A CONCEPTUAL MODEL PROPOSAL FOR THE HRM WHICH IS THE MOST CRITICAL RISK FACTOR IN AVIATION: A SWOT-BASED APPROACH

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ABSTRACT

Human factor may consider as decisive factor in aviation sector since human factor may impact on aviation system elements while affected by them. Anadolu University have both Flight Training organization, aircraft operations, aircraft maintenance organization, aircraft maintenance training organization, international airport, air traffic management unit, continuous flight aviation organization and their sub-units. All these units are operated by Anadolu University. The strengths of these units are strategically advantageous, while the weaknesses and threats are critical areas for sustainability and reputation management with a similar approach. For this purpose, the conceptual model developed using risk management frameworks may contribute into literature.

Keywords: Anadolu University, human factors, strategic human resource management, swot analysis, corporate risk management.

HAVACILIKTA EN KRİTİK RİSK FAKTÖRÜ OLAN İKY İÇİN KAVRAMSAL MODEL ÖNERİSİ: SWOT TEMELLİ YAKLAŞIM

ÖZ

Havacılık sektöründe insan faktörü belirleyici bir faktördür, çünkü insan havacılık sistemi unsurlarını etkilerken onlardan etkilenebilmektedir. Anadolu üniversitesi Türkiye'nin havacılık sektöründeki insanları yetiştiren en büyük eğitim kuruluşudur. Anadolu Üniversitesi, kapsamında bulunan uçuş eğitim organizasyonu, hava aracı işletmesi, hava aracı bakım kuruluşu, hava aracı bakım eğitim kuruluşu, uluslararası havalimanı, hava trafik yönetim birimi, sürekli uçuşa elverişlilik kuruluşu ve alt birimleri yine kendisi işletmektedir. Risk kaynağı olan bu birimlerin güçlü yanları stratejik olarak avantaj alanları iken zayıf yönler ve tehditler de sürdürülebilirlik ve itibar yönetimi açısından kritik alanlardır. Bu çalışmada her bir unsurun SWOT analizinin kapsamında ele alınarak ve risk yönetim çerçeveleri kullanılarak geliştirilen kavramsal modelin, literatüre interdisipliner yaklaşımıyla katkı sağlayacağı öngörülmektedir.

Anahtar Kelimeler: Anadolu Üniversitesi, insan faktörleri, stratejik insan kaynakları yönetimi, swot analizi, kurumsal risk yönetimi.

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INTRODUCTION

Organizations need to examine the internal and external environmental conditions to keep up with their business. The analysis of internal and external environments in terms of the existence and sustainability of an enterprise help to managers largely. After 1950 years system approach became important in management literature. System approach means that each system is a subsystem and that it is the whole of another system. The environment has gained importance in terms of the organizations in this system. The conditions and basic capabilities of the enterprises which they are in their environment important in the process of identifying and controlling the strategy. Organizations should not be considered separately because they are influenced by the national and international environment they are in (Demirtaş, 2013:208-209). The SWOT technique, proposed by Albert S. Humphrey at Stanford University, can be described as a mirror reflecting the internal and external conditions that determine the current state of personal or organization structures and provide making decisions. (Fair, 2005:7).

When the expansion of the SWOT analysis used to analyse the internal and external factors of the organization is examined; SWOT is defined as an acronym consisting of the initials of the following English words. (Helms & Nixon, 2010:216).

- **S:** Strength (It expresses aspects where the organization is strong / powerful)
- **W:** Weakness (It expresses aspects where the organization is weak / powerless)
- **O:** Opportunity (It refers to opportunities which the organization has got or result from the outside environment)
- **T:** Threat (It refers to the threats and potential hazards which the organization has encountered) (Jeges, 2013:1) (Hill & Westbrook, 1997:47).

SWOT analysis is a decision analysis method that take into account internal and external factors to be analysed in the decision making environment. The SWOT analysis allows the examined organization to identify the strengths and weaknesses of the technique, process, or situation. It is also used to determine the opportunities and threats that arise from the external environment. The topic to be addressed at the beginning of the SWOT analysis must be precisely defined (Hill & Westbrook, 1997:47).

SWOT ANALYSIS FOR HUMAN RESOURCES MANAGEMENT

In order to achieve the sustainable success of the enterprises, elements such as the structure of the organization, the working environments of the employees, the environment and the technology structure they are in, as well as the customer / consumer profiles served, organization culture and performance measures etc. need to be taken into consideration. From a SWOT analysis system approach perspective, it is possible to evaluate the above-mentioned elements of enterprises with a holistic approach (King, 2004: 2). According to Flouris and Küçük Yılmaz (2010: 32), SWOT Analysis is a useful practical method used to understand the strategic position of an organization as shown in Figure 1. SWOT analysis can help managers to determine the

gaps and opportunities in the human factor management process to improve the process and increase the organization's ability to compete on the labour market. SWOT analysis is a widely used tool for analysing internal and external environments to provide a systematic approach and support for decision making (Kurttila et al., 2000:42).

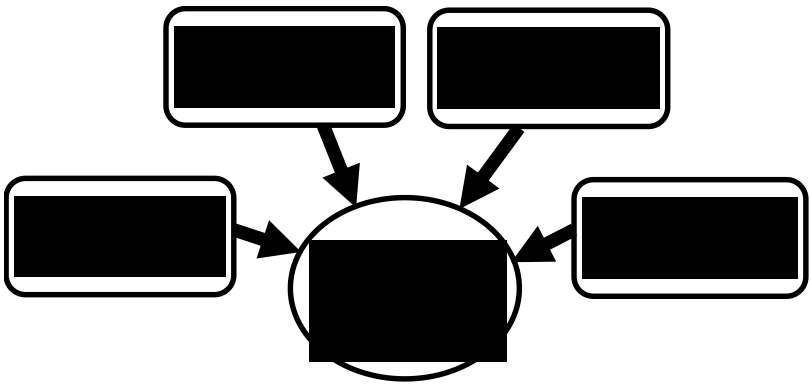

Figure 1. Sustainable Competition Strategy and SWOT Analysis (Flouris & Küçük Yılmaz, 2011).

SWOT analysis should be considered as a process. It is based on mentalities to examine the areas that affect managerial decision making in organizational context. SWOT analysis is an examination of the strengths and weaknesses of an organization, the opportunities for growth and development, and the environmental elements that threaten its survival in the external environment (Harrison, 2010:92). SWOT is the first phase of the Human Factor Management (HFM) process. When implemented correctly, an optimal decision is possible to adopt a strategy based on the human factor. SWOT analysis for determining internal strengths, weaknesses, external opportunities and threats of organization provide a good overview of where the organization is found to be competitive. The pioneering SWOT analysis is a good strategy for the company's internal resources, capabilities, and the state of the industry. Human resource SWOT analysis addresses the following key questions (Cochran-Smith & Zeichner, 2005).

- What makes your work better than employees in other organizations?
- Which employees' skills and abilities can be improved?
- What skills and talents will we criticize ten years later?

SWOT ANALYSIS

The strategic planning process provides a framework for business managers to guide human factors and related risks. SWOT Analysis can be useful in building an enterprise strategy and implementing new decision-making models. In addition, a company strategy or position can be used to review the direction and an idea of an organization. When the SWOT Analysis is made simultaneously for the organization and every level of the individual, the outflow of organizational energy will occur and the organization can access various synergy levels. A Human Resource-focused SWOT analysis involves identifying human factors that are both positive and

negative to achieve organizational goals. According to Flouris & Küçük Yılmaz (2011: 145-148), a SWOT performed on a human resources department or risk managers in the organization may look like this:

Strengths

What is considered about the power of an organization? The analysis of the value chain of the organization is one of the key points to determine the strengths of the organization. Another way is to make determinations by examining functional areas within the enterprise. The power of an organization is something that the organization does well or is a positive asset. It is important to keep in mind that a power factor is something that a company has control over. For example, organization has control over establishing its main competencies and in practice. At the same time, it has control not only on organizational balance sheet but also on resource skills. A power factor will always be in the organization. What are the strong resources? You can easily find strengths by examining the company's value chain. Another way to find strengths is to examine functional areas within the company.

At this point, the sources of strengths can be listed as follows:

- Proactive and innovative management
- Highly motivated staff
- Experienced staff
- Special and talented staff
- Qualified staff
- Young staff
- Tools are available and understood to improve human resources activities.
- A strong financial position
- A strong brand name
- Brand loyalty
- Product of good quality
- Strong knowledge management
- International operations
- Efficiency working procedures
- Good supplier or customer relationships
- Strong promotional applications
- Proactive management of enterprise risks based on human resource (Flouris & Küçük Yılmaz, 2010: 33).

It should not be forgotten that the strengths of the organization are the factors that the organization controls. Strengths are determined by extensive analysis of the internal environment and examination of the company value chain closely. Managers can make their human resources management one of their strengths with a risk

management-based approach. The result will be better risk management, more effective corporate management and greater satisfaction of working with people (Erven, 2009:2).

Weaknesses

Just as in the strongest direction, determining the weaknesses of the organization can be accomplished with a comprehensive analysis of the internal environment. Weakness is the point where the organization does not do well and has control over. For example, there is control over the company's financial picture, but it does not always mean that money is being managed appropriately. Also, it may have control over its products, but it does not mean that this product is good. Perhaps the product is a copy of a product of a competitor. Will this company provide a competitive advantage? Not possible. Therefore, analyses to be made for the proper and accurate determination of weaknesses in terms of corporate sustainability are critical. Sources of weakness at this point (Flouris & Küçük Yılmaz, 2010: 34):

- Limited human resources and personnel,
- Service similar to competitors,
- Processual and principal deficiencies in the continuous evaluation and updating of human resources applications
- Absence of responsibility for accountability of managers and employees transparently
- Measurable performance levels
- Old, rundown facilities
- No any computer integration
- Unused capacity
- High inventory costs
- Vast amount of old inventory
- No strategic direction
- Product quality under the part
- Lack of good research and development
- Lack of strong leadership
- Lack of corporate vision
- Traditional or reactive management of human-induced risks

Weakness is due to the intrinsic reasons of the organization. What are the sources of the weak points? Weaknesses, like strengths, can be found by examining the value chain of the company or by looking closely at each of the functional areas. The most important point in determining the weaknesses is the objective evaluation. It is always easy to identify strengths because they are what the company is proud of. But does the management want to accept weak points in general? Probably not. The outcome will be shaped according to the inputs you give during the strategic analysis. For this reason, it is essential to accept all weaknesses in analysis. At the same time, remember that something can also be a power factor and a weakness at the same

time. For example, a company may have a very motivated workforce, but may not have the expertise to move the company to the next generation product (weakness). In this scenario, employees can be considered as both strong and weak. The next field in the SWOT analysis is the external environment analysis. After extensive analysis of the external environment, the company management should be able to identify the opportunities and constraints that the industry faces. Organization cannot absolutely control over these issues. And, as it is discussed before section, these opportunities and threats have different levels. While some are in the industry, factors such as economic problems can exist at the macro level. The critical point here is that external factors have the potential to impact for businesses and companies to the way of doing business and decisions. What are the opportunity sources? It is needed to examine the external analysis. If a comprehensive assessment of the external environment has been made, it is both essential and important to identify these opportunities.

Opportunity Sources

- A new management team that wants to improve overall organizational effectiveness with the organizational development and culture management program
- Advanced technologies to promote more effective human resource activities
- Unexplored yet international markets
- Unexplored yet customer needs
- Broad demand for products manufactured by the company
- Positive demographic conditions
- Acquirements of competing undertaking in similar industries
- Acquirements of companies that will facilitate backwards or forwards
- Changes in international trade policies

As can be seen clearly above, opportunities are factors in the external environment (industry and economy) that create advantages to benefit for the organization. Organization management cannot control opportunities, but they can certainly take advantage of the opportunity to improve their strategic position (Flouris & Küçük Yılmaz, 2010:35).

Threats

An organization does not have control over a restriction or threat. The threat can do too much damage to job if it is not properly managed. In addition, a SWOT analysis can give the management a good glimpse of where the company is now. It also helps the company to assess exactly where it is in terms of its internal organization. SWOT provides the best overview of what steps management should take to increase competitive power. For example, with SWOT analysis, it can be determined that it is urgent for a company to make changes in the organization for sustainability in the marketplace. For this reason, while SWOT helps to formulate strategies, it also offers a comprehensively and impartially overall and holistic picture of the company. Threat sources at this point:

- The strategic contribution of the Human Resource Management (HRM) and risk management system is not taken into account by senior managers, only the use of external consultants and lack of consideration of the human resources of the enterprise
- High unemployment
- High inflation periods
- Competition violation in the market
- New government regulations
- Change products
- New creativity in the existing product.

SWOT ANALYSIS OF TURKISH CIVIL AVIATION

In this section, it is considered the SWOT analysis in terms of the Turkish Civil Aviation Sector. The reason for being considered in this context is that Anadolu University aims to train qualified personnel and these trained personnel constitute parts of a certain system in the sector and therefore it is required for the University to carry out human resource planning within the context of the situation analysis. This is important determining the importance of the need for qualified personnel in aviation, especially in the scope of weaknesses identified by Swot analysis of aircraft type training which is the main topic of the Scientific Research Project, to become one of the strongest and even the opportunities.

Strengths

It is beneficial to determine strengths and to make human resource planning and management for the university within this scope. The strengths of Turkey Civil Aviation Sector within the scope SWOT analysis is as follows:

- Turkey and Istanbul's geopolitical position and thus being the hub of Istanbul is one of the strengths for the civil aviation industry (www.havakargoturkiye.com, 2012).
- Being the rules on the foreground in aviation and becoming the task analysis detailed keeps the initiative the background. (Demirtas, 2013: 216).
- Advantages include air transportation to be fast and safe (www.havakargoturkiye.com, 2012).
- Increasing the need for services due to population growth and increased travel needs allows the development of aviation sector (ATIG, 2015).
- The ability to adopt and implement of technology is very high (Demirtaş, 2013: 216).
- There is an increasing tendency and continuity in the income of the sector (www.havakargoturkiye.com, 2012).
- Being the high level of ability and opportunity for Turkey's airframe and power plant maintenance represents strengths (Erel et al., 2011: 2).

- That political and economic stability in Turkey is more than other countries in the region is among the strengths (Erel et al., 2011: 2).
- The development of relations with India and China, between developed countries, with high potential to travel to Turkey and that this development indirectly enables to improve aviation is among the strengths (Erel et al., 2011: 2).
- The development of technology supports the development of aviation (ATIG, 2015).
- 70% of the urbanization level supports the development of the aviation sector (Erel et al., 2011: 1).
- Reduced accident rates in air transport increase the confidence in the sector (ATIG, 2015).
- Strong demographic and labour force structure allows improvement (Erel et al., 2011: 1).
- The country has a valid and strong vision on the development of aviation (SHGM, 2016b: 122).
- It is expressed as strong directions that the work and operations done manually previously are now started in electronic environment (DHMİ, 2015: 76).
- Rapid development in civil aviation educational institutions and programs (master-doctorate) and increasing the number of aviation universities in Turkey are among the advantages (www.havakargoturkiye.com, 2012).
- The importance of education given at aviation universities is great because the training of the personnel to be employed in the sector is done according to the mandatory and specific procedures in terms of quality and quantity and in this context, Anadolu University give very successful education in providing the human resources that the sector needs.
- That University has an airport (Eskisehir Hasan Polatkan Airport), which is the first in the world, is among the privileges of Anadolu University (Küçük Yılmaz et al., 2016: 44).

Weaknesses

The weaknesses of the Turkish civil aviation sector are as follows.

- Lack of communication and cooperation between organizations in the sector (www.havakargoturkiye.com, 2012).
- Dependence on weather conditions is compulsory (ATIG, 2015).
- The fact that specialized and qualified personnel in the national aviation authority has not yet been achieved at the required level in terms of quantity, experience and continuity of work is seen as an element of being a developing sector (Erel et al., 2011: 3).
- Not improving the adaptability and competence to the electronic environment for the personnel using the system is expressed as weaknesses (DHMİ, 2015: 76).
- Not having the necessary level to be able to give the certification procedures that enable the use of detail technologies is among the weaknesses (Erel et al., 2011: 3).
- The new investment will bring returns in the long term (www.havakargoturkiye.com, 2012).

- At the national level in strong education/learning, there is a lack of expert teachers to implement to learning programs related to the aviation industry directly. A similar reason for the lack of specialized staff is available the quantitative shortcomings of specialist teachers (Erel et al., 2011: 3).
- Rules and regulations set out in the legislation are not understandably and clearly arranged (DHMİ, 2015: 76).
- The high operating costs in air transport (www.havakargoturkiye.com, 2012).
- The low profit margins and high of competition (www.havakargoturkiye.com, 2012).
- Lack of struggle with international certification limitations (Erel et al., 2011: 3).
- There is a lack of professional competence definitions and clarity of professional authority levels (Erel et al., 2011: 4).
- Cost increases due to investments made through the build-operate-transfer model are among the weaknesses (www.havakargoturkiye.com, 2012).
- The necessity to procure the majority of the equipment and tools from abroad is considered as weaknesses (www.havakargoturkiye.com, 2012).

External Opportunities

Among the opportunities of civil aviation sector;

- Reduced time, cost, productivity, error ratio due to working in electronic environment (DHMİ, 2015:76).
- Increasing competition quality of service (SHGM, 2016b:123).
- The ability to make quick and accurate decisions thanks to the ability to get statistics information quickly and easily (DHMİ, 2015:76).
- Cooperation to be done with universities (DHMİ, 2015:76).
- Constantly developing tourism potential (Demirtaş, 2013: 219).
- After Far East's interest in Turkey, their capital tend to Turkey and in this context the investments increase (Erel et al., 2011: 4-5).
- Good relations and cooperation with the institutions and organizations involved in the international aviation sector (www.havakargoturkiye.com, 2012).
- The development of tourism potential originating from the Far East (Erel et al., 2011: 4-5).
- Reduced cost due to technological developments (ATIG, 2015).
- High volume of business resulting from liberalization, privatizations and globalization in aviation (www.havakargoturkiye.com, 2012).
- Increased environmental awareness planning (www.havakargoturkiye.com, 2012).
- Periodic inspection by aeronautical institutions being a member (SHGM, 2016b:123).

Threats

The threats of Turkish civil aviation in the evaluation of SWOT analysis are as follows:

- Negative impact of global economic crisis (www.havakargoturkiye.com, 2012).
- Many of Turkey's regional competitors has been taken part within the European Union region in crisis (Erel et al., 2011: 4-5).
- Increase in value of dollar and euro (www.havakargoturkiye.com, 2012).
- Existing political problems in countries which prefer Turkey tourism and uncertainty in the duration of this effect (Erel et al., 2011: 4-5).
- The risk of an increase in oil prices (www.havakargoturkiye.com, 2012).
- The risk of adversely affecting the demand for air travel due to high-speed trains (www.havakargoturkiye.com, 2012).
- Intensive use of the human factor (DHMİ, 2015:76).
- Airport capacity problems that may arise in the coming years (www.havakargoturkiye.com, 2012).
- There is a high risk of error due to work intensity (DHMİ, 2015:76).
- Environmental protection restrictions (www.havakargoturkiye.com, 2012).

STRATEGIC HUMAN RESOURCES MANAGEMENT

Strategic human resources management includes the transformation and management to the applications that employees need the skills and abilities of employees to achieve the goals of the organization (Benligiray, 2014:325).

The basic requirement of sustainable success, which is the basic goal of organizations, is to observe and adapt to changes in new concepts and technologies, viewpoints and external environment that affect the organization. Organizations that can achieve this success should have managers and employees who are aiming to move further (Alayoğlu, 2010:70-75). In this context, human resources management provides a conceptual framework of how an employer can provide and direct human resources together with other resources. All of the activities within human resources management provide for short- and long-term goals of the enterprises as well as meeting the needs and expectations of the employees and fulfilling the social responsibilities of the employer. Proper planning, organization, orientation, coordination and control of these elements constitute the basic element of human resources management (Benligiray, 2014: 325). When human resources management is referred to, the most basic purpose of human resources management is to optimize the use of existing human resource in accordance with its organization purposes. In addition, the benefits provided by the human resources management to the organization can be summarized as follows;

- Meeting the individual / basic needs of employees and supporting career development,
- Increasing the productivity and the quality of work life,

- Selecting the right human resource for the right job and creating the necessary systems for it to be sustainable (Ülgen & Mirze, 2013:291).

To achieve this result, there are certain goals that the human resources management has adopted. These are summarized by Çetin & Dinç Özcan (2014: 7) as follows;

- ✓ To increase productivity,
- ✓ To increase the quality of business life,
- ✓ To increase legal adaptation of the organization,
- ✓ To gain competitive advantage,
- ✓ To guarantee labour flexibility

With the emergence of human resources management, it has increased its importance for organizations topics such as the providing of training and development of human resources, the creating of career plans, the performance evaluations of employees, the payment of wages and premiums, the placement of organization culture and the ensuring job satisfaction of employees and the meeting basic needs like health and safety (Ünal, 2002:2).

In addition to these objectives, human resources management has specific strategies. These;

- ✓ Determination of external environment effect
- ✓ Recognition of the dynamics and competitiveness of the labour market
- ✓ Focus on long term (3-5 years)
- ✓ Focus on decision making and selection
- ✓ Take into account all personnel
- ✓ Interacts with the enterprise's corporate strategy (Anthony et al., 2010:15)

The main objective of strategic human resources management is to give strategic importance to the person who is the most important competitive element against the changing environmental conditions (Çetin & Dinç Özcan, 2014: 7). Thinking that human capital is one of the most important factors that enable the organization to achieve strategic success, organizations have acted in order to associate the human resources management programs of the enterprise with the strategic outputs and strategic human resources management has developed in terms of the function of human resource management and examination its role in macro-organizational (Cingöz & Akdoğan, 2015: 94).

Quality play a role in recognizing the importance of human resources in enterprises. Organizations should accurately position and manage the human resource for understanding of total quality management to be included in the enterprises, together with the establishment of TQM related systems, the sharing of the vision, mission and values of the enterprise and the ensuring job satisfaction of the employees' (Cingöz & Akdoğan, 2015:100).

Organizations will use human resources as a competitive advantage in the very short term. For this reason qualified labour force will become one of the inevitable problems for businesses. In order to survive this problem, they must be able to attract qualified staff of the enterprises and their commitment should be established in this process (Anthony et al., 2010:15).

Activities that need to be done in order to give a strategic dimension to human resources management; (Cingöz & Akdoğan, 2015: 107);

- Planning of strategies
- To ensure the participation of HR experts in the strategic planning process and to take their views
- Analysing organization needs and ensuring that deficiencies are eliminated,
- Designing recruitment processes for qualified persons according to organizations and ensuring that the right people are recruited on time,
- Doing job definitions that do not restrict the organization,
- To reward learning, sharing knowledge and high-value behaviours and supporting it with organizational culture,
- To support the career development of employees,
- Evaluating the activities undertaken within the scope of strategic human resources management and presenting success at the end of the process will increase the success of strategic human resources management and provide sustainable value to the enterprise.

HUMAN RESOURCES IN AVIATION SECTOR

Although there are many human resource classifications that enable aviation operations to be maintained outside the sources specified in the aviation sector, the licensed human resources specified by SHGM are as follows: (SHGM, 2016a)

- Pilot / Crew
- Air traffic controller (ATC)
- Dispatchers
- Cabin crew (supervisors-hostess)
- Authorized flight surgeon
- Airport certified security staff
- Approved managerial staff
- Air traffic safety electronic staff (ATSEP)
- Aviation information management officer
- Aircraft maintenance technician

The pilot / crew from the human resources licensed by SHGM in the aviation sector is the name given to the professional group that uses air transport for personal or professional purposes. Flight operations experts, known as dispatchers, plan and follow up to ensure that flights are safe. Provides information to the crew before and during flight (SHGM, 2016a).

Cabin officers / cabin supervisors-hostesses in the cabin crew are responsible for passenger control and comfort for safe and secure flight on the passenger-carrying aircraft (SHGM, 2016a). The persons who carry out the health examinations of the crew and the air traffic controller according to national and international standards are referred to as authorized flight surgeons by SHGM. The personnel who ensure passenger and airport security in the airports is called certified security staff and for this reason this staff scans every passenger, who entry to airport, of things and of his/her own with certain devices (x-ray, detector, etc.). Air Traffic Safety Electronic Personnel ensures that all phases of flight are carried out safely. The purpose of these personnel is dealt with the maintenance, control, calibration and installation of the systems that enable to carry out flight operations. The concept abbreviated as ATSEP is a terminology adopted by ICAO and Eurocontrol. It is used for the expression of expert engineers and technical personnel in aviation electronics field for the safe use of air traffic services.

Aeronautical information management (AIM) officers, consisting of the initials of the abbreviation in English, provide the safety, efficiency and effectiveness of national and international flights, as well as apply and provide service information and data related to aviation in accordance with specified standards (SHGM, 2016a). Aircraft technicians are the name given to the profession group licensed by SHGM to do maintenance on aircrafts. Aircraft maintenance technicians must have approved maintenance technician license by SHGM in order to do maintenance of aircraft and sign the airworthiness document. Anadolu University, which has approved basic and aircraft type training authorization by SHGM, is the educational organization in Turkey. Anadolu University that provides qualified work force to aviation sector in this context university is able to provide aircraft type training approved by SHGM to their personnel in aircraft maintenance centre (Küçük Yılmaz et al., 2017:76).

RISK MANAGEMENT BASED APPROACH FOR STRATEGIC HUMAN RESOURCES MANAGEMENT

According to Flouris and Kucuk Yilmaz (2010: 25), the most important risk source for organizations is the human factor. Therefore, management of human resources, which is a strategic element, is important in terms of ensuring the sustainability and competitive advantage of the operator. Because managers are those who take strategic decisions and determine, control, and interpret their implementation strategies of decisions thus directly affecting the achievement of organization objectives. In addition, it is a unique resource with human limits, qualifications, experience and abilities, and it is not possible for the same source to be the same. Therefore, human is a strategic element. Flouris and Yilmaz (2010:25) (2011:151-156) point out that management of risks in this context is also a decisive turning point for corporate success for an enterprise both in the article entitled "The Risk Management Framework to Strategic Human Resource Management" and book

entitled "Risk Management and Corporate Sustainability in Aviation". Based on these assumptions, they have developed a human factor risk model for strategic human resources management. According to them, human dependence is ongoing in most systems, and no matter how superior and developed technology is in the sectors, it is not self-sustaining without human. High-technology cannot become meaningful and effective without using human. In sectors such as aviation that use high technology, the strategic side of the human resource risk becomes more apparent. In this respect, being qualified personnel -when it is exemplified specifically in the case of aircraft maintenance technician- in aviation requires costly, long-lasting and difficult procedures and in addition, there is an update requirement for authorities in aviation to continue. A technician is required to keep his license and experience up-to-date. Information and applications related to on-the-job training (OJT) and updates are kept up-to-date. In addition, the competence assessments of personnel who are authorized to maintain aircraft maintenance are carried out within the timeframe prescribed by the legislation. When the current literature is examined, it appears that the effective management portion of the human resource risk is not fully and adequately addressed, although almost all of the studies address the human factor as a corporate risk (Flouris & Küçük Yılmaz, 2011:22). Organization leaders have direct and interactive interaction between organization performance (managerial, administrative, financial and operational) and the staff of the organization. This shows that the selection of human resource and the decision to recruit are strategic. Managers as a person who manages both resource-setting and enterprise resources, are a strategic element. In addition, the managers understandably have to be placed in the top row of the list of agenda items for all matters related to staff (Flouris & Küçük Yılmaz, 2011:22).

Within the context of human resources, leading risk management guidelines have been reviewed in the literature: Risk Management: Guideline for Decision-Makers (CAN/CSA-Q850-97) (Canadian Standards Association,1997); Risk Management Australian/New Zealand Standard AS/NZS 4360:1999 (1999); Enterprise Risk Management - A Analytic Approach (Tillinghast- Towers Perrin, 2000); Understanding ERM- An Emerging Model for Building Shareholder Value (2000); Risk Management Standard (IRM, 2002); Basic Frameworks for Risk Management (2003); Risk Management Standard (FERMA, 2003); Overview of Enterprise Risk Management (Casualty Actuarial Society Enterprise Risk Management Committee, 2003); Enterprise Risk Management–Integrated Framework and Application (2004);

Similarly, literature has been examined in the context of strategic assessment of human resources management and direct interaction with risk management: defined as "strategic human resource management" in order to emphasize the strategic role of human resources function. Because human is the most critical resource for competitive advantage (Ouchi, 1981; Peters & Waterman, 1982; Beer et al., 1985; Fombrun et al., 1984; Bratton, 2001).

With contingency approach, managers should also be able to integrate risk management with human resources management and strategic management for corporate sustainability and competitiveness, Human factors are the element of the most important variable of any corporate management system, difficult to manage and vital

success and sustainability. This element refers to the development and management of human capital created and influenced by human resources. Human resources are one of the main sources of risks. In addition, human resources manage, fund and control all other technical aspects of corporate management systems. For this reason, human factors are a part of the system, as well as a critical function as a risk controller and resource manager. Thus, as is seen in Figure 2, human factors are a major factor affecting corporate management systems and risk management. This assumption is the basis of the HFM model of the risk management-based approach for human resource management developed by Flouris & Küçük Yılmaz (2011: 150). Identification requires a different and holistic approach to human resources from other corporate sources. Management of human factor-based risks is seen as a strategic guide that should work closely with operations, finance and other corporate departments to help guide business strategy and success. Human factor-based risks are increasingly seen as a vein / element that holds strategically the most important element in an organization and the complex corporate structure.

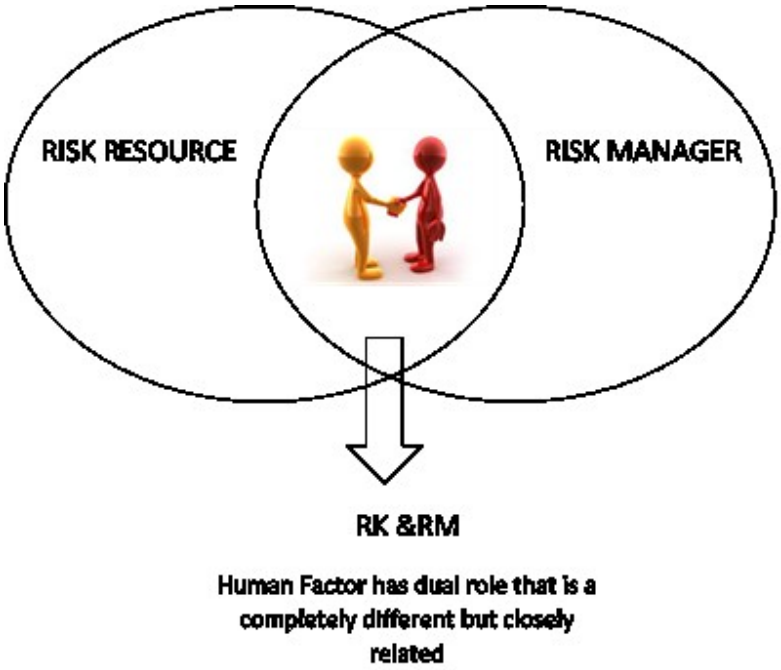

Figure 2. The Dual Role of the Human Factor (Flouris, & Küçük Yılmaz, 2011).

The human factor-based risks, considered as the most important elements in an organization, need to be taken together with operational, financial and all departments in order to support success in achieving goals and applying the corporate strategy (Pricewaterhouse Coopers, 2008). Human resources management, strategic management and risk management seem to have different purposes and contents in the critical decisions on the human factor, as shown in Figure 3, but they should be seen as a wheel that enables the system to function properly and the wheel must provide to move forward correctly taking into account the interactions with the system approach.

Figure 3. Strategic Management-Human Resources Management-Risk Management Interaction

To carry out an effective strategic management process in accordance with the strategies determined by analysing the internal and external environment toward the mission and visions of organizations and within this context, it is necessary to successfully establish and implement a strategic approach to corporate risk management specific to human resources in order to minimize human resources with risks and maximize opportunities by recruiting the right human resource, one of the basic competencies of the enterprises, in line with the necessary trainings and implementing effective human resources management processes in similar activities and taking human resource as a risk factors.

HUMAN FACTOR RISK MANAGEMENT MODEL AND RELEVANT IDENTIFIERS

Corporate management systems, financial risk management and HFM affect human resource actions. Human Factor Risk Management recognizes that people always understand, do not communicate or constantly perform. Every individual brings a unique background and technical ability to the workplace and has different needs and priorities (COSO's ERM Intregrated-famework, 2004). Human factors have a dual role in corporate management, risk management, and human resources management: a risk source: for example, implementing corporate management plans or unqualified person, human error, two or more people coming together, false activity, judicial errors, health and safety, malicious behaviours, human resource obstacles to reaching corporate goals through people's realities, poor performance in job decisions making, unethical behaviours can be given as the override ability of management for HFM decisions. The risk manager is: for example, a person who identifies the corporate mission / vision, strategy and objectives of human resources and fulfils the HFRM mechanisms. This person is an important part of the coping strategy with the risks based on the human factor (anti- fraud, all management and organizational risks) (Flouris & Küçük Yılmaz, 2011:121). Risk sources and managers, have a dual role in corporate management systems of human resources and risk management. Human resources is one of the keys to success in corporate management systems. For this reason, the above-

mentioned dual role (risk source and risk manager) requires a different approach for both human resource management and corporate management systems. The reason for this is that the human element has different, highly dynamic and uncontrollable characteristics than other institutional sources. Both machines and people are vulnerable and therefore this affects the quality of their products and services. The way in which risks are assessed for machines and people is very different. Automatic processes are a known factor and can be controlled. A machine provides statistical data. After the installation, the operations can be repeated and the result is almost always the same. Human cannot work with the same rigidity as machines (Dayer, 2008: 4). An effective corporate risk management system requires a strong organizational culture and a robust management framework for its implementation. Organizational culture influences HFM policy and performance. For this reason, corporate culture should take into the effective HFRM model. O'Donovan's definition of culture encompasses the organic nature of the phenomenon and how it emerges in organizations and reflects system perspective and moral perspective on the typologies that organizations need (O'Donovan, 2006: 215-230). There is a positive effect on corporate performance (Tseng, 2010: 279). It is predicted to be critical for knowledge transformation of the efforts of cultural development and development of corporate performance in accordance with the organization and characteristics of the geography in which the organization is established. It is important to consider corporate culture as one of the integrated parts of management in some way. The acceptance of the sense of risk, attitudes and perceptions of everyone in the organization as potentially influential factors for organizational purposes makes culture an important component in decision-making. The most successful organizations are those that can capture the hearts, minds and energies of their employees for a common purpose. "Right" culture can then support the successful implementation of the "right" human resources management program, which is linked to the success of organizational goals and value creation (Rossiter, 2017).

Traditional corporate management focuses on being human-centred, enterprise policies and activities. Therefore, changing conditions encourage organizations to learn and change. Managers, in relation to organizational change management, come to realize that the basic part of change is human. Human resource managers have experienced the only real effective tool trying to provide employees with a positive revival in their own business world by acting that organizations will support the workforce (Frederickson, 2004).

STRATEGIC MANAGEMENT OF HUMAN RESOURCE, THE CRITICAL RISK FACTOR: CONCEPTUAL MODEL

Figure 4 presents the strategic management conceptual model of human resource, a risk factor. The determinants for the development of the Human Factor Risk Management conceptual model are:

- Integration of human factor risk management to the organization as part of reaching the overall goal of a managed corporate culture
- Increase human factor contribution to company functions and activities
- Meet the requirements to manage human factors

- To reduce the costs incurred due to human performance limitations and to add value through improvement
- Human performance
- Meeting the demands of enterprise owners and senior managers

This Human Factor Risk Management (HFRM) model provides an effective framework for implementing a combination of human resource and risk management policies for managers. The model uses a system approach to manage human performance and capacity constraints. The management thought with system approach emphasizes the interdependence and interactive nature of elements in and out of an organization (Business Dictionary, 2017). The management system approach based on the general system theory implies that the operation is regarded as a system. The interdependence of the parts forming the system needs to be understood (Certo, 2002). The system approach for management is defined as describing, understanding and managing interrelated processes due to its contribution to effectiveness and efficiency in realizing the objectives of the system (Hoyle, 2001:120).

Organizations facing rapid change should develop more focused and consistent approaches to managing people. The Human Factor Risk Management (HFRM) model ensures to be continues the identification, analysis and mapping of potential areas of threat creation of human risk (such as any risk). The Human Factor Risk Management (HFRM) model provides a general framework for the establishment and implementation of management processes within organizations. The proposed model is primarily a process that applies tools and techniques of human factor in a co-ordinately and systematically. The model includes many elements related to and in associated with corporate sustainability of management processes. While organizational culture is influenced by these concepts, the model adds accountability to business ethics, culture and stakeholder expectations. This model is applicable in any industrial and enterprise management segment and SWOT analysis has important function in risk analysis studies. This element is remarkably predicted in terms of the fact that the human factor is a critical and key element in every sector.

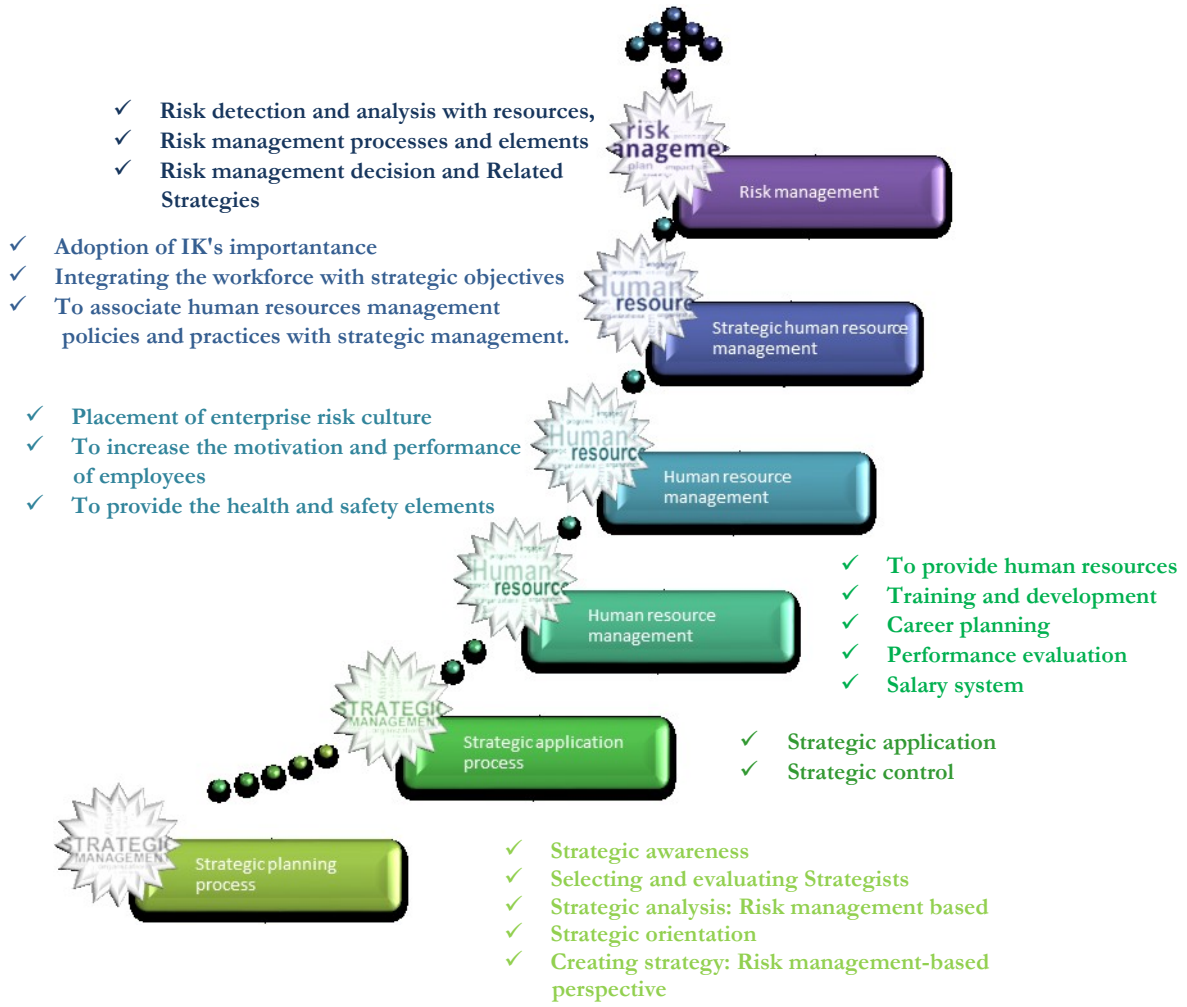

Figure 4. Human Resource Risk Management Conceptual Model with Strategic Approach (Küçük Yılmaz et al., 2017)

CONCLUSION AND DISCUSSION

Human factors are among the leading risk factors within the corporate management system and organization. Human-based risk factors have the potential to have a significant impact on corporate targets (financial results, operational performance). Increasing levels and contribution of threat and opportunity-based awareness of managers and other personnel within the organization mean that the surplus value in the both financial, operational, environmental and performance areas in corporate sense increases also. Human factor risk

management is regarded as an indispensable part of both the planning and implementation process in all areas, especially in strategic areas. When considered from the standpoint of system approach, it is known that each subsystem of civil aviation is important in terms of other systems in which it interacts. The development and improvement system to be implemented in the components of the subsystem will support the positive impact and the success towards the system objectives. Anadolu University's leadership in human resource development and its success in civil aviation sector is an indication that it is integrated correctly with the parts of the system. At Anadolu University, the aircraft operations, the aircraft maintenance organization, the aircraft maintenance training organization, the airport, the air traffic management department, continuing airworthiness organization and the sub departments are available and operated. Each of the organizations is important as potential sources of opportunity and opportunity. Each element is included in the SWOT analysis. This reduces the dependence of training and flight activities to the maximum, but it also brings the need for qualified human resources with the aim of ensuring the continuity of operations.

This study emphasizes that the importance of human resources in the aviation sector is great. For this reason, the management of the human factor has been dealt with in terms of both strategic management and risk management in this study. Taking human factors in terms of risk management and making plans in this direction will make the decisions of the company more efficient and effective. However, human resources management is possible in accordance with institutional strategy. In the proposed model, human resources management and strategic human resources management are included in strategic management processes and it is necessary to consider this process as a risk management theme. It is believed that organizations will provide a difference in human factor management thanks to a risk management perspective that enables opportunities and strengths to be revealed and minimized threats and weaknesses. Considering that the aviation sector is both a need for qualified personnel and more risky sector, it is necessary to provide training for human resources that enable aviation operations to be carried out and to update trainings in the specified forms. That is to say, SWOT analysis is used to determine the deficiencies occurred and damage can be minimized with risk management. Implementing human resources management in an interactive manner according to the corporate's strategy is supported the sustainable success of organizations as the subject discussed is the human factor. For instance, aircraft maintenance technician as human resource, which is important in the aviation sector, must receive aircraft type training for signing Certificates of Release to Service for related aircraft maintenance and this type trainings is essential for safe flights. In aviation sector, the necessity of type training of aircraft on which the human source specified as an aircraft technician will sign the maintenance exit certificate and the necessity of type training for safe flights. This study also presents the strategy that enables the realization of the Scientific Research Project related to Anadolu University Aircraft Type Education Approval and Implementation Process. First of all, in this study, situation analysis of aviation sector, which the Anadolu University is included, has been made and strategic human resources management has been carried out by providing type training to aircraft technicians in order to ensure managing properly of human resources and their competences as a result of deficiencies. Giving type training to aircraft maintenance

technicians in terms of human resources and acquiring qualified personnel is also important for strategic management of human resources and updating the technician's knowledge will reduce the human factor risk.

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