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## THE GENUINE NEEDS OF CONFERENCE ATTENDEES: AN ANALYSIS BY THE MODERN QUALITY FUNCTION DEPLOYMENT

**Abstract:** *The primary purpose of this research is to understand the genuine needs of conference attendees regarding conference participation within a multi-dimensional perspective and to identify the priority of those needs via modern QFD methodology. The findings support the early studies on the fact that academic development and networking are the most important needs towards conferences. Following these two primary need categories, organization-related needs are also given importance by the participants of this research. Offering free time for leisure and recreation activities within conference programs is valued more than pre-arranged social activities by attendees. It is anticipated that the research offers insight into the development and improvement of conference services through the identification of value-adding attributes, which would have practical implications for conference organizers and destination marketers. Unlike most of the extant literature in event management, this research employs the in-depth interviews, focus group, KJ method and AHP within modern QFD methodology.*

**Keywords:** *Modern QFD, Needs of conference attendees, Conference quality dimensions, AHP, Blitz QFD*

### 1. Introduction

The MICE sector, which consists of meetings, incentives, conferences and exhibitions, continues to gain importance in the international tourism market (Ladkin, 2006; ICCA, 2014; Alananzeh et al., 2018). One clear sign of this fact is that an increasing number of destinations start to acknowledge the benefits of the ‘host’ status and join the competitive supply market of the MICE sector to win more events (Lawrence & McCabe, 2001; Rogerson, 2005; Yoo & Weber, 2005; Davidson & Rogers, 2006; Jin & Weber, 2013; Whitfield et al., 2014; Abeysinghe, 2016). Among the most

apparent benefits of hosting MICE events for destinations is often mentioned in the literature as delegates being higher-spender and longer-staying visitors in comparison to most other leisure tourism markets, and local economies benefitting from the expenditures of not only visitors, but also of conference organizers and associations in the form of renting a conference venue, an exhibition hall and the like throughout the year (Oppermann & Chon, 1997; Mistilis & Dwyer, 1999; Jago & Deery, 2005; Rogerson, 2005; Zhang et al., 2006; Cuccia & Rizzo, 2011; Wang & Lee, 2011).

Despite the importance of the sector, existing research on understanding the needs and

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expectations of MICE delegates is scarce (Yoo & Chon, 2008; Mair, 2010). To date, most of the related research have focused on the various aspects of MICE business from the perspective of the event planner or the destination policy maker, and have ignored the perspectives of end-users of the concerned offers and products, namely attendees in the form of conferences (Severt et al., 2007). Yoo & Weber (2005) further add that the majority of these researches assess the site-selection decision-making processes by meeting planners and focuses on marketing aspects. Although meeting planners and destination marketers should meet on a mutual ground when the decision is made to host a conference in a specific locality, it is, after all, the overall participation and the satisfaction of participants, which determine the success of the event (Zhang et al., 2006; Mair, 2010). Therefore, it is important to understand how conference attendees, in other words 'end-users', make their participation decision-making and what underlying needs play a significant role in both shaping their final decision to attend a conference and also determining their satisfaction with the conference attended. The primary purpose of this research is, therefore, to shed light onto such needs through exploring and analyzing both the spoken and unspoken needs of conference attendees with data collected at pre-conference, during-conference and post conference processes. The research also aims to prioritize these needs. Such prioritization is expected to help practitioners to allocate their resources effectively according to the attributes creating value for conference attendees, and to improve the quality of their offering.

## **2. Conferences from the perspective of attendees**

The extant research on conference attendees can be analyzed within two groups: those investigating motivational factors influencing attendees' decision-making process, and those on conference quality attributes from

the perspective of attendees, there seems to be commonalities in most factors added to the models introduced by both research groups, with only difference of conference venue facilities and their management being only dealt by the later group. Moreover, the managerial aspects of conferences are mostly discussed in the studies focusing on the viewpoints of meeting planners and destination marketers on site selection criteria (Crouch & Ritchie, 1997; Baloglu & Love, 2003; Crouch & Louviere, 2003, Severt & Palakurthi, 2008). Lawrence & McCabe (2001), for instance, state that attendees consider the managerial success of conferences, and attach importance to quality conference facilities and services. Among the few studies delving into such aspects from the perspectives of attendees, (Lee & Back, 2009) consider "staff service" embracing service attitude, knowledge of the job and approachability of conference staff among the quality factors to investigate attendee-based brand equity. Ryu & Lee (2013) also include staff service among conference-specific quality dimensions in their study examining attendees' differing evaluation of a conference according to their different self-congruity levels. Breiter & Milman (2006), meantime, found that overall cleanliness of a conference venue, a well-maintained facility, helpfulness of staff, and directional signage within the venue being given high importance among attendees.

The finding of (Jago & Deery, 2005) study, partially, explains the lack of managerial aspects in attendee decision-making models. According to the authors, attendees consider venue-related aspects as important decision-making factors only when they face venue-related problems and upon their arrival in the venue. Their study based on the framework developed by (Oppermann & Chon, 1997), investigate the interrelationships between conference organizers, international attendees and convention bureaus and associations in order to understand the impacts of these interrelationships on participation decision-making. Among the findings of their

qualitative research: networking being conducted more during conferences rather than at social events; changes required to deal with the special needs of increasing number of female attendees, and; the safety of the destination where the conference is held, gaining importance among both by attendees and organizers, could be listed.

In addition to the abovementioned studies, there are others elaborating on the dimensions of conference participation decision-making and motivation. Severt et al. (2007), for example, conducted research on the attendees of a regional conference in the US and revealed a five-dimension conference motivation: activities and opportunities; networking; convenience of the conference; education benefits, and; products and deals. Mair & Thompson (2009) have focused on the attendance decision process of conference attendees and concluded that networking, personal/professional development, cost, location, time and convenience of the conference, and health and security are the major factors that affect the process.

Finally, (Chiang et al., 2012) examine the motivational characteristics of MICE visitors to Taiwan in order to identify different market segments. The authors cluster the motivational characteristics of four groups: *educational values* -i.e. presenting a paper, self-esteem enhancement; *exploration of the novel* -i.e. travelling, comfortable place to stay, escape from routine, experience a different culture; *career enhancement* -i.e. work requirement, employer funding, networking opportunities, a reasonably priced conference, and; *travel opportunities* -i.e. sightseeing, an opportunity to visit a new destination, entertainment.

### 3. Modern quality function deployment

Quality Function Deployment (QFD) was first introduced by Mizuno and Akao in the late 1960s in Japan to assure customer satisfaction through the enhancement of

quality in design and production processes (Revelle, 2004; Kapucugil et al. 2006). Akao (1990: 3) defines QFD as “*a methodology that aims to improve the design quality through translating customer requirements to design targets and quality assurance points used in manufacturing*”.

QFD is based on the philosophy of designing a final product/service through the analysis of end-users’ needs also known as “*voice of the customer*” (Yamamoto et al., 2005; Curcic & Milunovic, 2007). Voice of the customer is gathered and analyzed to identify end-users’ priority requirements and needs from a given product/service, and then to translate such requirements and needs into design requirements for production operations (Hepler & Mazur, 2006; Chan & López-Fresno, 2017).

At the foundation of QFD, there is *House of Quality*, a set of matrix used to link voice of the customer with technical aspects of a product/service, control plans of processes and production operations (Dror & Sukenik, 2011). While the early studies on QFD were developed based on the matrices of House of Quality, a number of significant revisions were made to this traditional form of QFD in the early 1980’s and these revisions led to the development of the modern QFD approach – a streamlined approach to get the basic benefits of QFD with the elimination of matrices of House of Quality (Zultner, 2006). In other words, modern QFD still provides necessary tools and a process flow to capture both spoken and unspoken needs of a product/service’s end-users, while it aims to shorten the time-consuming analysis of matrices and to put more emphasis on the voice of the customer. Based on the principles of traditional QFD, the modern QFD focuses on tailored processes, which reveal the production and design attributes adding or creating value for both end-users and suppliers (Zultner, 1995).

Zultner (2000: 190, 2006) summarizes the process of modern QFD in 7 steps:

- 1) *Gather voice of customers*: At this stage, the aim is to gather end-users' problems, requirements and complaints in order to identify those product/service attributes which add value to the concerned product/service for end-users. Modern QFD's unique approach requires the execution of this phase at the place of end-users' habitual environments; as in the place of residence, employment or actual consumption. This is why this phase is also referred to as "Go to Gemba" (Gemba is a Japanese quality term meaning the place where truth can be discovered.) (Mazur, 2008b: 6; Mazur and Belt, 2016). At this stage, *customer segments* are identified, and a *customer process model* is formed to facilitate a better understanding of the perceived needs of end-users from a product/service in question.
- 2) *Analyze the verbatim*: At this stage, the voice of the customer –i.e. composing both verbal expressions of end-users and observation data – is analyzed and *customer voice table* is prepared to extract the underlying needs of end-users.
- 3) *Structure the needs of end-users*: The needs' structure is formed with *affinity diagrams* representing in detail how the needs are perceived by end-users.
- 4) *Analyze the needs structure*: The formed structure is analyzed to detect missing and unstated needs, and the ones which are genuine. Here the word "genuine" is used in purpose, as the aim is not to discover what product/service attributes end-users look for, but to understand what needs actually lead them to demand products/services with particular attributes.
- 5) *Prioritize the needs*: Which needs are most important and to whom are important questions to be asked at this stage. The aim is to identify the mutually perceived "important" needs by end-users and suppliers in order to use scarce resources for product/service improvements and developments efficiently. *Analytic Hierarchy Process* (AHP) is one of the most used tools to prioritize needs.
- 6) *Deploy the prioritized needs*: The aim, at this stage, is to determine what/if modifications are required in production processes to offer products/services with attributes meeting the end-users' priority needs using a *maximum value table*.
- 7) *Analyze only important relationships in detail*: Further analysis is conducted to explore *high/low value attributes, high/low value tasks* and *high/low risk attributes*.

To the best of our knowledge, there is yet to be any research on "event management" in general and in "conference attendance" in particular, using neither the traditional nor the modern versions of QFD as a quality tool. Since the method helps to extract the "genuine" needs of end-users, it is considered that a modern QFD-based research on conference attendees would contribute to the extant literature both on motivators and inhibitors in attendance decision-making processes, and also on conference service quality dimensions. It is also anticipated that the findings of the current study would offer insight into the development and improvement of conference service quality through the identification of value-adding attributes, which would have practical implications for conference organizers and destination marketers. The following section explains the methodology of the study in detail based on the primary data collected at national academic conferences in Turkey.

## 4. Methodology

In this study, the modern QFD methodology, which embraces predominantly qualitative data collection methods, is executed in the hope to further elaborate on multidimensional aspects of conference attendance and to compare the findings with the ones of earlier studies. In the following sections, the modern QFD process steps executed are explained in detail with methodological issues.

### 4.1. Step 1: Identifying Customer Segments

Prior to data collection, the modern QFD requires the selection of a specific end-user segment of a particular product/service. In this step, end-users are defined by their characteristics independent of the service they receive in order to facilitate need exploration. In the current study, a national conference held in Turkey is selected as the event to gather the first part of primary data for the compilation of voice of the customer. Further data collection at another national conference and a focus group study are also executed to strengthen the affluence of primary data used for analysis. The special attention is paid to the selection of conferences in the similar genre in order to detect end-user needs specific to particular conferences and, hence to enhance the reliability of primary data collected at these conferences. As (Opperman & Chon, 1997) note, conference business is a heterogeneous one, and different conference types, as in the form of corporate or association meetings, appeal to different segments with distinct characteristics. Academic conferences, a type of association meetings, appeal to attendees, who mostly choose to participate in such events in their own will and cover their own participation expenses. Moreover, the geographical scope of the selected conferences is also limited to national events in order to eliminate differences in both attendance decision-making processes of and the benefits sought from local, regional and

international conferences.

The conferences selected for data collection are the Maritime Tourism Conference and the Interdisciplinary Tourism Research Conference both held in Turkey. Although attendees at a national academic conference may be from a range of segments as in academics, students and, public and private sector representatives, this study focuses on the needs of academics, who are found to account for the majority of attendees at both events –i.e. 70% and 95% of all attendees were academics at the conferences respectively.

### 4.2. Step 2: Customer Process Modeling

In modern QFD, process modeling describes the steps, which a customer follows during the decision-making, consumption and post-consumption phases of a product/service purchase. Process modeling could be considered as a preparation to Gemba visits, as a structured process model provides insight into the factors influencing cognitive attitudes of end-users. In academic conferences, for example, participation decision for those attendees intending to present their research is affected by the so-called review process, which is outside the control of attendees and is subject to their research being found suiting the conference's topic as well as methodologically interesting and scrupulous by reviewers.

The needs of attendees, meantime, may pertain to conference products/services offered before, during and after a conference. Based on the feedback gained from five academics, two of whom have worked in the organizing committees of the national conferences selected for data collection, the attendance process model for this study is formed in three sections, namely '*pre-conference*', '*during the conference*' and '*post-conference*' (see Figure 1).

In today's era of technology, reaching potential attendees in electronic platforms, and creating conference websites are found

crucial for conference organization. The attendance process, therefore, starts with the preparation of conference information and launching of websites, and continues with organizers distributing conference calls in various networks. The other steps of pre-conference process include abstract and full paper submission, registration to the conference and arranging accommodation and travel arrangements in accordance with the result of the review process. With attendees travelling to the conference destination and venue, during conference process gets activated. At this stage, attendees' activities are mainly guided by organizers according to the conference program with some free-time available for independent social activities and meetings. At the final phase of the attendance process

model, information exchange between attendees and organizers is placed in post-conference process. Post-conference surveys to measure attendee satisfaction, use of conference databanks to keep attendees up to date with the forthcoming sequels of repeating conferences and other related academic activities, and proceedings and conference photos distributed to attendees could be listed as the examples of activities performed in this period. There is no doubt that these processes may vary in different conference settings, as organizers may opt for the inclusion of different services in their packages. In this study, the attention is paid to the most uniform activities and procedures followed at national conferences in Turkey, and to standardize the attendance process model for research purposes.

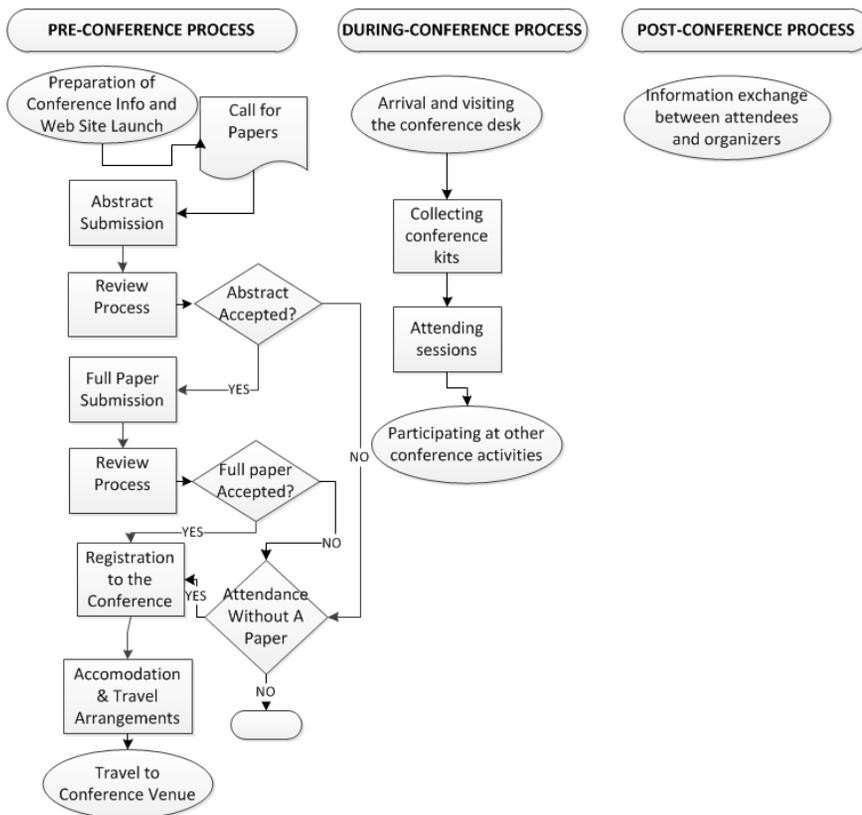


Figure 1 Conference participation process model

### 4.3. Step 3: Collecting and Clarifying Voice of the Customer

In modern QFD, in-depth data is collected from the end-users of a product/service in order to determine the problems, complaints and opportunities associated with the product/service, and its related quality attributes, which are expected to meet end-users' needs. In this study, twenty in-depth interviews were initially conducted with the attendees of the Interdisciplinary Tourism Research Conference. When selecting the interviewees, the attention is paid to the purposive sampling of academics: from different educational institutes; at different stages of career, and; with different demographic characteristics (see Table 1). Almost in line with the proportion of private universities among all higher education establishments across the country –i.e. around 40% of all universities belong to private sector foundations (Cetinsaya, 2014), for example, 7 interviewees were the employees of so-called foundation universities, while the rest were the employees of state universities. During the semi-structured interviews, the interviewees were asked questions on their attitudes towards academic conferences with no specific reference to the conference attended at the time. The questions asked mainly concentrate on the problems faced, and the benefits sought from attending national academic conferences. In line with the attendance process model developed, the interviewees were asked to evaluate pre-, during and post- conference stages of national conferences. The duration of interviews ranged between 35 and 60 minutes. The interviews were tape-recorded with the permission of all interviewees, and the recordings were later transcribed verbatim into documents for data analysis.

For the composition of Gemba visit tables, observational remarks were also taken during each interview. Figure 2 is an example of a Gemba visit table filled in for one of the

interviews. As the figure demonstrates, Gemba visit tables consist of several sections, each assigned for the compilation of specific data forms derived from research techniques executed for primary data collection. The initial column on the table, therefore, indicates the phase of the participation process model during which the current data is obtained. Since the interviews were conducted during a national conference, the process step section for all interview findings refers to the 'during conference' stage of the model. It is important to note that other data collection methods were also used in this study to obtain data associated with pre- and post-conference stages of the model. While a content analysis is applied for the post-conference stage to the feedback forms filled in by the actual attendees and compiled by the organizers of the Maritime Tourism Conference, a focus group study is executed to collect data on potential attendees' needs from national conferences at the pre-conference stage. Although the number of feedback forms returned was 22, only 10 of them were used for analysis, as more than half of the forms embraced plain and brief remarks on the successful organization of the conference without comprehensive information offering insight into the conference attributes criticized or praised by attendees. For the focus group study, meantime, a meeting was arranged with nine Turkish academics specialized in different social sciences disciplines and at different career levels (see Table 1). During the focus group study, the participants were asked questions on their previous experiences of national conferences, their expectations from conferences and, the quality attributes, which are considered as the prerequisites of successful conference organizations from the perspectives of attendees. The focus group study lasted around 90 minutes and was tape recorded. The recordings were later transcribed verbatim into a document for analysis.

**Table 1** Interview, Focus Group and KJ Method Sample Characteristics

<b>Interview Sample Characteristics</b>				
Gender	<b>Male</b> 11 interviewees		<b>Female</b> 9 interviewees	
Employer	<b>State University</b> 13 interviewees		<b>Foundation University</b> 7 interviewees	
Professional Experience	<b>Research Assistant/Instructor</b> 7 interviewees	<b>Assistant Professor</b> 4 interviewees	<b>Associate Professor</b> 6 interviewees	<b>Professor</b> 3 interviewees
National Conferences Attended Previously	<b>First Conference</b> 2 interviewees	<b>Less Than Five</b> 8 interviewees	<b>Between 6-14</b> 5 interviewees	<b>More Than 15</b> 5 interviewees
<b>Focus Group Sample Characteristics</b>				
Gender	<b>Male</b> 4 participants		<b>Female</b> 5 participants	
Employer	<b>State University</b> 9 participants		<b>Foundation University</b> N/A	
Professional Experience	<b>Research Assistant/Instructor</b> 3 participants	<b>Assistant Professor</b> 3 participants	<b>Associate Professor</b> 2 participants	<b>Professor</b> 1 participant
National Conferences Attended Previously	<b>None</b> N/A	<b>Less Than Five</b> 2 participants	<b>Between 6-14</b> 4 participants	<b>More Than 15</b> 3 participants
<b>KJ Method Sample Characteristics</b>				
Gender	<b>Male</b> 3 participants		<b>Female</b> 3 participants	
Employer	<b>State University</b> 6 participants		<b>Foundation University</b> N/A	
Professional Experience	<b>Research Assistant/Instructor</b> 1 participants	<b>Assistant Professor</b> 3 participants	<b>Associate Professor</b> 2 participants	<b>Professor</b> N/A
Experience as a Conference Organisation Committee Member	<b>1-3 Conference</b> 3 participants	<b>4-5 Conference</b> 2 participants	<b>More than 5 Conferences</b> 1 participant	

The findings from both the content analysis of feedback forms and the focus group study were also appended into Gemba visit tables. The combination of three different techniques in data collection is considered to eliminate the probability of collecting misleading, false or conflicting information, and to compile relevant information applicable to all three stages of the participation process model.

Triangulation in data collection can also enforce the objectivity of research by eradicating the biases arising from either researchers or information providers. Furthermore, triangulation mitigates the weaknesses of different techniques and compensates their disadvantages through the application of alternative methods of data collection and processing (Chisnal, 2005).

<b>Interviewee</b>	Prof. Dr. at a state University	<b>Interviewer(s)</b>	Author 1
<b>Contact Info</b>	N/A	<b>Date &amp; duration</b>	16.05.2014 45 min.
		<b>Place</b>	Conference venue's lounge
<b>Interviewee characteristics</b>	Formally dressed, sitting at the lounge with the conference program in hand		
<b>Process step</b>	<b>Observations</b>	<b>Verbatim</b>	<b>Clarified items</b>
During the conference	Sitting at the lounge and looking at the conference program	<p>"I have a criticism on the content of the papers. I think there are problems about the review process. They seem to be concerned about the number of participants, but not the quality of papers".</p> <p>"The main aim of these organizations should not be making profit. Academic concerns should be higher than making profit".</p> <p>"I want to check my e-mails but it is 3 Euros per hour, I couldn't check my mails for 3 days".</p> <p>"There are lots of parallel sessions with similar topics when I attend one of them I miss the others. That is frustrating".</p>	<p>Stricter review process</p> <p>Interesting and challenging papers</p> <p>Free wifi</p> <p>Being able to attend all interesting parallel sessions without the feeling of missing something</p>

**Figure 2** Gemba visit table sample

Once all the primary data was inserted into the observation and verbatim columns of Gemba visit tables, the quotations gathered were reduced into brief statements and were listed in the column 'clarified items'. These statements, which underlie the needs of attendees, and their perspectives on conference quality attributes, form the basis of customer voice tables

**4.4. Step 4: Analyzing Voice of The Customer and Extracting Needs**

Based on the clarified items composed in Step 3, customer voice tables were prepared to analyze and extract the needs of conference attendees in Step 4. Figure 3 displays a fraction of the customer voice table derived from the primary data analysis as an example. At this stage, the aim is to classify clarified items in meaningful groups. A thorough analysis of clarified items and their applicability to the factor groups covered by the models on conference participation decision-making and conference quality attributes in the extant literature, resulted in four groups to be created at this stage: academic and educational benefits; networking; organizational issues, and;

location and social activities. Each clarified item is then listed under the relevant group in customer voice tables.

The modern QFD approach is built on the postulation that end-user needs should be independent of product/service related attributes and solutions (Mazur, 2008a). The identification of end-user needs, therefore, depends on the analysis of benefits sought, which are often deciphered in between the lines of the clarified items of Gemba visit tables. As can be seen in Figure 3, for example, the interview quotation;

*"At conferences, I sometimes feel left alone as a junior researcher, as I observe that most attendees tend to talk to people they already know"*

refers to the need 'socializing with peers'. Although it seems obvious that such a statement would lead to that need, it is not always this apparent what benefits end-user exactly referring to in their statements. To ease the process of need extraction, the modern QFD evokes several questions to be asked by researchers as in: what product/service attributes a respondent keeps

referring to; what impacts such attributes have on customer process models; what values such attributes create for end-users, and, what benefits would be gained by end-users with such attributes. In this study, such questions were asked during the in-depth

analysis of primary data findings, and the extracted needs are attached to the relevant statements in customer voice tables, which, as a result, produced a list of needs of conference attendees.

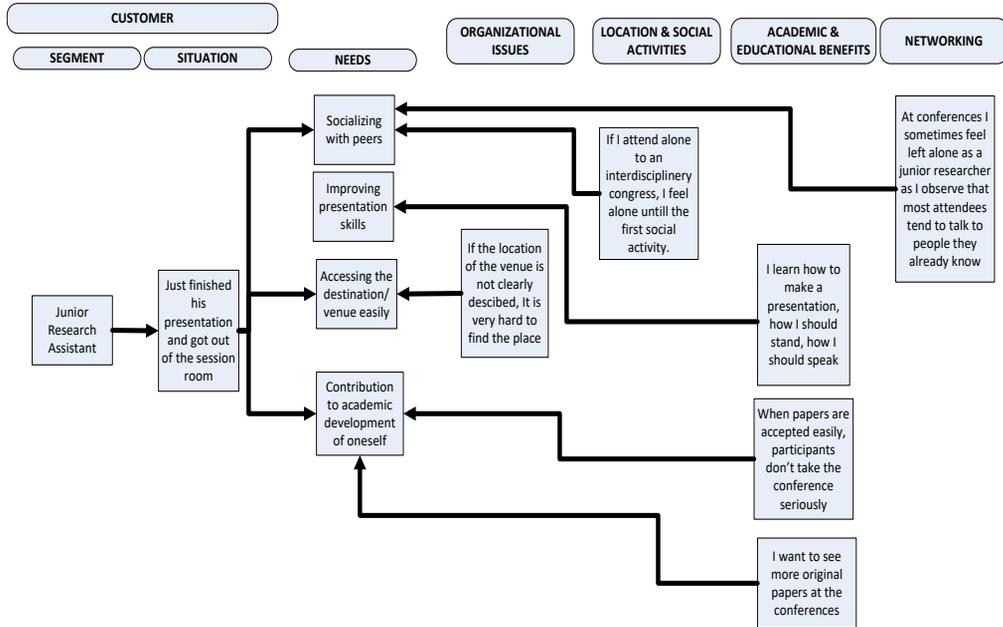


Figure 3 Customer voice table sample

#### 4.5. Step 5: Categorizing Needs

As mentioned above, the list of the extracted needs identified in Step 4, were initially categorized into four groups on customer voice tables. These groups were identified according to the literature analysis, and also to the compatibility of clarified items to each group. However, in order to understand how end-users perceive their needs in more detail, the modern QFD induces the use of other methods, where a sample of end-users is involved in need categorization. KJ Method™ developed by (Kawakita, 1986) is one of such methods, which is known as a method for establishing an orderly system from a chaotic mass of information (Shigenobu, Yoshino & Munemori, 2007).

In this study, a group of 6 Turkish academics, all specialized in social sciences, and all with experiences of conference organization were selected for the execution of KJ Method™.

The participants were given the list of the needs extracted, and were asked to categorize them according to their own experience and perceptions on conference attributes. At this first stage of the method, no interaction is allowed between participants, and each works on need categorization individually. Once the first round of needs categorization was completed, the participants were asked to share the reasoning of their own categorization with the rest of the group. The participants were then asked to reach a consensus on the best-fit categorization of conference attendee needs, and to create labels for each category according to the

shared characteristics and idiosyncrasies of the needs listed under the same label. This resulted in four groups of needs to be created by the participants, which was in line with the earlier categorization of needs on customer voice tables with trivial amendments in

labels. As can be seen in Figure 4, based upon the findings of this step, the categorization was finalized with four groups created for the needs associated with: academic development; networking; organizational issues, and; location and social activities.

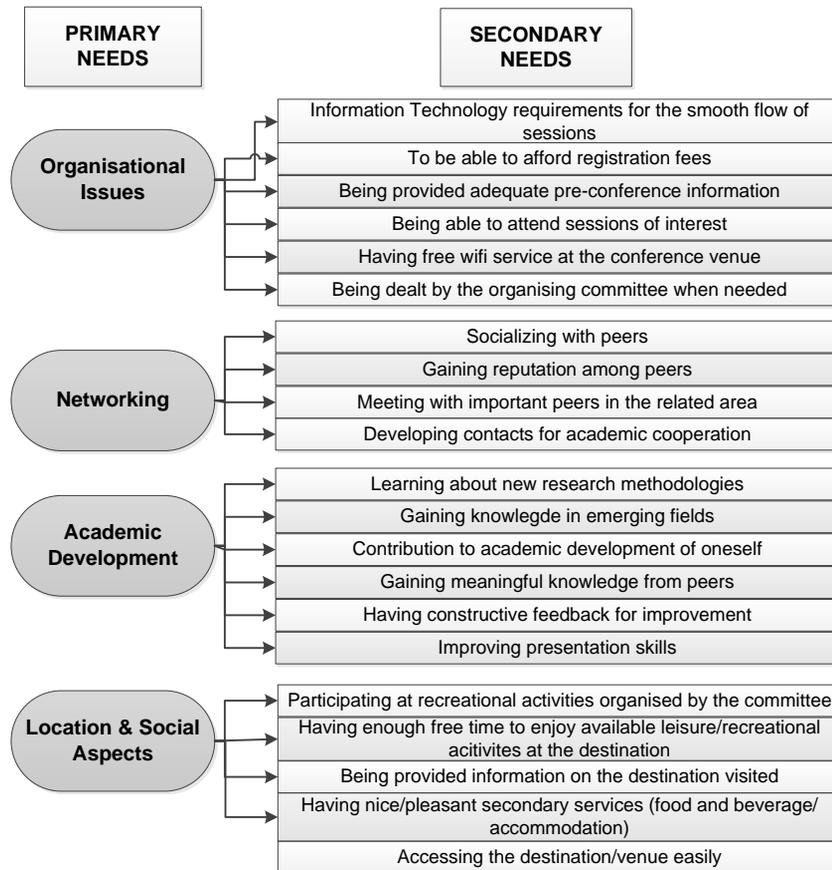


Figure 4 Attendee needs

#### 4.6. Step 6: Prioritization of Needs

At the final step of the modern QFD, the identified needs are prioritized in order of how important they are perceived by end-users. The rationale behind the prioritization step is to disclose the most important needs as perceived by end-users and then to enable product/service suppliers to benefit from this information in using limited resources as efficiently as possible through emphasizing

on the associated product attributes in product development and design alterations (Chan, Kao & Wu, 1999). In modern QFD, one of the most used methods for needs prioritization is Analytic Hierarchy Process (AHP). As a quantitative method, AHP enables a pairwise comparison between alternatives, which produces a rank of alternatives in a hierarchical framework (Saaty, 1991; Kapuria & Karmaker, 2018).

Using the needs categories and the needs listed in each category, a questionnaire consisting of a section on demographic characteristics of respondents, 4 sections on pairwise comparison of the needs in each category, and 1 section on pairwise comparison of the need categories, was developed for AHP implementation. For the later sections, respondents were asked to rate their comparisons on a scale of five, where 1 meant ‘equally important’, 2 ‘slightly important’, 3 ‘important’, 4 ‘more important’ and 5 ‘much more important’. Using purposive sampling, the questionnaire was filled in by 35 Turkish academics specialized in social sciences. Among the returned questionnaires, 22 of them were found to be consistent with a consistency ratio lower than 0,20 (Saaty, 2001). All pairwise comparisons were then aggregated into a single matrix by calculating the geometric mean of each comparison in order to determine the

importance levels of needs and need categories. In order to be able to compare the priority of needs across the entire hierarchy, global priorities were also calculated by multiplying the local importance level of needs within each category with the importance level of the related need category.

### 5. Results and discussion

Figure 5 summarizes the AHP results, where the global priority rankings of attendee needs are shown in the last column. In line with the extant research, “academic development” is the leading need category out of four need groups identified in this research with an importance level of 41.8%. This category embraces six of the top ten highest scoring needs in ranking, denoting that attendees’ primary needs towards conferences are to improve their academic knowledge and skills.

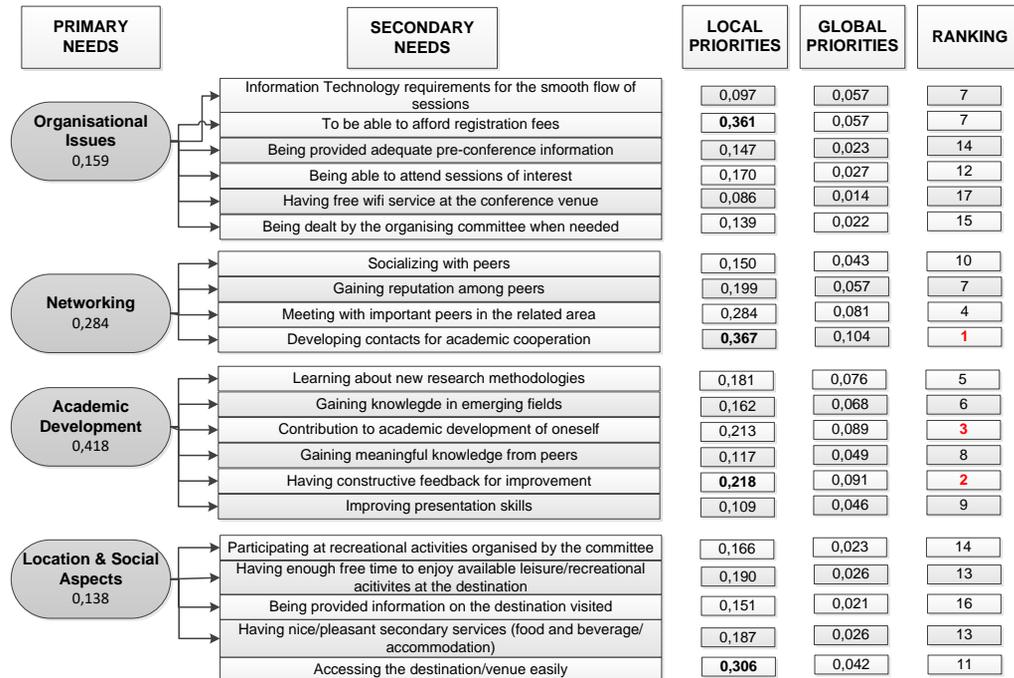


Figure 5 Hierarchy of Needs and Priorities

The results indicate that the quality of the research presented at a conference have

utmost importance for attendees, as learning new methodologies and gaining knowledge in emerging research fields from peers are shown among the main needs, which together lead into the conference contributing to attendees' academic development. Especially early-career researchers consider conferences as education platforms, where they can improve their presentation skills. The most important need in this category, however, is found to be the need to have constructive feedback on attendees' research from the audience –i.e. with a score of 0.218 in local priority ranking. The following quotations pinpoint the impacts of constructive comments and criticism on academic development as perceived by the attendees interviewed at an early phase of the research.

*“One of the reasons why you attend a conference is to share your recent research with academic circles, and to receive constructive and insightful feedback on your research from the audience... When you get a different perspective from someone, it helps you improve your research and also yourself academically”* (Interview 4).

*“Some professors seem to attend sessions only to criticize early researchers' studies. Their insensitive comments can be discouraging and humiliating... After all, we are here to improve our knowledge in the field, our presentation skills and the way we conduct research”* (Interview 15).

“Networking”, following “academic development” with an importance level of 28,4%, has the second category of needs with the highest scoring rankings in AHP analysis. In this category, “developing contacts for academic cooperation”, however, has the highest ranking among all the needs shown in Figure 5 –i.e. with a score of 0.104 in global

priority ranking. Meeting with other academics working in the same field, finding opportunities to discuss research projects and ideas outside conference sessions and meeting “important” academics emerge as the needs to be fulfilled by attendees in conferences. According to the findings, attendees do not only search for opportunities to meet with other academics, but also aim to connect with the network as a reputable academic in the field. The following quotations support the importance of networking in conferences, while the last one reveals difficulties faced by early-career researchers in joining well-established academic circles.

*“I try to go to the same conference year after year, as you start developing contacts in time, and become a familiar member of the network”* (Interview 7).

*“Conferences offer great opportunities for socializing with academics from other institutions... There were a couple of times, when I attended a specific conference just because of important key note speakers, with the hope that I could learn something from their experience in the field, and that I could possibly share my research ideas with them”* (Interview 11).

*“This is the first conference I have ever attended... I found it quite difficult to socialize with people until the first social activity. I only know some of these people by name from their publications... We now have a group of early researchers sticking together”* (Interview 2).

The third category of need contain organizational issues with an importance

level of 15.9%. As mentioned above, in the extant literature, conference venue facilities and their management are only investigated in research on conference quality attributes. The existing research on motivational factors influencing attendees' decision-making process, meantime, excludes such organizational issues in their models. The rationale behind this exclusion could, arguably, be that attendees experience organization-related factors after they arrive in conference destinations/venues, hence following their final decision is made. However, given the fact that most academic conferences are associated not only with professional meeting planners but also with institutions as organizers, the credibility and proficiency of institutions in conference organization can be judged from the reputation and success of previous conferences organized. Besides, some of the needs listed in this category require organizers to offer related services at a pre-conference stage, hence having an effect on influencing potential attendees' final decision. Affordable registration fees, accurate and prompt provision of pre-conference information, helpful and caring organizing committee members when faced with problems and an appropriate distribution of papers in parallel sessions according to research topics are required to meet the organization-related needs of attendees according to the findings of this research. Ease of technological devices use especially by presenters and free access to the Internet also emerged within this need category. The following quotations are used when extracting these needs of end-users:

*"I have accidentally found out about [a conference]. I don't think they have distributed the call for papers widely throughout the country... It took me sometime to find it on Internet as well, as it was not the first page to appear when I typed its title on [search engines]"* (Interview 3).

*"I got really frustrated, when it was my time to present, and my pre-uploaded presentation was not working... I felt responsible for these people, who sit and wait about ten minutes for the technician to come and solve the problem. Clearly such problems can happen anytime, anywhere. But if it is happening more than once, then there is a problem"* (Interview 12).

*"There are so many interesting papers I would like to listen to. But they are in simultaneous sessions. You are forced to choose a session... I sometimes feel like I am missing on important discussions in other sessions"* (Interview 5).

"Location and social activities" is the final category of needs with an importance level of 13.8%. The needs in this category refer to the accessibility of the destination and the conference venue, and the products/services offered by both for the leisure/recreation needs of attendees. Although the primary motivation is predominantly academic-related, the destination, where the conference is held also has an effect on attendees' decision-making. Attendees often intend to experience leisure/recreational activities available in the destination either on their own, or as a part of the social program covered by conference organizers. Having offered accurate information on the destination's tourist products/services, benefitting from social activities offered in a conference package and being offered comfortable accommodation facilities with pleasant secondary services as in food and beverage are the needs extracted from the primary data of this research. The following quotations are examples from the interviews.

*"I try to attend social programs, especially if the conference is in a destination I am visiting for the first time... It is nice to be able to visit some"*

*tourist attractions outside sessions. It is like mixing business with leisure” (Interview 1).*

*“I have once attended [an accounting conference], simply because it was in [a city in Southern Turkey]. I always wanted to visit [the city]. I just extended my stay for another day to discover its sights” (Interview 6).*

*“When the conference fee covers meals and coffee breaks, you expect them to be in good quality... Social programs could be attractive. Once I was in a conference, for which they had [a famous Turkish singer] performed at the gala dinner. That was amazing” (Interview 19).*

## 6. Conclusion

There is no doubt that product and service provision in the dynamic and constantly growing MICE sector will continue to be influenced by the trends emerging on demand side. As (Ladkin, 2006) argues, such trends have already produced outcomes, as there are more choices with better service quality, a variety of destination/venue options, expected IT requirements and, tailor-made arrangements fitting the event topic and its specific target markets. Although the number of extant research on the MICE sector has been increasing over the last two decades in parallel with the changes occurring in practice, there is still a need for further research on understanding participation decision-making processes, which, as a result, would help meeting planners and organizers to improve the quality of product/service attributes (Whitfield et. al, 2014).

When the extant research on conference attendance, the focus of this research, is examined, there are two tracks of

investigation: those investigating motivational factors influencing attendees’ decision-making process (Oppermann & Chon, 1997; Jago & Deery, 2005; Kim et al., 2012), and; those on conference quality attributes from the perspective of attendees (Lawrence & McCabe, 2001; Lee & Back, 2009; Ryu & Lee, 2013). There are commonalities in most factors added to the models introduced by both of these research groups, with the only difference of conference venue facilities and their management being only dealt with the later group.

Using the modern QFD in its methodology, the attention is paid to the identification of needs of conference attendees, and the priority ranking of these needs from the perspective of end-users in this research. The identified needs are then linked to conference attributes categorized into four groups. The findings support the early studies on the fact that academic development and networking are the main motivators for conference attendance (Yoo & Chon, 2008; Lee & Back, 2009; Mair, 2010; Mair, Lockstone-Binne, & Whitelaw, 2018; Edelman et al., 2018). Following these two need groups, however, organization-related needs are also given importance by the participants of this research. This need category, resembling the managerial attributes covered by the studies on conference quality, refers to various aspects ranging from accurate and prompt provision of pre-conference information to helpful and caring organizing committee members. Adequate and flawless IT requirements and free Internet facilities at conference venues also emerge as important attributes expected by attendees. The findings also support that offering free time for leisure and recreation activities is valued more than pre-arranged social activities by attendees - they usually skip the social activities of conference programs (Ladkin, 2006; Kim et al., 2012; Lee & Min, 2013)-, as the earlier alternative is given higher priority among the needs in the location and social aspects category.

To conclude, this research aims to highlight the “genuine” needs of conference attendees with the use of several qualitative and a quantitative research tools within the modern QFD approach. The findings indicate that the needs towards conference services involve both motivators and inhibitors affecting decision-making processes, and conference quality dimensions. While the earlier research has so far investigated these concepts separately with similarities in the models, uniting these models based on “needs” categorization may offer practitioners better understanding of conference participation and its multi-dimensional attributes. The use of the modern QFD is considered to have presented explicit and comprehensive findings to this end. The research, meantime, is not without limitations. The “end-users”, consisting of the research sample, are selected among Turkish academics with an experience of attending/organizing national academic conferences. Since different conference types may appeal to different segments with distinct characteristics, there is a need for further research on other conference settings, in

different destinations and with a wider sample group of attendees. The results also indicate that there are differences in the needs of academics at different stages of their career. While most participants of this research consider conferences as educational platforms where they can gain new knowledge in their field, more specific needs, as in “improving presentation skills” by early researchers, are mentioned by attendees at different career levels. Therefore, further research on identifying conference attendee types, and then comparing their conflicting and comparable needs may offer new insights onto the research on conference attendance. Another limitation of the study is that the extraction and delivery of the service attributes meeting the conference attendees’ high priority needs towards conference services using a maximum value table is failed to be executed. Since, the fulfillment of this step of the modern QFD methodology requires more in-depth knowledge and practical experience in conference organizations, it is beyond the aim and scope of this study.

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