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Study of Financial Crisis Management in Tourism Industry

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Abstract

The present paper aims to defining and analyzing crisis in the tourism industry. This paper proposed practical solutions to confront the crisis in tourism industry and used the Failure Mode and Effects Analysis technique via explanatory combinatorial methods. As a result, in order to manage the crisis, the structure of failure should be defined and codified for all processes of tourism system in the first stage. In conclusion, this industry is in need of prediction and systematic planning for probable

dangers to maintain the continuation of activity and growth of profitability.

Keywords: Tourism, Crisis, Management, FMEA, Industry.

Estudio de Gestión de Crisis Financiera en la Industria del Turismo

Resumen

El presente trabajo tiene como objetivo definir y analizar la crisis en la industria del turismo. Este documento propuso soluciones prácticas para enfrentar la crisis en la industria del turismo y usó la técnica de Modo de Falla y Análisis de Efectos mediante métodos combinatorios explicativos. Como resultado, para manejar la crisis, la estructura del fracaso debe definirse y codificarse para todos los procesos del sistema de turismo en la primera etapa. En conclusión, esta industria necesita predicciones y una planificación sistemática de los peligros probables para mantener la continuidad de la actividad y el crecimiento de la rentabilidad.

Palabras clave: Turismo, Crisis, Gestión, FMEA, Industria.

1. INTRODUCTION

Tourism activity is regarded as one of the most important and most dynamic activities in the world, in a way that in the worldwide level, the number of a foreigner and domestic tourists and the earnings are continually increasing (Mahmoudi et al., 2012). The unprecedented growth of tourism in recent years and worldwide competition in this field has made the tourist destinations face new challenges (Mansourimoayyed and Soleimani, 2012). In today's condition, the

crises and managing them is regarded as an important issue which has a relationship with tourism and its activities and it seems that the tourism industry is more prone to all kinds of crises because of having characteristics that separate it from other industries, and this can strengthen the probability of crises occurrence in this industry. This matter necessitates the existence of a strategy and appropriate crisis management. In recent years, crisis management in the tourism industry has become an essential necessity because of an increase in a number of political and natural disasters in most of the tourist destinations. As Davoodpoir & Saboori (2012) say certainly, tourist destinations from all over the world will experience calamity and disaster in some period of time. Although crisis management in business and management sciences has been being studied for about 40 years, it was only in the 1990s that researches and foremen of tourism discussed the matter in public meetings and presented instructions about the reaction of the tourism industry in crisis times. While this industry is now the world's second biggest after the oil industry, it is still one of the most vulnerable industries in the face of crisis. The occurrence of a crisis can affect the reputation and image of a destination in tourists' minds for years.

Crisis management means a purposeful push of flow of affairs towards a controllable routine, and expectation of affairs to return to how they were before the crisis (Rezaee and Bakhtiari, 2011; Ghani et al., 2019). One of the proposed ways of crisis management is the process-based strategy. Process-based strategies in crisis management focus on how to eliminate and reduce vulnerability in different stages

of crisis' life cycle. Richardson introduces 3 stages of a crisis: pre-crisis stage, crisis stage and post-crisis stage. In the opinion of Hills, one of the necessities of crisis management is the Flexible Strategy, meaning that in each different stage of the crisis, an appropriate strategy should be used in accordance with that stage. The general strategy before the crisis is an active strategy, meaning that crisis management aims to restrain or reduce the volume of crisis or hinder it through foresight and prevention. During the crisis, a reactive strategy is proposed, meaning that there is an intense emphasis on relief and rescue operation. Finally, for the post-crisis stage cooperative and selective strategies are proposed. The cooperative strategy emphasizes learning lessons from past experiences and crisis-confrontation programs, and selective strategy is appropriate for the more probable crisis (Rezaee and Bakhtiari, 2011).

Most of the models proposed for crisis management in tourism have a normative approach, meaning that they think of a solution while the crisis is occurring, or observing its warning signs, but do not have a pre-planned program for crisis-prevention. Even the process-oriented models pay attention to expressing ways of recognizing warning signs. Regarding the natural characteristics of tourism as a service-oriented sector-such as intangibility and heterogeneity- the importance of proposing a schema appropriate only to these characteristics seems to be necessary. In order to achieve this significant goal, taking an objective and tangible approach seems to be necessary. This kind of approach can be found in productive industries, which various crisis-prevention methods have been proposed in them for several decades.

Even so, in service-oriented sectors and specifically in tourism, a few approaches and strategies have been presented which are briefly mentioned in table 1.

Table 1: summary of proposed models on crisis management of tourism

Author	Research Subject	Summary of Achievements
Faulkner (2001)	Framework of crisis-management in tourism	Recognition of right answer for each stage of crises in tourism
Henderson (2003)	Stages of crisis-management in airlines	Putting Faulkner's model into practice in airlines
Ritchie(2004)	A strategic and comprehensive for crisis	Offering appropriate and practical answers for each of crisis stages
Sausmarez(2004)	Presenting essential steps in developing tourism crisis-management	A reactive approach with consideration of a step by step crisis program for tourism crisis-management
Piege et al. (2006)	Presenting a potential model for responding to crisis against influenza epidemic	Including appropriate actions for each of crisis-management stages
Carlson and Hughes(2007)	Marketing strategies for post-crisis period	Presenting comprehensive guidelines on tourism crisis-management
Histad and Claire(2008)	Role of shareholders in cycle of crisis-management of a tourist destination	Proposing roles for tourist and crisis-managing organization through cooperation between shareholders
Theo et al. (2008)	A model of tourism crisis-management: planning and practicing	Using comprehensive management of brand and internal management, proposal of practical program

As is mentioned above, limitation of above models and methods is that all of them are based on the hypothesis that crisis occurs by taking determined and consecutive steps, so the crisis can be prevented with correct management. While the truth is something else in fact, a crisis occurs without preliminary warning signs, and a tourist destination is suddenly found in urgent situations and is in need of rapid action. Thus, if prerequisites of crisis confrontation are prepared beforehand, the destination can show a more successful reaction in the face of the crisis. Plus, the crises are naturally very complicated. As Davoodpoir & Saboori (2012) put it, the definition of a crisis situation is very different in different environments. In other words, an occurrence can be considered a disaster in some place, and not be considered even as a warning sign in another one. Thus, many of crisis-management models fail in practice, because of following a step-by-step approach.

There have been more varied models concerning crisis-management proposed in productive industries, because of their tangible nature. With regards to newfound methods of service-engineering, service-sector managers are trying to benefit from the manufacturing-based approaches as well as provide the required qualifications for service-sector by not only adapting manufacturing-based approaches but also by developing hybrid approaches. One of the proposed techniques to manage the instructive effects of crisis before its occurrence is using the Failure Mode and Effects Analysis (FMEA) technique. FMEA is one of the recognized techniques in the evaluation of risk management, and its usage is very clear and tangible

in different fields, especially in the industry. This method is based on achieving the method to reach the ideal quality, which is the recognition and prevention of crisis occurrence and trying to reduce its effects in each project and design. In more accurate words, this technique is an effective means for recognizing and preventing failures, and finding the least costly solution to prevent the crises and solving the problems in the future and present. Since this technique has been sufficiently examined in productive industries, it seems that its probability of success in service-oriented industries has been proved, although there are very limited researches done on it. But because of a process-based characteristic of service, the FMEA technique is applicable for any kind of service because FMEA is based on analysis of a system to the rational sequence of its processes.

Regarding what was said above, the necessity of preparing for confronting crisis and urgency situations in the tourism industry is completely clear and obvious. For this reason, the present paper aims to discuss crisis-management in tourism by taking a preventive approach, focusing on the active approach and presenting a hybrid approach. It aims to introduce a new approach in tourism crisis-management using FMEA technique and make it adapted to specific characteristics of service. The present paper aims to take an essential step in making a foundation to help the tourism industry with preparation and prevention to confront the crisis, by taking a developmental-practical approach.

2. METHODOLOGY

Undoubtedly, the research method depends on the level of research. The present paper's aim is developmental-practical and the way of doing it is combinatorial. Among the designs specified for combinatorial researches, the approach of the present paper is the explanatory combinatorial design. In explanatory combinatorial methods, the researcher first gathers quantitative data, and then qualitative data. The reason behind this research design is that quantitative data or results provide the public image research subject, and then more analysis specifically through gathering qualitative data is necessary to refine, expand and explain the public image. Since the main purpose of present research is to render a practical and systematic method to manage the crises in tourism industry, at first the existing literature was studied carefully and scrupulously through quantitative study methods, in order to do conceptual shaping, so that the primitive idea about key elements of crisis-management in tourism industry would be presented in the form of a model with a new approach .

Then, the method of Linham which is a qualitative approach was used to validate the model. Regarding that orientation and emphasis of Linham's methodology is on the practicality of hypothesis, it can be justified that this research has more proximity with his methodology (DanaeeFard, 2014; Biazi and Khodadadhosseini, 2015). In order to operate out and confirm/reject the conceptual framework derived from the quantitative stage, the model was given to a number of academic and executive experts who had the related education and

experience and were chosen purposefully. They were asked to give their reformative/confirmative comments on the general model and its components. Trivial reforms were done based on the guidance of experts. Eventually, in order to make sure of model's validity, in addition to theoretical adaptation, the version revised based on the received guidance was given to the experts once again, and their agreement was achieved. Because the number of experts in this field is limited, at first three of experts were reviewed, and these people were judgmentally chosen by academic expertise, and then they were asked to introduce other people by snowball sampling. After this stage, theoretical adequacy was achieved by interviewing 9 people.

2.1. Concept of Crisis

The crisis is a situation in which the system loses its normal state, and its function is affected (mostly negatively). A lot of definitions of the crisis have been given to this day. In fact, each of thinkers and pundits of this field has expressed it from the different point of views. For example, some define crisis from the perspective of its origin, and some other have defined it from the perspective of factors affecting the emersion of the critical situation. Devlin introduces two groups of factors as the origin of crises. In his opinion, the crises are either natural or artificially made by humans. In natural crises, it is believed that the origin of crises occurrence is the rules governing nature, like earthquake, flood and the likes. Human-made crises are those that are results of practices or previously planned

activities of human beings. Devlin believes that human-made crises happen either accidentally by humans, or humans deliberately play a role in making it occur. The second group acknowledges the fact that some factors are signs of the formation of critical situations. Mac Cartier considers the time factor to be effective in crisis formation and sees the crisis as a situation in which there is limited time for deciding or responding. Devlin introduces factors such as predictability, the frequency of occurrence, past records and predictable damage level as effective on rising of the critical situation.

2.2. Tourism Crises

Nowadays, the tourism industry is known as one of the most important economic sectors of countries. Studies show that tourism request is dependent on various factors, but among these factors, safety and security is the most significant. More than any other economic activity, success or failure of a tourist destination is dependent on its ability to provide a safe and secure environment for the visitors. Security provision necessitates management of natural disasters and human events such as disease, political conflicts, marital tensions, and terrorism. Tourism crisis is actually defined as any kind of incident that threatens the normal functioning of the destination and conflicts the business related to tourism, or is counted as a threat to the safety of tourists. Laws and Prideaux exclaim that the word crisis in the tourism industry points out any kind of incident that creates sudden urgency situations. McKercher and Hui mention that the crises are inevitable

and are in fact accidental and occasional incidents that conflict the activity of tourism industry, and Coles adds that in the times of no crisis, tourist destinations are developing pre-danger plans, and this shows that most of them are expecting an unpredicted occurrence. Parsons rendered a remarkable categorization of tourism crises .

He introduces three kinds of crises: 1- Immediate crises, which happen so fast that there are zero to few warning signs before it occurs, and there is no time for planning on confronting it; 2- Emerging crises, in fact, their occurrence is slower than the previous group, and there is the capability of taking actions to limit its destructive effects; 3- Sustained crises, which take weeks, months or years to occur. Seymour and Moore have rendered another categorization of tourism crises; 1- Cobra-like, which happens very fast and results in severe damages; 2- Python-like, which happens gradually. Karagiannis et al. categorize the crises threatening tourism industry from a new point of view. They point out the human factors in their categorization and in fact introduce three kinds of crises which include: 1- Without human intervention; 2- With indirect human intervention; and 3- with direct human intervention. In fact, the categorization of (Davoodpoir & Saboori, 2012) is very similar to the traditional categorization of natural crises and human-made crises which was mentioned before. Suasmarez combined the Karagiannis et al. point of view with traditional point of view and introduced a new categorization for tourism industry crises. In his opinion, the crises threatening tourism industry or either natural, like tsunami, earthquake, storm and the like, or are human-made, like an airplane crash, terroristic attacks war and the like. Lepp and Gibson

rendered a new categorization for tourism crises with regards to their studies. They introduce four groups of endangering factors for tourism industry which include: terrorism, war and political instability, disease epidemic and crime. Table 2 briefly states kinds of tourism crises and their characteristics.

Table 2: Categorization of tourism crises

Kind of crisis	Time before its occurrence	Natural, human-made	Human intervention
Natural incidents	immediate	Natural, human-made	Indirect, without human intervention
Terroristic attacks	immediate	Human-made	direct
Political instability and war	Sustained	Human-made	direct
Disease and epidemic	Emergent	natural	Without human intervention

Source: Maditinos and Vassiliadis, 2008

2.3. Failure Mode and Effects Analysis Technique

In the 1950s, the importance of safety issues and prevention of predictable incidents in the aerospace industry became the main reason for FMEA to be created. Sometime later, this method was mentioned as a key mean to increase safety in the processes of the chemical industry and from then on, the aim of FMEA has been defined as prevention of accidents and happenings. In February 1992, FMEA was introduced in the automobile industry and as a result, the prevalence of

quality guarantee systems development happened in recent years. FMEA is an analytic technique and is based on the rule of prevention before the occurrence, and it is used to identify the potential factors of failure or breakdown. The technique's emphasis is on heightening security factor which eventually leads to satisfaction, through preventing accident occurrence (Shakeri and Rezaeenia, 2008). The concept of crisis management has a close relationship with minimized risks, which in fact forms the main core of FMEA, and RPN shows the risk priority number in a process.

2.4. Proposed Approach in Tourism Crisis-Management

Figure 1 shows the proposed approach in tourism industry crisis management. As is seen in the figure, in order to manage the crisis, the structure of failure should be defined and codified for all processes of tourism system in the first stage. Then, failure points of the system should be represented carefully. In the next stage, the failure points and their resulting risks should be prioritized with regards to their characteristics. In other words, RPN should be calculated for each point. Then the risk priority number should be compared with the mission statement and system strategies and risks are prioritized. Then, based on the priorities, reformative actions should be taken.

Identification of tourism processes	→	Codification of structure of failure for each process	→	Defining failure points for each of defined activities

Prioritizing predicted risks	→	Matching each risk priority number with pre-determined strategies	→	Calculating risk priority number for each failure point

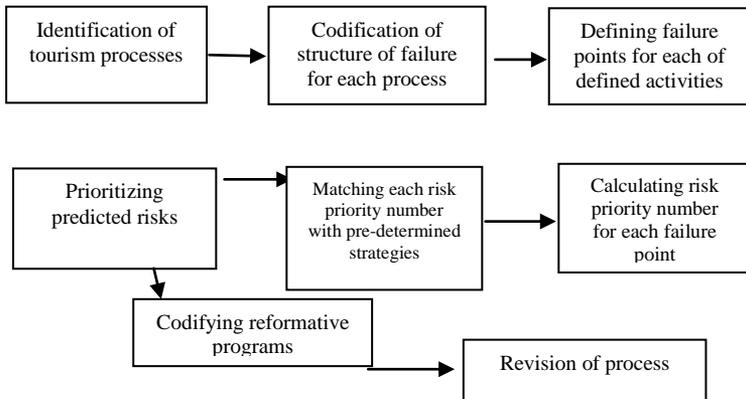| Codifying reformative programs	→	Revision of process

Figure 1: proposed model for tourism crisis-management

First Step: Identification of Tourism Processes

In the first step, all the processes existing in the system should be identified carefully.

Second Step: Codification of Project's Break-down Structure for Each Process

Work breakdown structure is generally referred to as a method which helps the project manager to carefully identify the hierarchy of activities existing in a project. In other words, it is necessary for all the activities are done in each process to be listed carefully. Usually, a table is provided in this stage which lists all the main activities and sub-activities.

Third Step: Definition of Break-Down Points for Each Process

Potential failure is a state in which the system is not able to fulfill the posted requests. The more prominent the break-down, the easier it is to identify its cause and effects. It is possible that there are several break-down points for each task. It is worth noting that in order to detect potential break-down points, one should think negatively about the system tasks, design and process. In order to detect the system's break-downs, one can use the errors' past records and related reports or learn from the records of potential break-downs that only happen in special environmental states, or detect most of the errors using comments of experts and experienced people, or use the brainstorming technique. Table 3 is an example to show some potential break-down points which have been detected in service-oriented processes.

Table 3: Potential Break-Downs in Service-Oriented Processes
Source: Geuma et al., 2001

Types of Break-Down	Sources
Cooperation and assistance of customer in the process of service	Fitzsimmons and Fitzsimmons, 1994, Johne and Storey, 1998
Accommodation	John and Storey, 1998, Kellog and Nie, 1995
Visibility of services	Shostack 1987
Service confrontation	Carlzon 1987, Czepiel, Solomon and Surprenant, 1985
Inconsistency of outputs	Johne and Storey, 1998, De Brentani, 1989
Sources	Johne and Storey, 1998

Fourth Step: Calculating Risk Priority Number for Each Break-Down Point

In order to determine the risk priority number, multiplication of three numbers should be calculated: Severity number (how severe is the effect of failure or break-down?), Occurrence (how probable is the break-down to occur?) and Detection (how easy it is to detect the existing controls?). This number is the base of prioritizing the failure or break-down states. Regarding that break-down severity, occurrence and detection numbers can take amounts between 1 to 10, RPN can fall in a range of 1 to 1000, and the higher the RPN, the more probable is the process to face break-downs.

RPN=(S)*(O)*(D)

Fifth Step: Adjusting Risk Priority Number with Pre-Determined Strategies

Here, it should be decided that how much the risk priority number is important in each process. This indicates that higher RPN always means higher risk probability. But we should investigate how much higher risk in a process triggers a crisis. Thus, the risk priority number should be studied in comparison with the importance of the related process in the system.

Sixth Step: Prioritizing the Predicted Risks

One of the means that can be used in order to prioritize the predicted risks is Critical Success Factors (CSF). In other words, this method studies the risks from the aspect of their effectiveness on critical success factors in the system. Thus, in the present paper, it is assumed that the priority and importance of previously detected potential crises determine the amount of their effectiveness on critical success factors. Critical success factors are a limited number of factors that guarantee the competitive function of organizations if they are satisfactory.

Seventh Step: Codifying Reformative Programs

In this part, the FMEA worksheet can be used in accordance with table 4.

Table 4: FMEA worksheet

Action	Score	Characteristics of break-down	
Decision-making	Severity occurrence	Effect of break-down Reason of break-down	Operation's break-down points

In this worksheet, a summary of all the actions done in the previous stages can be shown. Meaning, under each column, the information related to the column's title is written. Thus, after completion of the table above, one can have a summary of done activities and use it as a base to perform reformative actions. Some of the reformative actions are mentioned below:

1. Doing reformative, preventive actions to eliminate the probability of occurrence

2. Doing reformative, preventive actions to reduce the severity

3. Doing reformative, preventive actions to reduce the probability of occurrence

4. Doing reformative, preventive actions in order to increase the equipment of detection and revelation of failure before the performance

5. Doing reformative, preventive actions in order to increase the equipment of detection and revelation of failure during the performance

Eighth Step: Revising the Process

One of the stages of each process is revising the performed actions and comparing the achievements with primitive goals. In this stage, after the passage of sometime from doing the reformative actions, the RPN is calculated and analyzed once again, and appropriate actions will be done if necessary.

3. CONCLUSION

The crises can happen in various levels (organization, industry, destination, national and international). Many regional and rare happenings such as hostage-taking and bombing can affect a destination or even a whole country. Crises such as tornados or tsunamis affect a lot of areas. Some regional or national happenings can affect the whole tourism industry for long periods of time (for example, attacks are done on September 11th, 2001). Various diseases, specifically those that are contagious and transmittable through the air such as SARS, birds flu and foot-and-mouth disease easily cross the borders and do not stay limited to one nation or region (in 2003, SARS entered Canada from China through international passengers; also in 2009 swine flu transferred to other countries from Mexico). All of these examples show that tourist destinations are not safe from dangers and climate changes and global growth of terrorism increase the probability of crises occurrence. Economic downturns and political instabilities which are generally unpredictable have great effects on the tourism industry. Thus, the tourism industry is not just facing the challenge of crises happening and the time of their occurrence, rather, this industry should always be prepared to confront the crises and be able to react appropriately in the face of them. In order to achieve this goal and maintain the continuation of activity and growth of profitability, as was mentioned before, this industry is in need of prediction and systematic planning for probable dangers.

Since management failures are quite common in the time of crisis, the present paper sets a framework for crisis management in the tourism industry using the FMEA technique. The final result of this developmental, practical research, done by adaptation from theorizing methodology of Linham, is a developmental, practical model for crisis-management which includes the steps of detecting tourist processes, codifying work break-down structure for each process, defining break-down points for each of defined activities, calculating risk priority number for each break-down point, adjusting the risk priority number with pre-determined strategies, prioritizing predicted risks, codifying reformative programs and revising the process. The distinction point of the present paper with previous studies is its focus on prevention before the occurrence. Previous studies introduce crisis-formation with regards to a step-by-step process, and an approach is proposed for each step. In this paper, efforts have been made to prevent the crisis' occurrence by taking on an active approach. Thus, the main focus of the present approach is on prevention before the occurrence. Thus, practitioners of the tourism industry can prevent the occurrence of crises in tourist destinations as much as possible by using this approach. Since the reaction to the crisis should be fast and instantaneous and there is no time for planning after the occurrence, we hope that tourist destinations and practitioners of tourism understand the importance of this approach, although such programs are costly, so that they can pass the crisis with intelligence and without the slightest damage.

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