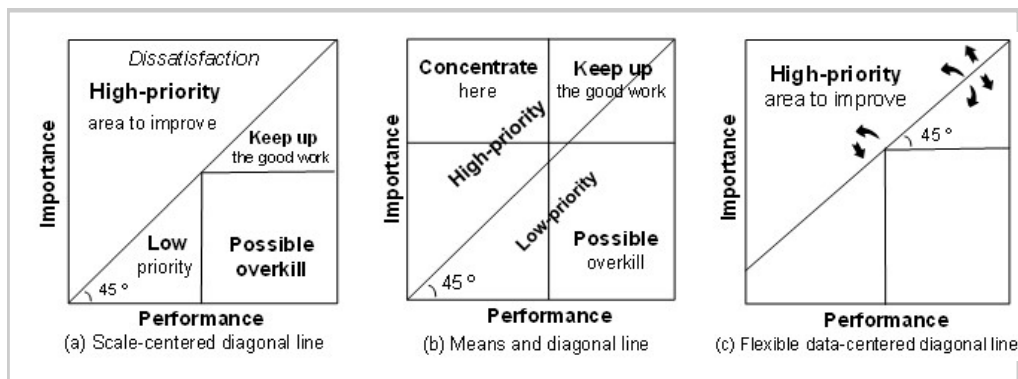
The first issue is related to the decision of cross-hair points in dividing the I-P matrix into four quadrants. Two methods are used: 1) a scale-centered approach using importance and performance rating scales and 2) data-centered approach using empirical

means (Bacon, 2003). The scale mean has a critical drawback in terms of locating the majority of attributes in the upper-right quadrant, consequently providing only low discriminative power and little utility (Oh, 2001; Bacon, 2003; Sever, 2015). To address this problem, researchers have recommended data means to decide the cross-hair points of the IP grid (Rial et al., 2008; Server, 2015).

Meanwhile, some researchers have suggested diagonal line methods. An upward slopping 45° diagonal line through quadrants one and three divides a grid into two areas with high and low priorities for improvement. Thus, the attributes on the line would have the same ratings of importance and performance with no discrepancy (Bacon; 2003; Abalo et al., 2007; Sever, 2015). The priority degree can be determined from the distance of each attribute to the diagonal line such that the longer the distance, the more urgent the managerial action (Azzopardi & Nash, 2013).

Regarding the usefulness of direct importance, the validity problem of directly measured importance associated with the self-rating method has been frequently reported because the ratings tend to be inflated uniformly high in the fields (Rial et al., 2008; Lai & Hitchcock, 2015). This phenomenon is explained by the fact that respondents' self-ratings of importance are easily influenced by biases such as social desirability with high expectation and respondents' unawareness and fatigue (Bacon, 2003; Abalo et al., 2007). Therefore, researchers have introduced various types of indirect importance (Azzopardi & Nash, 2013; Lai & Hitchcock, 2015). Indirect importance can be obtained based on various statistical analyses, such as standardized multi-regression (Matzler et al., 2004), correlation (Matzler et al., 2003). In particular, Deng (2007) introduced

Fig. 1. Combined traditional quadrant model and diagonal line



an integrated partial correlation analysis and natural logarithmic (LN) transformation (hereinafter refer to as LN partial correlation analysis) to prevent the possibility of multicollinearity within independent attributes when deriving coefficients as indirect importance.

There are three interesting composite I-P mapping methods, as presented in Figs. 1(a), (b), and (c). Abalo et al. (2007) proposed a scale-centered iso-rating diagonal line model that combines four quadrants and a diagonal line where the triangular district is enlarged above the line as the concentrate here quadrant. Consequently, the remaining triangular district below the line is divided into three parts indicating different suggestions, as shown in Fig. 1(a). However, this method has limitations; for example, it is only suitable for resource-rich firms owing to the relatively enlarged concentrate here quadrant (Lai & Hitchcock, 2015).

Rial et al. (2008) simplified Abalo et al.'s (2007) model using data-centered quadrants and a diagonal line, as shown in Fig. 1(b). In this grid, the shapes of traditional four-quadrants are reused without modification; thus, the results of the two mapping methods can be interpreted comprehensively. For example, attributes above the diagonal line

and in the concentrate here quadrant represent a firm's extreme priority for improvement. Meanwhile, Lai & Hitchcock (2015) suggested a flexible data-centered diagonal line model, as shown in Fig. 1(c). The specialty of this approach is that the diagonal line can be moved either upwards to the left or downwards to the right and can also be rotated on the axis of the cross-hair points clockwise or vice versa. Thus, firm management might interpret market positions effectively depending on resources.

Based on the strengths and weaknesses of various IPA approaches, researchers must select the proper method after considering the characteristics of target industry.

III. Methodology

1. Application of revised IPA

By applying the revised IPA, this study used two types of indirect importance using standardized multi-regression analysis (Matzler et al., 2004), and LN partial correlation analysis (Deng, 2007). For the I-P mapping, this study applied Rial et al.'s

(2008) composite I-P mapping model based on four data-centered quadrants together with a diagonal line on a grid, as presented in Fig. 1(b). The I-P mappings were conducted on each of the two indirect importance grids, and the same mapping also at the performance attribute and dimensional level, respectively. Consequently, four grids were depicted after performing empirical analyses using SPSS statistics 26 and Excel spread sheet in the final section. The overall progress of this study comprises six steps as follows:

- Step 1: Collect data from the booth staff's ratings of attributes' performance on the last day of show in terms of sales and non-sales, as well as the overall satisfaction with no ratings of importance.
- Step 2: Purify the items and consolidate them into significant components as dimensions of trade show performance via exploratory factor analysis (EFA).
- Step 3: Derive two types of coefficients as indirect importance using two analyses. First, standardized multi-regression coefficients are obtained by regressing the overall satisfaction rating on the performance ratings. Second, LN partial correlation coefficients were produced for each performance rating with overall satisfaction rating after transforming performance ratings into LN form similar to that of Deng (2007) (the process is the same at the attribute and dimensional level).
- Step 4: Plot attributes in two-dimensional grid with the x axis representing performance and the y axis representing the importance in the regression coefficient and LN partial correlation coefficient grid separately.

Step 5: Decide cross-hair points by data means to divide each grid into four quadrants and subsequently divide the two areas using an upward 45° diagonal line to the I-P grid.

Step 6: Derive managerial implications and IPA methodology to trade show by comparing the results of the I-P mapping on two grids.

2. Questionnaire design and measuring items

The questionnaire was designed to measure attribute performance, instead of pairwise to measure attribute importance, because the importance is supposed to derive statistically using performance ratings. Thus, respondents were asked to rate attribute performance only on a 5-point Likert scale, ranging from 1 as very poor to 5 as very good. The questionnaire consisted of three parts as the initial categories comprise 27 measuring items. Each of the sales and non-sales performance categories contained 12 items in parts one and two, respectively, and 3 items for the overall satisfaction in part three.

In parts one and two, the measuring items of both sales and non-sales were borrowed from frequently used attributes in previous works in relation to the Iranian business environment (Seo, 2014; Ahn & Kim, 2017; Kim & Jeong, 2019). The main sources of selected items are such works as in trade show dimensionality, multi-stage marketing models based on time flow within the show scheme, and the flow of visitor traffic at-show, personal selling effectiveness, and trade show selection criteria (Blythe, 2000; Shipley & Wong, 1993).

Regarding the concepts of performance in this study, the sales performance comprises

Table 1. Measuring items on trade show performance

Sector	Measurement variable	References
Sales performance	Sales.01. Actual sales	
	Sales.02. Increase sales volume in the target market	Cavanagh (1976)
	Sales.03. Acquire sales leads	Bonoma (1983)
	Sales.04. Expand sales product range	Kerin & Cron (1987)
	Sales.05. Test market reactions to product	O' Hara (1993)
	Sales.06. Demonstrate technology progress	Shipley & Wong (1993)
	Sales.07. Positioning product or price	Gopalakrishna & Lilien (1995)
	Sales.08. Support current customer sales activities	Blythe (2000)
	Sales.09. Meet new business partners	Seringhaus & Rosson (2001)
	Sales.10. Expand the range of customers	Hansen (2004)
	Sales.11. Finalize business negotiation	Korneliussen. (2011)
	Sales.12. Expand market into neighboring countries	Sridhar et al. (2015)
None-sales performance	None.01. Collect general market trend	
	None.02. Collect industry trend	
	None.03. Collect competitiveness trend	Bonoma (1983)
	None.04. Increase company awareness	Kerin & Cron (1987)
	None.05. Increase brand awareness	O' Hara (1993)
	None.06. Networking with key persons	Dikempe et al. (1997)
	None.07. Relationship with customers	Shipley & Wong (1993)
	None.08. Gain advantage over competitors	Tanner & Chonko (1995)
	None.09. Train sales or technical staff	Hansen (2004)
	None.10. Motivate customers	Smith et al. (2004)
	None.11. Gather potential customers demand	Korneliussen (2011)
	None.12. Boosting public relations	Sridhar et al. (2015)
Overall Satisfaction	Sat.01. Generally satisfied on performance	Fornell (1992)
	Sat.02. Satisfied compare to expected performance	Fornell et al. (1996)
	Sat.03. Satisfied compare to ideal performance	Parasuraman et al. (1994)

expected outcomes, which can result from booth staff's outcome-based marketing efforts, such as field sales at-show and delayed sales some time later. Non-sales contains various outcomes as a result of the behavior-based marketing activities of booth staff pertaining to information, image, networking, relationship, and motivation (Dikempe et al., 1995).

In part three of the exhibitors' overall satisfaction, measuring items were reused with a little modification on the attributes' names from the national customer satisfaction

barometer in Swedish experience (Fornell, 1992) and American customer satisfaction index (Fornell et al., 1996). The nationwide customer satisfaction is evaluated using three variables: general satisfaction, confirmation of expected satisfaction, and distance from ideal satisfaction. This study defines overall satisfaction as transaction-specific and outcome-based satisfaction owing to data collection at the end of trade show (Parasuraman et al., 1994). A summary of all the selected measuring items and references is presented in Table 1.

Table 2. General characteristics of sample companies

Category	Freq.	Rate (%)	Category	Freq.	Rate (%)
<i>Country registered</i>			<i>No. of employee^b</i>		
Iran	186	83.0	Up to 10	88	39.8
Foreign	12	5.4	More than 10 to 50	59	26.7
Iran & Foreign	26	11.6	More than 50 to 100	35	15.8
<i>Business type^a</i>			More than 100 to 300	20	9.1
Manufacture	59	26.7	More than 300 to 500	9	4.1
Trade	26	11.8	More than 500	10	4.5
Manufacture & Trade	75	33.9	<i>Type of Booth</i>		
Dealer	11	5.0	Individual stand	173	77.2
Others	50	22.6	Joint stand	51	22.8

Note: ^a ^b contains 3 missing data in 224 samples.

3. Data collection and sample characteristics

With the help of a research firm, data were collected from exhibitors participating in three trade shows to avoid single-source bias, taking place from the 21st to the 24th of February 2019 at the Tehran International Fair Ground. The trade shows selected for data collection were 1) International Exhibition of Gold, Watch; 2) Iran International Renewable Energy and Energy Saving Exhibition; and 3) International Exhibition of Fuel Stations.

The questionnaires were delivered to participants' individual booths and subsequently collected at the end of each show. Through the field survey, 250 responses were collected, and, finally, 224 pieces were confirmed with 110, 54, and 60 pieces, respectively, after excluding 26 pieces with some unfaithful answers including no answered items. Regarding the respondents' profile, the samples were distinguished by 160 males (71.4%) and 64 females (28.6%). The

respondents and their general characteristics are described in Table 2.

IV. Empirical analysis

1. Reliability and validity analysis

To purify 27 measured items and extract components, exploratory factor analysis (EFA) was conducted by principal component analysis (PCA) with varimax rotation. Regarding factorability, no item was allowed to fall across the borders of the three basic categories in view of their refined concepts with other areas of research. Through iterative sequence of analyses, the 22 items were consolidated into five significant components, which consisted of sales and non-sales, and a single component to overall satisfaction, as presented in Table 3.

In the PCA process, five items were deleted for three reasons. First, two items were deleted owing to low factor loading

and communality (< 0.5); meet new business partners (sales.09), expanding the range of customers (sales.10) from the sales category (Hair et al., 1995). Second, the general market trend (none.01) of non-sales that crossed category borders and fell within sales was deleted according to the factorability criterion. Third, the other two items of the collect industry (none.02) and competitiveness trend (none.03) were removed, even though they dropped into a component together because creating a reliable component with fewer than three items is not a sufficient explanation (Zwick & Velicer, 1986). This approach pertaining to deciding a dimension is evidently different from previous studies because prior works frequently used a dimension with two items. For example, Hansen (2004) presented relationship building that maintains personal contacts and develops relationships with customers. Lee & Kim (2008) used relationship improvement with existing and core clients.

The Kaiser-Meyer-Olkin (KMO) statistic was 0.920 indicative of sample adequacy and the fitness of data. The Bartlett's test of sphericity was significant as χ^2 2310.607, df 231, and p value 0.000 ($p < 0.001^{***}$) identifying the presence of reliable correlation level among items. The cumulative percentage of the variance accounted for 63.904% (Hair et al., 1995). Cronbach alpha (α) coefficients of the five components were greater than 0.7, from a high 0.856 to a low 0.764, implying satisfactory reliability level (Nunnally, 1978). Therefore, the five components were identified as dimensions of this study.

After PCA completion, the five extracted components were labeled as dimensions after considering items' characteristics collectively within each component with a secondary

name in bracket using serial numbers for easy recognition of their categories. For example, the name of the first component was as the sales dimension (sales-one), which is similar to performance attributes, for example, actual sales (sales.01). As presented in Table 3, there are two components in sales. The first component consisted of six items whose performance might be obtained by booth staff's outcome-based marketing at-show. Thus, it can be referred to as "short-term sales (sales-one)". The fourth component with four items was labeled as "long-term sales (sales-two)" because the outcomes results from market communication at show until sometime later (Shipley & Wong, 1993; Sridhar et al., 2015).

In non-sales, the second component comprising increase company (sales.04) and brand awareness (sales.05), networking with key persons (sales.06), and relationship with customers (sales.07) were needed for careful interpretation because the two items of the former and the latter could be regarded as different concepts. For example, Hansen (2004) classified them into two dimensions related to image and relationship building. The result can be interpreted as follows: exhibitors seem to regard four items as overall image promotional tools to the market; therefore, this component can be represented as "image-building (none-one)". The third component, consisting of five items, is characterized as "motivation (none-two)" for staff, customers, even public.

Finally, the fifth component name was reused in the same questionnaire as the exhibitors' overall satisfaction on trade show performance, referring to Fornell (1992) and Fornell et al. (1996). The results of the dimensionality test are presented in Table 3, and interpretations of the implications are

Table 3. Result of exploratory factor analysis

Items	Factor loading (component)					Comm.	Cronbach Alpha
	1	2	3	4	5		
Sales.02	Increase sales volume	.787				.740	.856
Sales.01	Actual sales	.776				.730	
Sales.03	Acquire sales leads	.632				.630	
Sales.12	Expand market into neighbor	.605				.523	
Sales.11	Finalize business negotiation	.604				.599	
Sales.08	Support customers sales	.502				.547	
None.07	Relationship with customers		.733			.660	.805
None.04	Increase company awareness		.722			.662	
None.05	Increase brand awareness		.700			.656	
None.06	Networking		.622			.646	
None.10	Motivate customers			.760		.645	
None.09	Train booth staff			.640		.665	
None.11	Gather customers demand			.596		.549	.804
None.08	Advantage over competitors			.522		.589	
None.12	Boost public relations			.501		.597	
Sales.06	Demonstrate tech. progress				.742	.618	
Sales.07	Positioning product/price				.683	.591	
Sales.05	Test market to product				.624	.604	
Sales.04	Expand sales product range				.551	.616	.764
Sat.01	Generally satisfied				.801	.773	
Sat.02	Expected satisfaction				.779	.714	
Sat.03	Ideal satisfaction				.721	.705	

Note 1): Principal component factor analysis, varimax rotation in the KMO-Bartlett test was 0.920.

2): The total percentage of the variance extracted by the five factors was 63.904%.

described in the Conclusion section,

2. Perceived performance and indirect importance

1) Attribute statistics

From the descriptive analysis, the average mean of attributes' performance and overall satisfaction were 3.100 and 3.156, respectively. The mean of 19 performance items ranged from 3.572 for boosting public relations (none.12) to 2.721 of actual sales (sales.01). At a glance based on rank order of performance achievement, the non-sales

items were positioned relatively higher than the sales items.

For indirect importance, the same items are clearly poisoned at the top five important items with the only difference in rank order between the standardized multi-regression and LN partial correlation coefficients. Boosting public relations (none.12) can be regarded as the highest importance because it ranked first and second in two indirect importance parts, as presented in Table 4. Meanwhile, the two lowest rank items that were alternatively positioned at the very last or next to the last were expanded sales product range (sales.04) and relationship

Table 4. Statistics of performance and indirect importance at attribute level

Sector	Performance			Standardized Multi-regression			LN Partial correlation		
	Mean	S.D.	Rank	Coeff. ^a	t-value	Rank	Coeff. ^b	LN	Rank
<i>Short-term sales (Sales-one)</i>									
Sales.01	2.721	0.9439	19	0.028	0.322	11	-0.053	0.928417	17
Sales.02	2.829	0.9411	16	0.154	1.710	2	0.154	0.976094	3
Sales.03	3.020	0.9700	14	-0.008	-0.104	15	0.014	1.043103	12
Sales.08	2.921	0.8619	15	0.104	1.413	5	0.338	1.018304	1
Sales.11	2.788	0.9865	17	0.063	0.882	8	0.081	0.950980	9
Sales.12	2.740	1.0551	18	0.097	1.425	6	0.095	0.917501	7
<i>Long-term sales (Sales-two)</i>									
Sales.04	3.090	0.9709	12	-0.093	-1.286	19	-0.071	1.067671	18
Sales.05	3.085	0.9643	13	-0.049	-0.697	17	-0.051	1.069188	16
Sales.06	3.323	0.9813	3	0.058	0.900	10	0.050	1.146505	10
Sales.07	3.221	0.9087	7	0.011	0.164	13	-0.017	1.121282	13
<i>Image-building (None-one)</i>									
None.04	3.398	0.9254	2	0.076	1.060	7	0.086	1.178938	8
None.05	3.271	0.9465	5	0.025	0.335	12	0.019	1.135190	11
None.06	3.118	1.0088	10	0.154	2.079	3	0.146	1.071903	4
None.07	3.126	0.9669	9	-0.066	-0.897	18	-0.109	1.083988	19
<i>Motivation (None-two)</i>									
None.08	3.010	0.9210	11	0.138	1.951	4	0.115	1.047360	5
None.09	3.144	0.9360	8	-0.039	-0.525	16	-0.048	1.091591	15
None.10	3.251	0.8254	6	0.006	0.095	14	-0.027	1.142095	14
None.11	3.272	0.9126	4	0.059	0.843	9	0.112	1.134881	6
None.12	3.572	0.9190	1	0.249	3.540	1	0.313	1.234205	2
Average	3.100	0.5998	-	0.082	1.180	-	0.093	1.130026	-
Overall sat.	3.156	0.8090	-	3.156	-	-	3.156	-	-

Notes: ^a Standardized multi-regression with R 0.666, R² 0.443, F 8.551, p value 0.000, Durbin-Watson 1.797.

^b LN partial correlation, for example, sales.01 LN with overall satisfaction under controlled the others.

with customers (none.07). The statistics from descriptive analyses at the attribute level are presented in Table 4.

2) Dimension statistics

The average mean of dimensional performance was calculated to be 3,123, which is lower than the 3,156 of overall

satisfaction. Four means of dimensional performance were from a high 3,250 of motivation (none-two) to a low 2,836 for short-term sales (sales-one), as shown in the performance part of Table 5. In particular, the mean of short-term sales (sales-one) was lower than that of four performance, as well as the overall satisfaction.

The results of dimensional level analysis of

Table 5. Dimensions' performance and implicitly derived importance

	Performance			Standardized multi regression			LN Partial correlation		
	Mean	S.D.	Rank	Coeff. ^a	t-value	Rank	Coeff. ^b	LN	Rank
Sales-one	2.836	0.7331	4	0.327	4.278	1	0.256	1.004770	2
Sales-two	3.179	0.7323	3	-0.041	-0.586	4	-0.035	1.125254	4
None-one	3.228	0.7642	2	0.142	1.928	3	0.108	1.140418	3
None-two	3.250	0.6763	1	0.294	4.079	2	0.302	1.154720	1
Average	3.123	0.5987	-	-	-	-	-	-	-
Overall sat.	3.156	0.8090	-	3.1561	-	-	3.1561	-	-

Note: ^a Standardized multi-regression with R 0.630, R² 0.397, F 36.099, p value 0.000, Durbin-Watson 1.743.

^b LN partial correlation, for example, sales-one LN with overall satisfaction under controlled the others.

indirect importance showed that short-term sales (sales-one) and motivation (none-two) are located in the first and second important dimensions in standardized multi-regression and vice versa, for LN partial correlation coefficients. Image-building (none-one) and long-term sales (sales-two) were identified as third and fourth, respectively, in both coefficients as low important dimensions. The results are summarized in Table 5.

3. Results of I-P mapping

1) Attribute level

After obtaining two types of indirect importance statistically, composite I-P mappings were performed using four quadrants together with a diagonal line to the IPA grid (see Methodology section). It is interesting to note that the attributes were plotted at almost the same locations on the two grids, as depicted in Figs. 2(a) and 2(b). The high-priority area above the diagonal line contained seven attributes with similar appearances from the two grids. It provides guidance to exhibitors which attributes should be reinforced and reduced scarce resources in general (Hawes & Rao, 1985).

Furthermore, five attributes fell within the concentrate here quadrant above the diagonal line in two grids. These are increase sales volume (sales.02), support current customer sales (sales.08), finalize business negotiation (sales.11), expand market into neighboring countries (sales.12), and gain advantage over competitors (none.08). This implies that exhibitors should allocate more resources to these five attributes to improve performance because they fall not only within the high-priority area above the diagonal line but also within the concentrate here quadrant.

By carefully examining the results of I-P mappings, the top priority order of the five attributes from the distance to the diagonal line is slightly different in the two grids. Increase sales volume (sales.02) was confirmed as the first and second very important attributes in Figs. 2(a) and 2(b), respectively. Conversely, support current customer sales (sales.08) plotted near the diagonal line as the fifth in Fig. 2(a), despite it is located at the furthest distance in Fig. 2(b). Consequently, increase sales volume (sales.02) can be regarded as the most important attribute, followed by support current customer sales (sales.08). Therefore, increase

Fig. 2. Results of two types of R-IPA mapping for attribute level

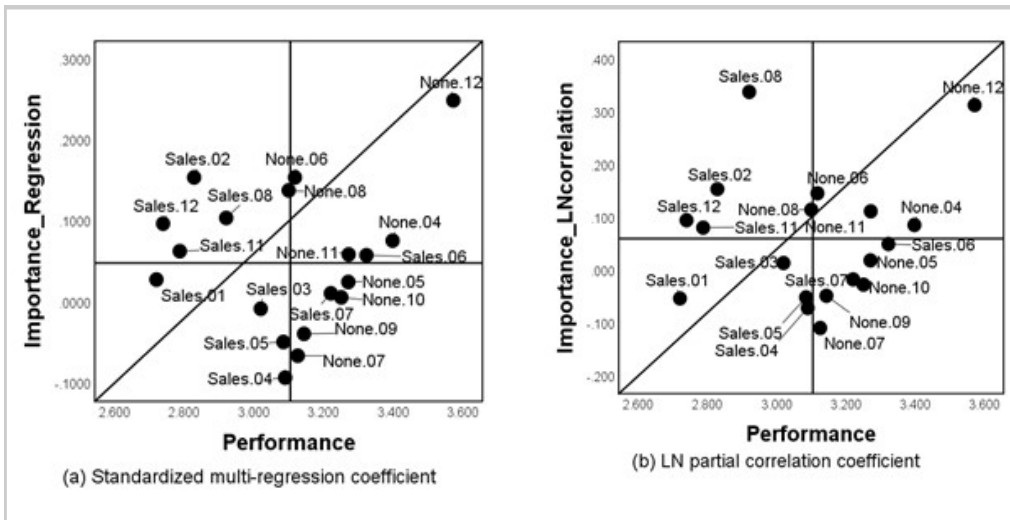
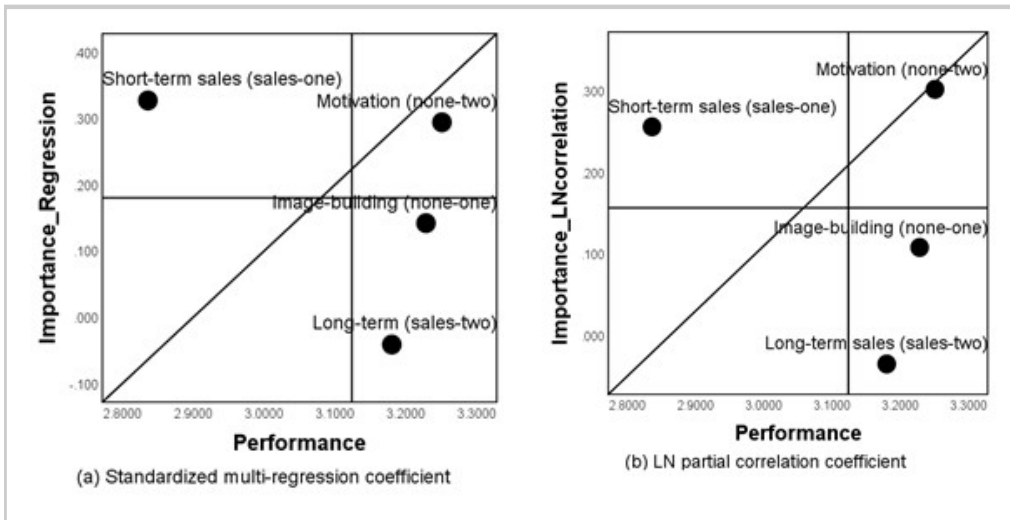


Fig. 3. Results of two types of R-IPA mapping for dimensional level



sales volume (sales.02) should be regarded as the most important attribute and should be the main focus among the other attributes to improve performance.

2) Dimensional level

The I-P mapping for dimensional level was

repeated the same as the process of attribute level. As shown in Figs. 3(a) and 3(b), interestingly, the results of I-P mappings produced almost the same implications. In both grids, the short-term sales (sales-one) with six attributes fell within the concentrate here quadrant above the diagonal line as the most important dimension. The short-term

sales (sales-one) was plotted at the corner of the upper-left on the concentrate here quadrant, implying a significantly low level of performance despite the most important dimension. The far distance to the diagonal line implies intensive resource allocation to the attributes of short-term sales. In connection with the result of attribute level analysis, exhibitors ought to pay special attention to the attribute of increase sales volume (sales,02) with booth staff's outcome-based marketing effort.

The other three dimensions are located in the low-priority area below the diagonal line in the different quadrants. The motivation (none-two) was identified as a very sensitive area because it was located close to the diagonal line in "keep up good work" quadrant with guidance of maintaining marketing effort, similar to the current action. In the country, two dimensions of long-term sales (sales-two) and image building (none-one) should be regarded as the lowest priorities of performance improvement because they are positioned in the possible overkill quadrant below the diagonal line. This indicates the need to shift their resources toward the attributes of the short-term sales dimension for the next trade show. It is interesting to note that the results of composite I-P mappings illustrate the same managerial guidance with no striking differences using the two types of indirect importance.

V. Conclusion

This study aims to investigate the dimensionality of trade show performance within a developing country and then apply the revised IPA to trade shows. The findings of the empirical analyses and examination of

prior works present some recommendations on the managerial implications of exhibitors and methodology to researchers.

The result of the dimensionality test implies that a developing country's exhibitors have a tendency to use trade shows differently from those in previous literature. In this study, the performance items were grouped into two sales and two non-sales dimensions, unlike prior works that put greater emphasis on the importance of non-sales than that of sales. This is probably because the performance dimensions have developed mostly from advanced countries cannot be generalized to all countries (Korneliussen, 2011). This implies the need for a dimensionality test to provide exhibitors with proper managerial implications in the view of different industry development stages of show hosting countries.

Meanwhile, selecting the performance attributes has a limitation. This study selected measuring items that have been frequently used in the previous literature. However, selection criteria cannot be provided because the unifying guidance of selecting variables does not exist as to which attribute to include or exclude when selecting items. Further, the dimensionality would result in different outputs depending on the selected items because selection or creation of measuring items is simply a matter of researcher choice. This is the reason why researcher should attempt to exert every effort to select proper performance items while considering the industry and business environment of the hosting country.

Regarding the use of the revised IPA to trade shows, the diagnostic tool used this study worked well in deriving managerial implications on resource reallocation without difficulty. For example, short-term sales was extracted as the most important dimension,

Thus, exhibitors should pay considerable attention to short-term sales, particularly the attribute of increase sales volume for the next trade show. Further, sales personnel should exert the best effort inviting target buyers who possess purchasing power before the show and attract attendees from outcome-based marketing activities at-show to increase the outcomes of short-term sales.

The success of deriving exhibitors' marketing strategies using the revised IPA would provide suggestions to apply the revised IPA methodology for future research. First, the results of the revised IPA strongly recommend the use of multiple indirect importance to derive proper exhibitors' marketing strategies through comparison of results within a study (Azzopardi & Nash, 2013). In addition, researchers should consider respondents' convenience not to waste time and feel fatigue when they rate a bipolar questionnaire consisting of attributes' performance and importance at the busy booth.

Second, it can be recommended for the composite I-P mapping methods to facilitate

priority setting for performance improvement and resource allocation under the dynamic and globally ever-changing market situation. This study successfully applied Rial et al.'s (2008) I-P mapping method comprising data-centered four quadrants and a diagonal line in combination with a two-dimensional grid. By applying the mapping, researchers must find adequate mapping methods instead of using traditional methods depending on the characteristics of a trade show, for example, vertical vs. horizontal shows and full service vs. limited service shows.

Finally, the study is believed to have contributed to presenting concrete, practical marketing strategies to exhibitors using the revised IPA techniques. In practice, exhibitors must devise measures to improve performance whilst reducing waste. Therefore, it is suggested that exhibitors should check the degree of achievement of the pre-specified objectives of the trade show participation and should reflect on the results when participating in the trade show the following year.

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