A QUALITATIVE STUDY TO IDENTIFY THE SUCCESS FACTORS OF OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS IMPLEMENTED IN GROUND HANDLING COMPANIES THROUGHOUT TURKEY[1]

Öğr. Gör. Harun Karakavuz[2]
Doç. Dr. Ender Gerede[3]

ÖZET

İş Sağlığı ve Güvenliği Yönetim Sistemlerinin başarıyla uygulanması, çalışanların emniyetini sağlamada, sağlıklarını korumada ve bu sayede etkinlik ve verimliliklerini artırmada önemli bir role sahiptir. Bu rol işletmelerin amaçlarını gerçekleştirmesinde ve toplumsal maliyetlerin azaltılmasında önemli bir araç konumundadır. Bu nedenle İş Sağlığı ve Güvenliği Yönetim Sistemlerinin başarısının artırılmasında büyük fayda vardır. Bu çalışmada, Türkiye'deki havaalanlarında faaliyet gösteren yer hizmeti işletmelerinin uygulamış oldukları İş Sağlığı ve Güvenliği Yönetim Sistemlerinin başarısını etkileyen faktörlerin belirlenmesi amaçlanmıştır. Araştırmada, bağlamı dikkate alarak derinlemesine bilgi toplanılması amaçlandığından, nitel araştırma deseni tercih edilmiştir. Yer hizmeti işletmelerinin farklı havaalanlarında çalışan 24 İSG profesyonelinden açık uçlu anket aracılığıyla nitel veri toplanmış ve tümevarımsal nitel veri analizi yöntemi ile analiz edilmiştir. Başarı faktörleri; pozitif emniyet kültürü, üst düzey yönetimin desteği, paydaşların tutum ve özellikleri, İSGYS uygulamaları ve İSG profesyonelleri temaları altında ortaya çıkmıştır. Üst yönetimin ve genel olarak örgütün emniyet adanmışlığının derecesi, üst yönetimin İSYGS'ye insan kaynakları konusunda verdiği desteğin derecesi, paydaşların yarattığı zaman baskısının miktarı ve İSG eğitimlerinin niteliği ve niceliği daha önemli başarı faktörleri olarak görülmektedir.

Anahtar Kelimeler: *İş Sağlığı ve Güvenliği Yönetim Sistemleri, Yer Hizmeti, Nitel Araştırma*

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2 Bülent Ecevit Üniversitesi Çaycuma Sivil Havacılık MYO, harun.karakavuz@beun.edu.tr

3 Anadolu Üniversitesi, Havacılık ve Uzay Bilimleri Fakültesi, egerede@anadolu.edu.tr

ABSTRACT

The successful implementation of occupational health and safety management systems (OHSMS) plays a major role in ensuring the safety of employees, protecting their health and, thereby, increasing their effectiveness and productivity. This role is a significant tool for companies to use in order to achieve their goals and to reduce public costs. Therefore, increasing the success rate of occupational health and safety management systems will be highly beneficial. The aim of this study is to identify the factors affecting the success of occupational health and safety management systems implemented by ground handling companies in Turkey. A qualitative research method is preferred, as the main goal is to collect in-depth data by taking context into account. Qualitative data is collected through open-ended questionnaires, with twenty four occupational health and safety (OHS) professionals, working at ground handling companies at different airports. The data is analysed by an inductive qualitative data analysis method. Success factors emerged under the themes of positive safety culture, support of senior management, attitudes and characteristics of stakeholders, OHSMS practices and OHS professionals. The safety commitment of senior management and the organisation in general, the level of support provided by senior management to OHSMS in terms of human resources, time pressure imposed by stakeholders, and the quality and amount of OHS training are seen as the most critical success factors.

Keywords: *Occupational Health and Safety Management Systems, Critical Success Factors, Ground Handling Companies, Qualitative Research*

1. INTRODUCTION

The International Labour Office (ILO) defines Occupational Health and Safety (OHS) as activities covering the protection of employees from any harm arising from workplace accidents and occupational, illnesses, as well as improving working conditions and the work environment (ILO, 2009). OHS aims not only to prevent workplace accidents and occupational illnesses, but also to ensure workplace safety and production. In this context, when OHS practices in ground handling services are considered, it would be correct to state that OHS implementation is also concerned with the improvement of airport and flight safety, in addition to supporting the health and safety of employees. Therefore, increasing the success of OHS practices in ground handling services will contribute to both a reduction of workplace accidents and a negative impact on occupational illnesses, as well as an improvement in aviation safety. Important social, cultural and economic benefits could consequently be obtained (Amponsah-Tawiah and Dartey-Baah, 2011). Thus, occupational health and safety management systems (OHSMS) are implemented in order to reduce work related risks to a minimum, to prevent workplace accidents and occupational illnesses, and to increase workplace safety. It is therefore necessary to increase the success of OHSMS and, to this end, to know the factors influencing its success rate. In this respect, the aims of this study are identified as follows:

- Identifying the factors influencing the success of OHSMS practices of ground handling companies operating throughout Turkey,
- Finding which of these factors has a more critical influence over success, and listing these factors according to their level of importance in achieving efficiency.

2. Literature Review

2.1. Occupational Health and Safety Management Systems

Over the last century, a number of accidents in the nuclear energy, petrochemical and transportation industries, such as Chernobyl, Seveso, Bhopal, Piper Alpha, Challenger and the Herald of Free Enterprise, brought about serious concerns regarding the management of hazardous activities (Zi-

molong and Elke, 2006). Acting upon these concerns, certain states and non-governmental organisations began work on the prevention of workplace accidents and occupational illnesses. As a result, Occupational Health and Safety Management Systems emerged in order to practise OHS activities more systematically and effectively.

OHSMS is a holistic managerial approach that integrates various program activities, including goal setting, planning, organising, leading, coordinating and auditing, in order to improve safety and health performance systematically (Gallagher, 2000). In other words, OHSMS is a management system aimed at minimising possible hazards and risks during the performance of a task, and ensuring effective and efficient use of an organisation's resources to achieve this goal.

In this context, the following steps are taken in line with the OGSMS (ILO, 2011; (OHSAS 18001, 2008; ILO-OSH, 2001) :

- Identifying all hazards arising or likely to arise during the performance of a task, and their possible results.
- Identifying the likelihood of each possible result and the possible level of harm caused by these results.
- Identifying how and who these risks are likely to affect and assessing the risks determined.
- Determining and implementing precautions to be taken for lower risks to an acceptable level, and evaluating to what extent these precautions are useful, as well as providing feedback and taking new precautions when necessary.
- Documenting the activities performed, measuring and monitoring over time the performance of occupational health and safety, making estimates and taking improvement measures.
- Analysing accidents and near miss incidents and identifying root causes in order to prevent any recurrence of accidents in the future.

In order for the accomplishment of all these activities, and for hazard, risk, accident and incident analyses, voluntary participation, reporting and feedback from employees are required (EU-OSHA, 2012). The cycle explained above repeats itself continuously.

2.1.1. Previous studies

When studies related to OHS are examined, it is found that studies regarding the air transport industry are very limited. In addition, these few studies are not directly OHS related, rather focusing on human factors in aviation, such as stress, fatigue and radiation to which flight crew are exposed (Dekker, 2011; Maurino et al., 1995; Mallis et al., 2012; Kushnir, 1995; Causse et al., 2013; Ribak and Cliene, 1995; Bagshaw, 2008). In other industries though, many studies on the success factors of OHSMS can be found.

When Lee (1998) examined factories with low accident rates, he found that these workplaces were characterized by certain factors, such as: high levels of communication; organisational learning and commitment to safety with a level of importance attached to safety by the senior management; democratic and cooperative, human resources management practices and leadership; frequent training on higher quality, clean and comfortable working conditions; high levels of job satisfaction; and the conservation of safe labour (Sorensen, 2002). Mohammad et al. (2007), in their study examining the factors affecting the success of integrated management systems, identified support of senior man-

agement, training, continuous development and performance measurement as critical success factors. A research study by Haadir and Panuwatwanich (2011), on the construction industry, revealed that the support of senior management, setting clear and reasonable goals, attitudes of employees and teamwork and safety training are critical success factors. Cohen's study (1977) presents two dominant success factors in OHS implementation, namely support of senior management and the level of participation of employees, and frequent and close communication between auditors and senior management. Hart and Aryan's study (2007) points out the support of senior management, participation of employees, proactive risk management, integration of organisational factors with other management systems, and comprehensive audits as the critical success factors. Gallagher (1997) lists the success factors of OHSMS as the inclusion of OHS practices into normal manufacturing and service processes, the support of senior management and safety commitment.

In their research on companies manufacturing printed circuit boards in Taiwan, Chen et al. (2009) found that the top three success factors in OHSAS 18001 practices were senior management support and commitment, continuous development of the PDCA cycle and the participation of all employees in the system. Hussain's study (2009) on manufacturing businesses identifies an organisation's attitude towards OHS practice, positive safety culture and employee participation as the success factors of OHSMS.

An analysis of the results of these studies indicates that all researchers find the support of senior management and employee participation necessary for the success of OHSMS. It can be assumed that success factors of other industries may be valid for ground handling services. However, success factors are thought to change depending on the industry, region, time and venue, in other words, on the context. Therefore, it seems to be beneficial to examine the situation in the ground handling industry in Turkey, on which a lack of information is noticeable. It is believed that this study, examining factors influencing the success of OHSMS in ground handling services throughout Turkey, will contribute to the OHS literature.

3. Methodology

This study, based on qualitative research design, uses an inductive qualitative data analysis method to examine the factors affecting the success of OHSMS. Qualitative research concerns individuals' views, experiences and emotions, creating subjective data (Hancock, 2002). Additionally, Creswell (2013), states that qualitative research is used to explore a problem or an issue in detail. A qualitative research design is preferred in this study because the success factors of OHSMS in ground handling services, i.e. the main theme of the study, cannot be dissociated from social contexts, such as time, venue and humans, and therefore, profound data collection is required.

In order to identify success factors, the research population is set as the entire group A licenced ground handling companies operating in Turkey and group C licenced catering companies, both with high levels of risk, due to their operations in the ramp area. An open-ended questionnaire method is used as a data collection tool in the study, and the question below is asked:

In your opinion, what are the factors affecting the success of OHS Management Systems in ground handling services? Please explain providing justification. In your opinion, which of the factors that you have stated are critical? Please put them in an order of importance explaining your reasons.

The question was sent to OHS professionals between 06.01.2014 and 01.03.2014 via e-mail. All the participants' written consent was received before the data was applied in scientific studies. The data source of the study was occupational safety experts, workplace physicians and OHS managers in charge of the implementation and control of OHSMS at ground handling companies at different airports, which are identified as the research population. The demographics of the participants are presented in Table 1. However one of the participants did not state their gender and three of them did not detail their position at their particular companies.

Table 1. Demographics of the Participants

Gender	Women	Men	Unknown		
	9	14	1		
Age	**20-30**	**31-40**	**41-50**	**51-60**	**61 and over**
	9	8	3	4	
Education	**Undergraduate**	**Master's**	**Doctorate**	**Other**	
	18	3	2	1	
Seniority (Years)	**0-5**	**06-10**	**11-16**	**17-22**	**23 and over**
	12	5	2	1	4
Position	**Occupational Safety Specialist**	**Occupational Physician**	**OHS Manager**		
	12	2	7		

The qualitative data collected via an open-ended questionnaire was analysed using an inductive analysis method. Inductive analysis is a systematic process used to analyse qualitative data (Thomas, 2006). Inductive analysis covers discovering categories and themes (Patton, 2002).Within this framework, one of the most important stages is the coding of the data (Glesne, 2013). Codes are names or labels transforming raw data into explanatory units or enabling inference from raw data during qualitative data analysis. These codes may be comprised of words, sentences or paragraphs (Miles and Huberman, 1994). The aim of coding is to identify more comprehensive themes with an inductive progress by bringing relevant codes together in order to create a common view (Creswell, 2013).

In the study, initially, twenty four forms sent by participants were read three times in order to understand what the participants were trying to explain. Then coding of the survey forms commenced. The survey forms were coded separately, and a list of codes was created. When the coding of all the survey forms was completed, all the codes were reviewed and the coding was confirmed. In the next stage, the codes were associated with each other to obtain categories and then these categories were organized to obtain themes. On the other hand, the study's second author worked on a separate coding process and created themes in order to increase the validity and reliability of the study. The analyses from the two researchers were compared, discrepancies were discussed and a mutual understanding was reached. The findings of the research were assessed and interpreted according to mutually agreed themes.

4. Findings and Discussions

4.1. *Success Factors*

Themes, categories and sub-categories created via the inductive analysis of qualitative data are given in Table 2.

Table 2. Themes and Subcategories and Frequency of Articulation

Themes	Frequency
1.Positive Safety Culture	51
1.1.Just Culture	3
1.2.Reporting Culture	3
1.3.Flexible Culture	2
1.4.Safety Commitment	38
1.4.1.Senior management's safety commitment	19
1.4.2.Organisationalsafety commitment	15
1.4.3.Stakeholders' safety commitment	3
1.4.4.OHS professionals' safety commitment	1
1.5.Impact of national culture on positive safety culture of the organization	5
2.Senior Management Support	12
2.1.Financial resource policies	4
2.2.Human resources policies	8
3.Attitudes and Characteristics of Stakeholders	14
3.1.Harmony/coordination among stakeholders	1
3.2.Stakeholders' support to OHSMS of the ground handling company	4
3.3.Time pressure imposed by stakeholders	8
3.4.Stakeholders' level of education on OHSMS	1
4.OHSMS practices	29
4.1.Auditing	4
4.2.Documentation	2
4.3.Training	8
4.4.Risk assessment	4
4.5.Communication	4
4.6.Employee participation	6
4.7.Being operational of OHSMS	1
5.OHS Professionals	3
5.1.Experience of OHS professionals	2
5.2.Knowledge level of OHS professionals	1

4.1.1. Positive Safety Culture

Culture, briefly defined as shared beliefs and values, may influence individuals' attitudes, decisions and behaviour (Chuah et al., 2005). Attitudes, decisions and behaviour definitely influence occupational health and safety, and the effectiveness of OHSMS activities. Therefore, it can be seen that a strong positive safety culture affects the success of these management systems and increases safety (Reason, 1998; Institution of Occupational Safety and Health, 2014).

The findings, obtained as a result of the qualitative data analysis, support the components of the positive safety culture suggested by Reason, with the exception of learning culture. According to Reason, the components of a positive safety culture are 'just culture', 'reporting culture', 'learning culture' and 'flexible culture'. Reason considers that 'informed culture' is equal to positive safety culture. He argues that if safety information is weak in an organisation, safety cannot be further increased and that a strong positive, just, reporting flexible and learning culture is necessary (Reason, 1997).

As a result of qualitative data analysis, the authors suggest that there might be two more components of positive safety culture, in addition to the structure suggested by Reason. The qualitative analysis reveals the components of safety commitment and the impact of national culture on the positive safety culture of an organisation. According to the authors, safety commitment as a component of a comprehensive safety culture is comprised of senior management's, organisational, stakeholders' and OHS professionals' safety commitments. The positive safety culture theme and sub-categories revealed by the study can be seen in Figure 1.

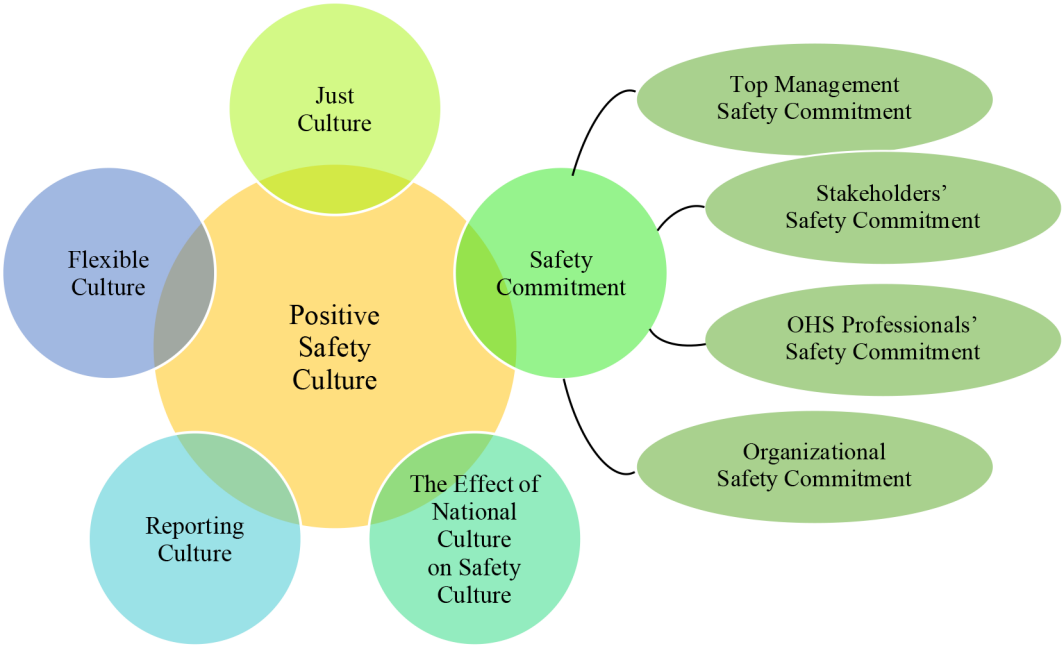

Figure 1. Components of a Positive Safety Culture

4.1.1.1. Just Culture

'Just culture' can be described as a cluster of beliefs and values where employees are encouraged to report on issues concerning occupational health and safety, a mutual confidence is settled, the line between acceptable and unacceptable behaviour is clearly set, and no fear of being punished, due to unsafe behaviour caused by errors, exists (CANSO, 2008). The GAIN Working Group E (2004) states that thanks to 'just culture' in an organisation, mutual confidence can be established amongst employees, managers, OHS professionals and regulatory authorities reporting and, as a result, organisational learning may increase. It is argued that in the event of a weak positive 'just culture', reporting, and therefore learning culture, will weaken. Thus, data gathered from participants point to the same relationship. For instance, participant P1 evaluates reporting and 'just culture' together while explaining why OHSMS might fail:

"Covering up incidents and accidents, employees abstain from necessary OHS reporting due to moral and other sanctions."

P2, while explaining the potential failure of OHSMS, mentioned,"…employees do not report because they think they will be punished…", and tackled weak just and reporting culture together. P20, on the other hand, links the potential failure of OHSMS to damage to mutual confidence. Reason (1998) states that there should be an effective reporting system in place to prevent accidents and near misses, that reporting should be fast, accessible, and practicable and that reporting feedback should be understandable. He also states that the most critical factor in reporting is organizational confidence, and that this can only be ensured through a strong positive 'just culture'.

4.1.1.2. Reporting Culture

A 'reporting culture' is not about whether a company has a reporting system in place or not. It is rather about employees comfortably communicating any possible or actual accident, near-miss, hazard, risk or risk mitigating suggestion with the relevant department, without having any concerns about being exposed to sanctions. It means that members of an organisation believe that it is appropriate to report to increase safety and that they find reporting valuable (CANSO, 2008). A 'reporting culture' is about how an organisation deals with crime and punishment. If the main goal of a safety management approach is only to discover violations and to blame and punish those responsible, reporting that might contribute to the improvement of safety may reduce (Reason, 1998; Reason, 2000). This shows that beliefs and values under the 'just culture' of an organization may hinder reporting. P4 uses the following statement regarding the influence of the level of a positive reporting culture on the success of OHSMS:

"It might be impossible to identify instantly occurring risks during field controls conducted by OHS experts and physicians in ground handling companies, as the site is quite large and it is a constantly changing working environment. Thanks to feedback from employees and recorded near-misses, this challenge will be overcome and OHS practices will be carried out successfully."

It is understood from the participant's statement that not all hazards, risks, near-misses and accidents in work places will be noticed via audits, and that this awareness can only be ensured through the reports of employees. Understanding risks and taking precautions are only possible with qualified feedback from employees. As a result, the success of OHSMS will increase. Obtaining feedback, qualified enough to improve safety and reduce occupational illnesses, is only possible through a strong positive reporting and 'just culture' in an organisation.

4.1.1.3. Flexible Culture

It is necessary for organisations operating in a complicated and dynamic environment, and therefore being exposed to constantly changing, various hazards and risks, to be flexible enough in taking precautions to improve safety and adapt themselves to new conditions; otherwise expected benefits of OHSMS cannot be derived. Reason (1997) states that organisations struggling to adapt and resistant to change have weak flexibility cultures and are likely to have difficulty in improving safety.

Participants' statements concerning being unable to change past bad habits would have a negative influence on the success of OHSMS, and are linked to 'flexible culture'. For instance, while listing factors negatively affecting the success of OHSMS, P5 makes the following statement. "…maintain-

ing habits from the past, challenges adaptation to new ones…" P7's statement was also linked to 'flexible culture' saying, "…our social environment and habits are factors facilitating or complicating OHSMS. Until today, I have never been able to eliminate the 'we've always done it so' taboo."

If organisations have a weak 'flexible culture', habits will be maintained and the risk-mitigating precautions of OHSMS will not be implemented effectively. Therefore, the success of OHSMS will be reduced.

4.1.1.4. Safety Commitment

In order to create a safe organisation, what is first needed is for employees to behave in a manner likely to improve safety. For example, in aviation organizations, the system element with the greatest influence on safety is the human being (Wiegmann and Shappell, 2001). Safety commitment is present when an individual or an organisation has safety-related beliefs and values that support the improvement of safety, has sincere and strong attitudes towards the improvement of safety, sets goals to improve safety within the framework of these beliefs, values and attitudes, and presents assertive and insistent behaviour to achieve these goals.

In an analysis of the qualitative data, codes pointing out the safety commitment were identified, and it was noted that these belong to different sub-units of the organisations. Additionally, codes indicating stakeholders' safety commitment were identified. These are of senior managements', organisational, stakeholders' and finally OHS professionals' safety commitment.

It is considered that safety commitment is a component of positive safety culture. Gerede (2015a) suggests that safety commitment is a component under positive safety culture in the study where he examines the challenges of putting the Safety Management System into practice, which he sees as a new generation safety management tool in Aircraft Maintenance Organisations. Additionally, Gerede (2015a) refers to numerous papers relevant to the existence of this component (von Thadenet al., 2006; Gibbons et al., 2006; Flinet al., 2000).

Safety commitment of senior management: Senior management play a major role in the development of an organisational culture and a strong positive safety culture (Gerede, 2015a; Gerede, 2015b; Flin et al., 2000; Hsu et al., 2010). Top managers adopt this role in the light of their beliefs and values regarding safety (Gerede, 2015a). These influence managers' cognitive processes, and lead their attitudes, decisions and behaviour. If the safety commitment of senior managers, whose most important function is decision-making, is low, their processes of identifying and analysing problems or goals, identifying alternative solutions and selecting criteria might tend to weaken safety. The safety commitment of senior management in an organisation is the most critical component for improving safety culture within the scope of OHS, and changing safety related behaviour in a positive way (Cudmore, 2008). In an organisation where the senior management's safety commitment level is low, it is more likely to set strategies and policies solely considering operational goals, thereby neglecting safety requirements. Moreover, mid-level managers and employees may not be encouraged to fulfil the requirements of a strong positive safety culture, and may be punished in the event of an accident or near-miss.

The data analysis provides numerous codes on the safety commitment of senior management. Management support to OHS professionals is one of these. It may not be possible for OHS experts to be professionally independent, and to practice their job correctly, in an environment where they do not receive the necessary support from senior management, and they may fear losing their jobs.

There is believed to be a link between their independence and senior management's safety commitment.

Another code related to senior management's safety commitment is 'the priority of OHS goals over operational targets'. If senior management gives priority to operational goals and objectives, and not to OHS goals, the likelihood of OHSMS being successful is likely to reduce. This success factor is highlighted by many of the participants.

Another code obtained as a result of the study is the realistic assessment of risks. A realistic assessment of risks, i.e. being able to calculate the severity of a risk realistically, not ignoring risks, not covering up risks and not leaving risk assessment on paper, but dealing with it in practice, is likely to be influenced by the safety commitment of senior management. Thus, an OHS unit of the Australian government, Comcare (2005), identifed senior management leadership and commitment as key factors for conducting risk assessment. In the same study, Comcare (2005), it is stated that the safety commitment of senior management would increase the effectiveness of both work and occupational health and safety practices, contribute to the improvement of workplace safety and an improvement of workplace safety culture and facilitate compliance with OHS regulations. Thus, P22 listed realistic near miss and risk analyses among the factors influencing the success of OHSMS.

The qualitative data analysis suggests that senior management's belief in the benefits and necessity of OHSMS is also a success factor. If senior management does not believe in the benefits of OHSMS and finds it unnecessary to spend on OHS practices, it may not be possible to talk about senior management's safety commitment. On the other hand, if senior management does not believe in the necessity of OHSMS, it will implement OHSMS just to comply with the regulations and as a tool to gain required legitimacy. P21's following remarks are examples of this:

"OHS should be implemented willingly from the hearth in any industry, not due to legal obligations. Professionals of this field should also perform their jobs with love. If the job is done due to obligations, no industry will be successful in this field."

As the participant states, no job seen as an obligation has a chance of achieving success, and implementing OHSMS as an obligation will have a negative influence on preventing hazards, risks, near misses, accidents and the effectiveness of any precautions taken to prevent these.

Organisational safety commitment: In addition to senior management's efforts, employees' willingness to adopt, make contributions and take responsibility is required for the development of a strong positive safety culture in any organisation. Data analysis leads authors to these findings. It would be difficult to talk about the existence of an organisational safety commitment where employees are not aware of the significance, necessity and benefits of OHSMS, and do not believe in OHS practices and OHSMS. For instance, P5 states that in order to increase the success of OHSMS, employees should believe in the necessity of OHSMS: "…these issues should be perceived as a necessity not as an obligation". P14 mentions that belief in the benefit of OHSMS is a factor which increases success:

"…all employees in ground handling companies should be aware of the fact that OHSMS practices aims at creating a safer and healthier working environment for them and their colleagues"

Regarding the importance and necessity of OHSMS, P17 states, "…employees' level of consciousness, their adoption of OHSMS as a necessity not as an obligation is the most critical factor affecting the success of OHSMS."

Safety commitment of stakeholders: Ground handling services by nature are sub-systems of a very complex upper system. Ground handling companies are accountable to the airport authority

in their working environments and to the airlines as their employer. Results of the qualitative data analysis show that there are stakeholders affecting OHSMS implementation in ground handling companies. If the customer airline receiving ground handling service does not believe in the necessity of OHSMS, or if they motivate the ground handling company only to complete the operation on time, in other words, if their safety commitment is low, this might negatively influence the success of OHSMS. On the other hand, an airline company believing in the necessity of OHSMS could support OHS practices and even include the fulfilment of OHS requirements as a condition in their contracts with ground handling companies. The activities of ground handling companies influence on-time performance, and customer airlines may solely care about this operational success, instead of OHSMS. Regarding this success factor, P14 states, "…airlines getting ground handling service should support OHS practices as much as ground handling companies…"

A qualitative analysis of the data shows that airport authorities' safety commitment is seen as a success factor. They are a kind of regulatory and supervisory authority holding control of the work area. A number of investments and arrangements that are needed at airports are conducted by these operators. Therefore, they have the potential to influence hazards and risks in the working area of ground handling companies. Airport authorities' level of positive safety culture, their perspective of OHSMS and their support are important in this context. For instance, a ground handling company's project to improve OHSMS in the workplace may not take place without the support and consent of the airport operator. K18 makes the following statement on this matter:

"Third parties at workplaces are also significant success factors. For, no progress can be made in putting the projects of companies into practice in the workplace without the support of the host organisations and companies."

Safety commitment of OHS professionals: The qualitative data analysis revealed findings on the safety commitment of OHS professionals. If the safety commitment of OHS professionals is low, they may see the job as an obligation, not as a necessity, and may not attach the required importance to the job.

4.1.1.5. The Influence of national culture on the positive safety culture of an organisation

Society, culture and organisation are so intertwined and interlinked that they cannot be considered separately. In this context, beliefs and values gained in a society might have an influence on the culture of an organisation, (Daft, 2010), and therefore, on its safety culture. P17 explains the effect of national culture on organisational culture as follows:

"…because workplaces are places where individuals with different educational backgrounds, from different family and life circles, with various habits, views and social lives work together. Bringing all these individuals to a common OHS point, and including them in OHSMS, can be challenging from time to time."

If employees' beliefs and values are in favour of improving safety, they will provide effective support and the success of OHSMS will increase. Active and effective participation of employees is expected for the success of OHSMS.

4.1.2. Senior Management Support

Senior management support is highly important in an organisation for the success of any management system. A management system without the support of senior management is less likely to succeed. Jackson and Niblo (2001) state that it was the most critical factor for the success of OHSMS,

as a result of research they conducted with more than a hundred organisations. Gerede (2015a), in his study to identify challenges to the implementation of Safety Management Systems (SMS), confirms that the lack of senior management support might be a problem causing difficulties in the implementation of SMS. Senior management provide support through strategic planning, setting goals and objectives, resource allocation, organising, leading and controls, which are all included in the job description (Hissom, 2009).

Time and human and financial resources are needed for the successful implementation of OHSMS. Decisions on how to allocate these resources rests with top management. The qualitative data analysis in this study indicates that the manner in which senior management manage financial and human resources is a critical success factor. Investment in protective equipment and buildings, facilities and other means required for the fulfilment of OHSMS services are considered as financial resources. Senior management support, related to human resources, includes quality and quantity of employees, suitability of employees for their position, the direction of balance between labour efficiency and OHS requirements, whether or not OHS professionals are outsourced, and whether these professionals are given any other tasks or workload.

4.1.2.1. Financial Resource Allocation Policies

The analysis indicates that participants attach importance to the financial resource policies of top management as a factor influencing the success of OHSMS. The findings that led researchers to create this category were whether or not senior management allocated necessary resources for equipment, and whether top management perceived OHSMS as a cost. For instance, P22 underlines the fact that allocating adequate resources will affect the success of OHSMS:

"Managers implement OHSMS at the minimum level just to comply with regulations and they may perceive it as needless expenditure… there are even some companies which prefer to pay fines, as it is more complicated and expensive to implement OHSMS"

4.1.2.2. Human Resources Policies

Another category highlighted by participants regarding the influence of senior management's support on the success of OHSMS is that of human resources policies. Participants listed the quantity of employees, the suitability of employees for their positions, human resources allocated by senior management to OHSMS, senior management's efforts to improve labour efficiency and whether or not to provide OHS professionals through outsourcing as success factors of OHSMS. In relation to the quantitative sufficiency of human resources, P7 makes the following statement:

"…trying to complete tasks on time when the number of employees is below optimum. This means that the OHS management system requirements are not being met."

While saying below optimum, the participant actually underlines the fact that having the minimum number of employees may mean an inability to fulfil the requirements of OHSMS practices. Another finding, related to senior management's human resources policies supporting OHSMS, is the necessity of ensuring the suitability of employees for their positions. In this context, P3 articulates the phrase, "ensuring that a job is suitable for an employee and an employee is suitable for a job", as a success factor for OHSMS. Again on the suitability of employees for their positions, P12 points

out that the issue of 'not seeking suitability for employment' would be a failure factor for OHSMS. K4 makes the following statement:

"Additionally ensuring suitability for employment, that is assigning personnel with physical characteristics responding to job requirements, prevents many health and safety related malfunctions before they occur. For example, a very tall worker should not be employed in air cargo loading all day long or a worker with a body-mass index above average should not be placed in a position requiring continual physical effort…"

Another human resources policy listed by participants among the success factors of OHSMS is top management's efforts to improve labour efficiency. This finding indicates that senior management endeavours to get many tasks completed using fewer employees might have a negative impact on the success of OHSMS. On this matter P21 makes the following comment:

"The most important barrier to the development of a positive OHS culture in ground handling companies is the philosophy of getting many tasks completed with fewer staff, which exists across the whole service industry. This philosophy might cause people to violate rules in ground handling industry which rely on 'on-time performance'."

The final success factor concerning the human resources policies of senior management is the outsourcing of OHS professionals. Related to outsourcing, the participants drew attention to the authority of OHS professionals. For instance P8 gives the following explanation:

"In some airports, OHS services are outsourced to OHS service providers, and this creates gaps with regard to the authority of OHS experts. Although the duties and responsibilities of OHS experts are defined by the regulation, every company has their own procedures and functioning. Therefore, we are sometimes faced with resistance to the implementation of OHS rules."

Ground handling companies employing large numbers of personnel are required by law to employ a certain number of full time OHS professionals, depending on their staff numbers. This means that if the number of personnel is lower at some airports, these companies are not required to employ full time OHS professionals. At these airports OHS services may be outsourced to other OHS companies. These outsourced OHS professionals might have difficulties in accessing certain documents and using their authority. This causes a negative influence on the success of OHSMS.

4.1.3. Attitudes and Characteristics of Stakeholders

A qualitative inductive data analysis, to identify factors influencing the success of OHSMS, reveals categories of 'Harmony and coordination between stakeholders', 'stakeholders' support to OHSMS in ground handling services', 'time pressure imposed by stakeholders' and 'stakeholders' level of education on OHSMS'.

4.1.3.1. Harmony and coordination between stakeholders

Ground handling companies need to work along with various organisations (i.e. airlines, fuel supply, catering and security companies, and MROs) under the supervision of the airport operator. The large number and diversity of these organisations constitutes a hazard influencing OHSMS. Therefore, OHSMS requirements and relevant success factors are not only linked to ground handling companies. Harmony and coordination between stakeholders means that all organisations operating

together at airports should work in coordination for the effective implementation of OHSMS. On this subject, participant P3 makes the following statement:

"Another factor is the fact that many companies operate together in the ground handling industry at an airport (employer-sub-employer relations), so their ability to coordinate with each other, and managers' capacity to perform their jobs in line with OHSMS, will impact on success."

4.1.3.2. Stakeholders' support to OHSMS in ground handling companies

Without doubt, support provided by the civil aviation and airport authority, as stakeholders to OHSMS implemented by ground handling companies, is another factor affecting success.

The Civil Aviation Authority's support to OHSMSs is provided through both audits and guidance, and ensuring that airport infrastructure is arranged in a way compatible with OHS practices. Additionally, the level of encouragement provided by the civil aviation authority to organisations, for the fulfilment of OHS requirements, its organisational ability, and in this context the effectiveness of its leadership, are found to be factors influencing the success of OHSMS. In his study to identify challenges in the implementation of SMS, Gerede (2015a) discusses the issue of integrating SMS with management systems, such as OHSAS 18001 and ISO 9001. In this study, the issue that is specifically highlighted is the analogy between certain components of management systems and the fact that relevant authorities demand the requirements of these components be fulfilled separately. For example, risk assessment completed for OHSAS 18001 is not acceptable for SMS, and the authority asks for another risk assessment for SMS. In order to avoid such repetition, the authority's role as a leader and guide is important.

Resources allocated by the airport operator mean the provision of correct equipment or the construction of suitable facilities for more effective OHS implementation and to prevent any breaches of OHS caused by the physical conditions of the airport.

4.1.3.3. Time pressure created by stakeholders

Time pressure created by airlines as stakeholders is one of the categories that is most emphasized. Time pressure on ground handling companies stems from high on-time performance and low turnaround time requests of airlines, and the intense competitive environment embracing ground handling companies. Requests for lower turnaround times and higher on time performance arise from airline operators' wish to increase airplane efficiency in order to reduce costs (Wu and Caves, 2004). In addition, high on-time performance affects perceived service quality, and consequently, customer satisfaction, demand and income (Fricke and Schultz, 2009). P5 explains this issue as follows:

"Short turnaround time, 20-30 minutes for domestic flights, 40-45 minutes for international flights, requires rushing the service. This, from time to time, causes OHS requirements to be neglected."

P8, P9, p11, P15 and P16 make similar statements about intensive time pressure preventing OHSMS implementation and reducing success. When the statements of the participants are analysed, it is understood that, especially at busy airports and during summer months when demand is higher, aircraft turnaround times become more important for airlines, and requests from ground handling companies to complete their services faster increase. As a result, employees might neglect OHSMS requirements and prioritise operational goals and objectives at the expense OHS.

4.1.3.4. Stakeholders' level of education on OHSMS

The results of the inductive qualitative data analysis indicates that stakeholders' level of education on OHSMS influences a number of factors, such as time pressure imposed on ground handling companies, their support to OHSMS of ground handling companies and the provision of necessary equipment at the airport.

4.1.4. Occupational health and safety management system practices

During the inductive qualitative data analysis, it is clear that participants perceive the effectiveness of certain OHSMS processes as success factors. Undoubtedly, all relevant procedures under these managerial practices have the potential to influence the success of OHSMS. However, the findings of the study reveal that participants see certain OHSMS components as being of greater importance than others. This finding does not mean that the implementation of only those components mentioned brings success. All of them should be implemented effectively; however, it should be considered that the OHSMS processes obtained from the findings of the study play a greater role in success.

4.1.4.1. Auditing

As commonly used OHSAS examples, both OHSMS 18001 and ILO-OSH essentially require the establishment of an internal audit mechanism. This mechanism audits whether the management system implemented by a company is sufficient or not, whether it operates effectively, whether employee participation is assured and whether all other OHSMS related implementation works as it should (OHSAS 18001: 2008; ILO-OSH: 2001).

It is understood that a number of participants perceive an optimum level of auditing frequency as a success factor. On the other hand, the quality of the audits is also seen as a success factor. It is stated that audits should not be limited to merely checking whether procedures are carried out using checklists, but that they should be able to generate corrective and preventive feedback and should have a function of facilitating organisational learning. It is also stated that carrying out audits with a proactive approach may increase success.

Another success factor within the scope of the auditing is the importance of not leaving audits on paper, but of expanding them to the site where processes take place.

4.1.4.2. Documentation

Documentation means keeping necessary records relevant to hazard analyses, risk assessment, accident and incident investigation reports, OHS policies and plans of the organisation, and OHS performance changes up to date. Documentation should be written clearly and be readily accessible, and its currency should be checked periodically (HSA, 2006). As the findings of the study indicate, the level of effectiveness of this activity will undoubtedly influence the success of OHSMS.

4.1.4.3. Training

Training, within the scope of OHSMS, is the most crucial means of communicating the goals, objectives, benefits, and significance of OHSMS, its implementation, the participants' role in it, the organisation's OHS and safety culture policies to the employees of an organisation. The success of this communication will certainly affect the success of OHSMS. On the other hand, this training plays an important role in the development of a positive safety culture, and the dissemination of lessons learned within the organisation and industry. Thus, Alli (2008) states that what is actually important in order to increase success is the transference of OHSMS to operational processes, and that this is only possible through the provision of appropriate and effective training to everyone in the organisation.

As a result of the inductive qualitative data analysis, it is clear the that effectiveness of the OHSMS training given to senior management, and the quality, quantity and frequency of OHSMS training given to employees, are factors influencing the success of OHSMS. A statement of P8 can be given as an example of what leads researchers to these findings:

"Managers not attaching necessary importance to OHSMS are one of the greatest problems. Trainers from the relevant parts of the general directorate of the company should provide realistic, credible training on the necessity and functioning of OHSMS to the managerial team."

The quality of training is highlighted by P23's comment that, "Training should not be limited to a simple slide show, but should include games, practice and especially simulations."

4.1.4.4. Risk Assessment

Risk assessment is the process of identifying the consequences or outcomes of every existing hazard and projecting their likelihood and severity (VWA, 2002). Risk assessment, which is the most critical tool of a proactive safety management approach, helps to estimate exactly who, and to what level, is at risk from the hazard, and the likelihood of it occurring. When the success of this estimation increases, the decision as to whether to reduce the risk to acceptable levels, or to take the risk, can be made more successfully. If this is not the case, the proactive nature of OHSMS will not work, and it would not be possible to manage risks proactively (OSHA, 2013). Research reveals that the success of risk assessment and the effectiveness of risk reducing measures will influence the success of OHSMS. The statement by K6 supports this finding: "The most important factor influencing success is the identification of risks and measures to be taken against these risks". In organisations where hazard identification and risk assessments are not completed realistically, or when these are left on paper and necessary measures are not designed and implemented, the success of OHSMS will be negatively influenced.

4.1.4.5. Communication

As with training, communication is another tool for conveying important information to employees within OHSMS. The most critical function of communication from an OHSMS point of view is data collection. For successful OHSMS, both bottom up and top down approaches should be adopted in the communication process. The need for multilateral communication among OHS departments, employees and managers is obvious. Without this, it is not possible to gather data on hazards, risks, risk mitigation measures or safety measurements (OHSAS 18001: 2008; ILO-OSH:

2001). The quality and quantity of data is also an important factor affecting OHSMS. P4 makes the following statement while pointing out communication as a success factor of OHSMS:

"There is a need for close and continuous dialogue between the OHS department and employees. When this is the case, it is possible for the department to rely on a feedback mechanism constantly fed by participants."

4.1.4.6. Employee Participation

The inductive qualitative data analysis also provides the signs of effective employee participation in the implementation of OHSMS. Gunningham (2008) perceives employee participation to be the most critical factor in the prevention of workplace accidents and occupational illnesses, and states that employees should be actively included in the stages of defining and assessing hazards, and taking them under control. The European Agency for Safety and Health at Work (EU-OSHA) highlights that managers cannot solve all problems related to health and safety, and employees and employee representatives might have a clearer view on possible accidents and incidents thanks to their work related knowledge and experience, and therefore, employees' participation in OHSMS is highly important (EU-OSHA, 2012). The OHSAS 18001 management system emphasises that employees should be involved in the phases of defining hazards, risk assessment and mitigation, accident investigations and setting OHS policy and objectives (OHSAS 18001: 2008). This study, with findings parallel to the literature, points out that voluntary and efficient employee participation in OHSMS practices is a must for increasing success.

4.1.4.7. Being Operational with OHSMS

OHSMS becomes operational practice when it does not remain on paper, but is performed at the production site, when everyone involved feels that it works, when visible positive results are obtained and therefore, employee participation is encouraged. Without this, it is likely that OHSMS will not go beyond the paper stage and is not put into practice, thereby creating a system that does not produce solutions and in which employees do not believe.

4.1.5. Occupational Health and Safety Professionals

OHS professionals hold the main responsibility and accountability for the establishment, implementation, and operation of OHSMS, as well as keeping it active. Therefore, it is indispensable that their efficiency influences the success of OHSMS (Workers Compensation Board [WCB], 2011). This is why the level of knowledge and experience of OHS professionals is a critical factor for success.

4.2. *Examining the relationship between themes and subcategories*

In a qualitative research design, it is important to explore and explain relationships among themes and sub-categories obtained as a result of an inductive analysis (Dey, 1993). The results of the study are presented in two different structures. The relationship between thematic success factors obtained as a result of the analysis is given in Figure 2.

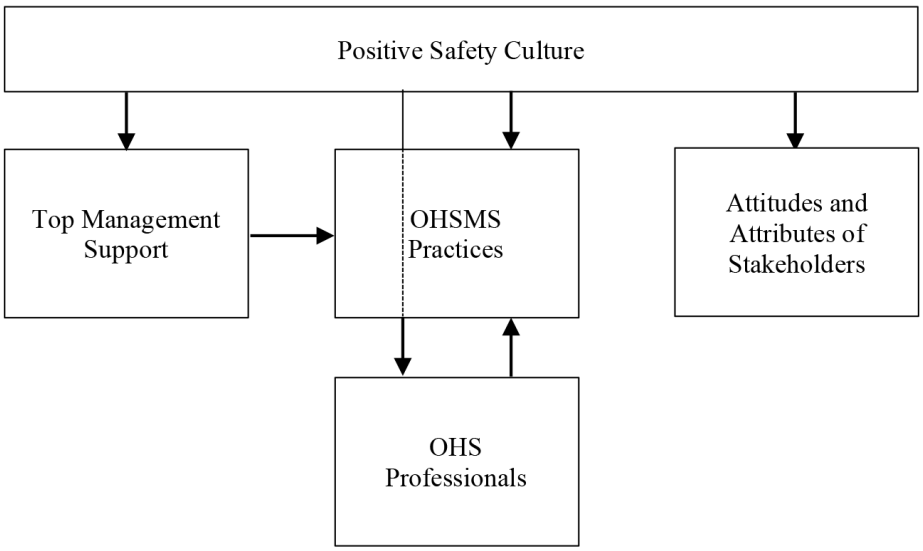

Figure 2. Relationship between themes

The research findings indicate that an OHS-related positive safety culture influences all other success factors. When the ground handling industry is dealt with as a system, it is considered that shared OHS-related beliefs and values of people from different sub systems may influence their attitudes, decisions and behaviour in relation to OHSMS practices. As OHSMS activities are performed by people at various stages, it is obvious that their attitudes, decisions and behaviour influence the efficiency and success of OHSMS. Regardless of the role of the sub systems to which these people belong, their input, processes or output definitely intersect with those of ground handling companies. Therefore, the shared beliefs and values regarding OHS, primarily by top management, employees and OHS professionals of the ground handling company, customer airlines and airport operators, influence the success of OHSMS.

Similarly, it is clear that certain attitudes and characteristics of the stakeholders that operate as a sub system of the larger system at an airport are likely to influence the success of the OHSMS practices of the ground handling company, and thus, the overall success of OHSMS. On the other hand, senior management support, in terms of financial and human resources, has an impact both on the level of knowledge and experience of OHS professionals and on the effectiveness of OHSMS practices, since OHSMS practices require resources. The level of knowledge and experience of OHS professionals who play a key role in the establishment, implementation and sustainability of OHSMS is among the critical factors influencing the effectiveness of OHSMS practices and hence, the success of OHSMS.

The structure where research findings are interrelated in a more detailed manner is shown in Figure 3. The boxes shown with straight lines include categories and themes obtained directly as a result of the research, while the boxes with dashed lines include cause and effect relationships obtained as a result of the researchers' interpretation.

As the level of a positive 'just culture' decreases in ground handling companies, the culture of fear is fed, with employees neglecting to produce or share data due to fear of punishment. In other words, any positive reporting culture weakens. Additionally, a weak 'just culture' that feeds on a culture of fear and compromises organisational justice and confidence may cause a decrease in the safety com-

mitment of OHS professionals and the organisation as a whole. As the success of reporting decreases, the quality of data gathered on OHS, and information and knowledge to be produced from the data, will go down as well. As the quality decreases, both the effectiveness of organisational learning and the success of managing OHS risks may proactively go down. As a result, any expected benefit will not be obtained from OHSMS; in other words, the success of OHSMS will diminish.

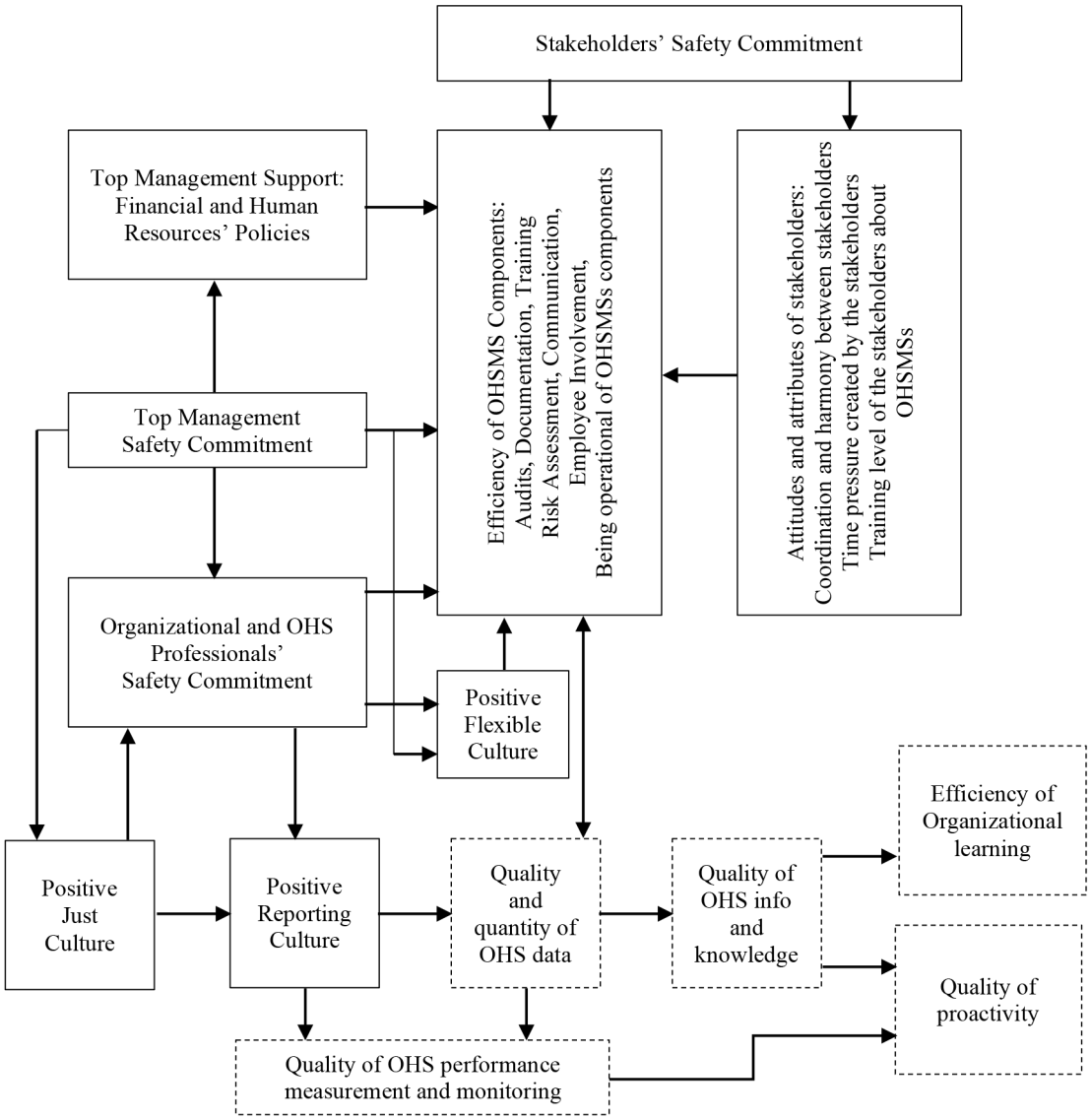

Figure 3. Relationship between significant sub categories*

*Boxes with straight lines refer to the categories that emerge as a result of inductive qualitative analysis. Boxes with dashed lines were added to complement the structure showing cause and effect relationships based on data obtained through qualitative analysis.

The quality and quantity of the data on OHS inevitably influence the success of risk assessments and the operational level of OHSMS practices. Nevertheless, effective organisational top down and bottom up communication has the potential to positively affect the quality and quantity of OHS data. Additionally, accurate measurement and effective monitoring of OHS related performance over time is greatly important for an understanding of the level of goal achievement and successful objectives, and why and where past failures or accomplishments occurred. Accurate measurement and

effective analysis of performance is indispensable for taking appropriate and effective precautions to improve future performance. For this, high quality OHS data in large quantity is required. For high quality OHS data, a strong positive 'just' and 'reporting' culture, with a high organisational, managerial and OHS professional safety commitment, the active participation of employees, as well as multilateral and effective organisational communication, are needed.

Senior management with a high level of safety commitment is expected to provide the necessary support to OHSMS practices, OHS professionals and the development of a strong positive 'just culture'. Top management has the authority to make resource allocation decisions providing, or failing to provide, support for OHSMS. These decisions are likely to be affected by the safety commitment of top management. On the other hand, the level of organisational and senior management safety commitment also has an impact on the effectiveness of OHSMS practices, and either supports or hinders the development of a positive flexible culture. For instance, in an organisation with a high safety commitment, it would be possible to reveal hidden hazards, to identify risks that were formerly unrealised, to measure these risks more accurately, to take more effective risk mitigation measures, and to put these measures into practice and yield results, thereby increasing operational effectiveness. All of these activities are within the framework of OHSMS, and are likely to influence the success of OHSMS.

The findings of the study indicate that the safety commitment of other stakeholders has an impact on the success of the OHSMS. This impact is observed in two ways. First, when the safety commitment of the airport operator increases, it is possible to identify and mitigate OHS related risks caused by the physical conditions at airports. Although ground handling companies notice these risks, they do not have the authority to take the necessary precautions to reduce them. Therefore, the motivation of airport operators to reveal and reduce these risks gains obvious importance. Safety commitment is seen to affect this motivation.

According to the research findings, a second impact stems from the fact that stakeholders' safety commitment affects certain of their attitudes and characteristics. Stakeholders' level of safety commitment has a potential to affect the motivation to seek harmony and coordination amongst themselves, the importance and support given to OHSMS implemented by ground handling companies, the level of time pressure causing ground handling companies to prioritise operational objectives, and the level of information they have regarding OHSMS.

4.3. *Degree of Importance*

In open-ended questionnaires, participants were asked to rank the factors they identified according to level of importance. However, it can be seen that almost none of the participants could rank the factors. Quantifying qualitative research results, in fact, is not appropriate for the qualitative research paradigm; however, it may be performed to facilitate analysis and visualise the situation (Creswell, 2013). In this context, the number of repetitions of the codes by participants was examined. The ten codes mentioned most often by participants are shown in Table 3.

Table 3.10 Codes most mentioned

S/N	Code
1	Time pressure created by stakeholders
2	Importance attached to OHSMS by senior management
3	Ensuring employee participation
4	Employees' belief in the necessity of OHSMS
5	Impact of national culture on the OHS culture within an organization
6	Level of priority given to OHS goals and objectives when compared to operational ones
7	Just culture
8	Reporting culture
9	Senior management's belief in the necessity of OHSMS
10	Employees' belief in the benefits of OHS

Table 3 shows that the code that is repeated most frequently is the time pressure imposed by stakeholders. Airlines seek to minimise their turnaround time to maximise efficiency and to reduce direct operational costs. This motivation is reflected directly as time pressure on ground handling companies. In other studies examining the success factors of OHSMS, time pressure was not observed. It is therefore believed that this is a code specific to the ground handling industry. Balk and Bossenbroek's (2010) study on the human factor in accidents occurring in the ground handling industry points out that time pressure is an important cause of accidents. The second most repeated code is the importance attached to OHSMS by senior management. The third most frequently mentioned code was employees' participation. It can be seen that these two findings are parallel with results of other studies.

The researchers' interpretation of all these findings is that the level of positive safety culture has the most critical influence on the success of OHSMS. Two separate findings lead researchers to this conclusion. First of all, participants emphasised success factors within the scope of a positive safety culture fifty one times. The other finding is derived from an examination of Figure 1 and Figure 2. It can be seen that a positive safety culture theme and its subcategories affect all the themes and subcategories. It is thought that when ground handling companies and other stakeholders at an airport have a positive safety culture, this will have an extensive influence, since other success factors of OHSMS will be positively affected, and that this will have a multiplier effect. As seen in Table 2, the two most frequently mentioned success factors related to positive safety culture are under the category of senior management and overall organizational safety commitment.

Senior management support, comprising of only two subcategories, was mentioned in total twelve times, which points out the importance of this theme according to interpretation. The most important function of senior management is to make decisions related to the setting of goals and objectives, planning to achieve these, organizing and leading the organisation, coordinating subunits, controlling these in support of their goals, and producing feedback and allocating resources for all these activities (Daft, 2010). Management of OHS, on the other hand, means carrying out all these functions in order to achieve safety-related goals and objectives. Decisions taken by senior management are likely to influence all the processes of OHSMS practices; they either support or hinder the

practice. Therefore, top management support is interpreted as a success factor that is as important as a positive safety culture.

The need for effective implementation of certain components of OHSMS, in order to increase success, is another theme that is repeated quite frequently; twenty nine times. Under this theme, categories that are mentioned the most concern the quality and quantity of OHSMS training; eight times. Another noteworthy category under this theme is the level of employee participation. The theme concerning the attitudes and characteristics of stakeholders was mentioned fourteen times. The category of time pressure caused by stakeholders is the most frequently mentioned category; eight times.

5. Conclusion

In this qualitative research, the aim is to identify the critical factors influencing the success of OHSMS implemented in ground handling companies operating at airports throughout Turkey. To achieve this aim, qualitative data was gathered from participants through open-ended survey questions, and an inductive qualitative data analysis method was used to analyse the data. A total of fifty six success factors were identified as a result of the analysis, and certain categories, as well as a total of five themes, were obtained when these factors were interlinked.

It is thought that the most critical factor influencing the success of OHSMS is the level of positive safety culture. It can be seen that a positive safety culture theme and its components, obtained as a result of the analysis, support the structure suggested by Reason, with the exception of learning culture. However, the researchers' interpretation of certain findings of the inductive qualitative analysis indicates that 'safety commitment' and 'the impact of national culture on positive safety culture' components should be added to the positive safety culture structure. The positive safety culture in this study embraces not only the organisation's safety culture, but also the safety-related beliefs and values of stakeholders, senior management, employees and society as a whole. These conclusions show the importance of equipping individuals, as the cornerstone of society, with strong beliefs and values regarding the of improvement safety, starting at childhood. Humans are the most critical factor in the system because of their role in establishing, running and utilising OHSMS, their role in production processes, and their role in managing or auditing the system, either as a manager or auditor, a supplier or customer, or as a manager or employee. Ultimately, their human actions are affected by their beliefs and values.

Another important conclusion of the study is the fact that senior management support is a success factor as critical as a positive safety culture. An important component of the positive safety culture theme is already the safety commitment of senior management. Time pressure and employee participation are found to be other critical success factors.

It is not possible to generalise the results obtained through qualitative research designs. Nevertheless, these conclusions obtained, in the context of Turkey, may still provide ideas and insight for other countries, different aviation companies and other contexts. For further research, the authors suggest the development of a scale, based on a positivist paradigm and quantitative research design, where the success factors determined in this study may be used and the structure tested.

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