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# PROTECTING INFORMATION CENTERS FROM DISASTERS: A STRATEGIC EMERGENCY MODEL PROPOSAL

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## ABSTRACT

*Although there are many studies in literature on the risk of information centers being affected by disasters and the preparation of information centers for disasters the diversity of disasters and emergencies necessitates the development of different preparation and response models for each event. These structures are evaluated like other structures in the standards of protection of information centers from emergencies and disasters. However, there are many people and employees in information centers at the same time which is a risk increasing factor. Therefore, priority protection standards need to be developed in these structures. Libraries, archives, art galleries, information houses, museums etc. and the objects (tangible, printed, electronic etc.) that are included in the information centers are places that contribute to the development of science, art and technology and they should definitely be protected from all kinds of disaster risks. Exhibition and storage areas in museums; especially objects located in storage areas in libraries, face various dangers caused by environmental causes, disasters and people based. These hazards can turn into risks when necessary precautions are not taken and cause serious damage to objects. For this reason, the factors that may cause the deterioration of library, archive and museum materials should be determined and institutions should be prepared for disasters. It is also important to ensure the safety of life and property of all visitors/users who benefit from the institutions. Strategic decisions should be taken and implemented to protect people, objects and the buildings trio from emergency and disaster risks. In this study; emergency and disaster risks have been elaborated in the information centers and an emergency model has been introduced regarding the measures to be taken against these risks.*

***Keywordsr:*** *Disaster, Emergency Model, Information Centers, Risk Reduction*

# *BİLGİ MERKEZLERİNİN AFETLERDEN KORUNMASI: BİR STRATEJİK ACİL DURUM MODELİ ÖNERİSİ*

## ÖZ

*Bilgi merkezlerinin afetlerden etkilenme riski ve bilgi merkezlerinin afete karşı hazırlıklı olması konusunda literatürde çok sayıda çalışma bulunsa da afetlerin ve acil durumların çeşitliliği her bir olay üzerinde farklı hazırlanma ve müdahale modellerinin geliştirilmesini zorunlu kılar. Acil durum ve afetlerden bilgi merkezlerinin korunma standartlarında bu yapıların diğer yapılar gibi değerlendirilmektedir. Oysa bilgi merkezlerinde aynı anda çok sayıda insan ve çalışan bulunmaktadır ve bu durumda riski artırıcı bir faktördür. Bu nedenle, bu yapılarda öncelikli koruma standartlarının geliştirilmesi gereklidir. Kütüphaneler, arşivler, sanat galerileri, bilgi evleri, kıraathaneler, müzeler vb. bilgi merkezleri olan önemli kurumların içinde barındırdığı eserler (somut, basılı, elektronik vb.) bilimin, sanatın, teknolojinin gelişmesine katkıda bulunan mekânlardır ve kesinlikle her türlü afet riskinden korunmalıdırlar. Müzelerde sergileme ve depolama alanları; kütüphanelerde ise özellikle depolama bölümlerinde bulunan objeler çevresel nedenler, afetler ve insanlardan kaynaklanan çeşitli tehlikelerle karşı karşıyadırlar. Bu tehlikeler gereken önlemlerin alınmadığı durumlarda riske dönüşebilmekte ve objelerin ciddi zararlar görmesine neden olabilmektedir. Bu nedenle kütüphane, arşiv ve müze malzemesinin bozulmasına sebebiyet verebilecek olan faktörlerin öncelikli olarak belirlenmesi gerekir ve kurumların afetlere karşı hazırlıklı olması gerekmektedir. Aynı zamanda kurumlardan yararlanmakta olan tüm ziyaretçilerin/ kullanıcıların da can ve mal güvenliğinin sağlanması önemlidir. İnsan, obje, bina üçlüsünün acil durum, afet risklerinden öncelikle korunması konusunda da stratejik kararlar alınmalı ve uygulanmalıdır. Bu çalışmada; bilgi merkezlerinde acil durum ve afet riskleri üzerinde detaylı şekilde durulmuş ve bu risklere karşı alınması gereken önlemlere ilişkin bir acil durum modeli ortaya koyulmuştur.*

***Keywords:*** *Afet, Acil Durum Modeli, Bilgi Merkezleri, Risk Azaltma.*

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## INTRODUCTION

The perspective of risk and risk concept may vary in both national and international literature. The reason for not being able to define a certain standard; when it comes to risk, it is because space, location and industry or branch of science have different characteristics. Engineering, banking, insurance, medicine, psychology, sociology etc. In many areas, risk terminology basically relies on the same logic: "Probability prediction". Risk analyzes including predictions should be carried out in cultural centers such as libraries, archives, museums and galleries.

The Chaos Theory, which is famous for the slogan "Butterfly flapping in the Amazon Forest causes storm breaks in the USA"; may also be valid in information centers. Emergency / disaster etc. that may occur anywhere in the institutions. In the extraordinary cases, the entire building may be affected and may even cause disruption in other services attached to it. In such adverse situations, injury, death, etc. that may occur among employees. Therefore unfavorable events should be prevented. In addition, damages and losses that may occur in the buildings and collections of information centers may cause chain troubles. In these cases, especially loss of life; all active and / or passive activities of the information centers will also be interrupted.

While evaluating the concept of risk, the concept of uncertainty should not be ignored where the risk is. Because the risk can happen at any time, but it will not be predicted exactly when it will happen. As can be seen from the definitions below, there is always a loss and negativity in the results of the risk. When faced with the risks that arise in information centers; it will surely have various negative consequences in terms of social, environmental, technological and security. Some risk definitions are given below:

- OHS Law No. of 6331, 2012: Possibility of loss, injury or other harmful consequences arising from danger[1].
- Turkish Language Association: Danger of harm, risk situation[2].
- OHSAS 45001, 2018: A combination of the likelihood of a work-related hazardous event or exposure (s) occurring, and the severity of injury and health status that the event or exposure could cause[3]. Risk: effect of uncertainty[4]
- AS / NZS 4360, 2004: It is the chance of an event that may have an impact on the goals[5].
- COSO, 2004: Risk is the possibility that events will occur and affect the achievement of objectives[6].
- HSE (UK): the risk is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be[7].
- ILO Guidelines, 2001: A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of people caused by this event[8].
- ISO / IEC Guide 51, 1999: It is a combination of the probability of occurrence of harm and the severity of harm it will occur in case of occurrence.
- ISO / IEC Guide 73, 2002: A combination of the probability of an event and the severity of its consequences[9].

As it is understood from the above definitions, there is a possibility, namely an uncertainty in the occurrence of the risk, and risk analysis for the prediction of this uncertainty is required in the

[1] 6331 No. Occupational Health and Safety Law (OHS). 2012

[2] www.tdk.gov.tr risk description

[3] https://advisera.com/45001academy/blog/2016/03/23/hazards-vs-risks-what-is-the-difference-according-to-disiso-45001/

[4] http://nabcb.qci.org.in/others/ISO45001_NABCB.pdf

[5] http://bch.cbd.int/database/attachment/?id=12285

[6] http://www.rmmagazine.com/2018/06/01/understanding-the-new-iso-and-coso-updates/

[7] https://www.hse.gov.uk/risk/controlling-risks.htm

[8] https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/normativeinstrument/wcms_107727.pdf

[9] ISO, ISO/IEC 31010 (2009). *Risk Management - Risk Assessment Techniques*. Geneva: ISO Standarts

information centers as in all workplaces. These risks should be determined in advance (proactively) in order to prevent damage to the institutions. In this respect, the probability of occurrence of the risk and the factors that will arise when the risk occurs should be anticipated.

In the concept of danger, risk elements have the potential to cause damage. In order to identify the risks, it should be considered what factors might adversely affect the health, safety of people and the environment if the envisaged hazards occur. Multiple hazards can arise from a source of danger, and multiple risks from each hazard.

When the connection between risk and danger is examined; danger can be defined as a possibility that risk can turn into damage at any time. Risk analysis is carried out to identify the risks. Risk analysis is the process of exposing all risks that may arise in the future and interpreting them with qualitative or quantitative methods. Hazards also increase the magnitude of the results when potential vulnerability and risk occurs. The greater the capacity available against risks and the more manageable the risk, the more can be reduced. For this reason, the formulation can be as follows: "Risk = Possibility of Occurrence of a Dangerous Event x Impact of Hazard". This in its simplest form, equates to a risk analysis. There are also risk analysis methods using much more sophisticated computer software. The most effective method of risk analysis in information centers is the work of the risk assessment team established among the employees.

The concepts of hazard, damage and manageability are interrelated at all steps of the risk stages. Risk can also be presented in the form of quantitative data. It can also be displayed with different symbols in the diagrams. In the case of risk, the current situation is monitored by being in constant communication and consultation with internal and external stakeholders. In this process, group work should always be at the forefront. Examples of risk studies are:

- Workplace buildings and annex buildings,
- Activities carried out in the workplace, business and transactions,
- Production processes and techniques,
- Workplace equipment,
- Substances,
- Waste and waste related operations,
- Organization and hierarchical structure, duties, powers and responsibilities,
- Employees' experiences and thoughts,
- Work permit documents to be obtained in accordance with the relevant legislation before starting work,
- Education, age, gender and similar characteristics of the employees and health surveillance records,
- The situation of groups that require special policy such as young, old, disabled, pregnant or breastfeeding employees,
- Inspection results of the workplace,
- Occupational disease records,
- Work accident records,
- Records of events occurring in the workplace or work equipment, although not causing injury or death,
- Near miss event records,
- Material safety data sheets,
- Ambient and personal exposure level measurement results,
- Previously made risk assessment studies,
- Emergency plans.

An information center incorporates many functions and complexes. These large structures ensure the protection of documents and meet the needs of users. When making the architect's calculations and designing the building, it is necessary to pay attention to the solution of all the expected problems and take care not to add new ones to them. For this reason, information center experts and architects should work together at the design stage. "Nevertheless, attention should be paid to the selection of

non-structural materials to prevent injury, limb loss and death" (Benoit & Neirinc, 1987: 4). In this way, damage to both employees/users and collections can be prevented. Disaster planning is a matter of basic security for libraries and archives, their staff and their collections. It is considered to be an essential part of any preservation programme to be implemented by any kind of library or archives (IFLA, 1999).

Turkey also has serious measures for workplaces in place via Occupational Health and Safety (OHS) Law No. 6331 with a proactive approach by analyzing the evaluation of all the risks. The Act came into force as a legal obligation for all workplaces, including information centers. Employees and managers of information centers are obliged to conduct risk analyzes within the scope of risk assessments based on the provisions of OHS Law No. 6331, and employees are obliged to contribute to these activities.

## METHODOLOGY OF THE STUDY

### *The Aim of the Study*

The aim of the study is to evaluate the risk of human, object, building trio in the information centers for emergency, disaster risks, to develop a model in emergency planning and to use this model in all information centers, and to raise awareness in this direction.

### Scope of the Study

The measures to be taken by the users and employees of the information centers constitute the scope of the study.

### Method of Study

The systems installed in the institutions are open to emergency, disaster and accident effects due to uncertainties. Detecting these uncertainties in advance will increase the performance capacity of the system in terms of intervention. The effect of uncertainty, which is also mentioned in the model below, is considered as a model in risk assessment and emergency planning studies.

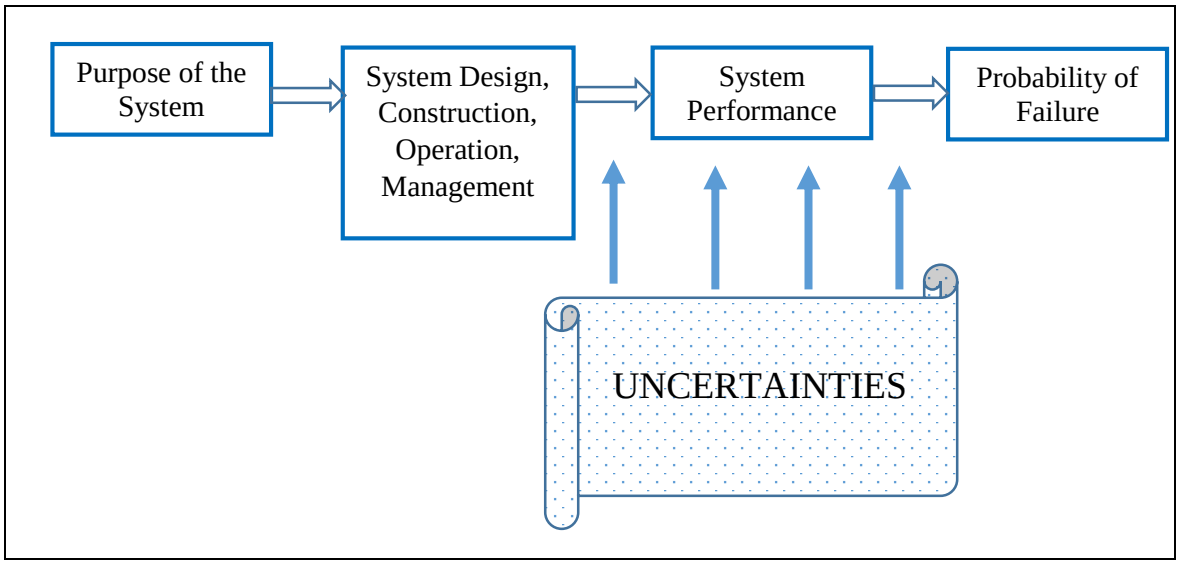


**Figure 1:** Effect of Uncertainty on Systems

**Source:** (Bayazıt, 2007, p. 7)

It also explains in the Occupational Health and Safety Law No. 6331 that occupational safety measures are designed and taken before the system is installed, not after the establishment of workplace. In the method of the study, it was aimed to determine the uncertain situations as "A Strategic Emergency Model Suggestion".

## RISK ANALYSIS AND MANAGEMENT

### *Information Collection and Evaluation Methods Used for Risk Analysis*

The collection and evaluation of information are very essential for risk analysis. Establishing an effective information management system will lead to more scientific results. In the effective information system, besides engineering disciplines, support should be obtained from information-document management departments. The main task of information professionals and data experts is to obtain information, store it, and analyze it for use when needed. This reveals the importance of information and data professionals.

In risk analyzes; There are two types of analysis methodologies, qualitative and quantitative. In the quantitative approach, mathematical and statistical methods are used to reduce risk. In the absence of necessary data on probability, qualitative methodology requiring expertise, expressed in terms such as low, medium and high (L,M,H) risk, can be used. The aim of the risk analysis is to predict the severity of the damage that may occur in the workplace. Based on this prediction, a risk analysis decision is made and conservation strategies are developed accordingly. While developing these strategies, feasibility and costs should also be taken into consideration.

In the Risk Analysis forms, it is necessary to indicate when to take action, the date of validity, the place where it was made, the responsible person/department regarding the control measures for the identified risks. “In order to evaluate the data obtained in measurement studies, 5x5 matrix, Fine Kinney, Failure Mode And Effects Analysis (FMEA), Statistical Analysis etc. Quantitative Methods, SWOT, Brain Storming, Fishbone, etc. a risk assessment study should be performed with qualitative methods or mixed methods using both methods ”(Kuzucuoğlu, 2014: 9).

### *Risk Management*

This is a comprehensive study in which possible hazards can turn into risk if no precautions are taken, the damage to the information center materials in the buildings and the measures to reduce these risks are continuously evaluated.

In this study, all the staff and users, building, collections scale it was emphasized;

- What factors can harm in what ways
- What measures to take against hazards

Before the disaster occurs, all harmful factors must be identified and prioritized. An assessment should be made for situations where urgent action should be taken among the risks identified following this vulnerability analysis. Scenarios should be created based on the predictability of objects and other information center materials during likely disasters. Then, within the scope of these scenarios, measures for the use of existing resources and the development of these resources, the intervention of employees, and the protection of objects should be determined. Emergency Plans should be prepared based on prior risk assessment studies.

Cultural heritage is a common property of all humanity not only of the country in which it is located. In order to transfer this heritage to future generations in a healthy way, a responsibility exists to take precautions against risks that threaten cultural heritage. Many events are organized in the world with

the concept of protection by reducing risks. The Hyogo Framework, which was determined at the World Risk Mitigation Conference held in Kobe, Japan in 2005, focused on 5 key areas[10]:

- Determination of institutional, legal and policy frameworks on governance,
- Risk identification, assessment, monitoring and early warning systems,
- Information management and training,
- Reducing risk factors that may cause disaster risk,
- Preparedness for effective response and rescue.

It is aimed to identify, evaluate and monitor disaster risks, and strengthen preparatory works for reducing risks via using knowledge, innovation and education to strengthen the support of local, regional, national and international organizations to reduce world cultural heritage risks, and to create a culture to prevent disaster risks of world cultural heritage.

### *Success Criteria for the Efficiency of Risk Analysis*

Detection and damage protection due to misuse of the work / archive material in the information centers; It will be provided by the expert personnel who can foresee the risks arising from the internal and its surroundings. In order not to be affected by the risk factors of ergonomics, psychosocial and hygiene, training activities should be given importance. Within the scope of risk preventive measures, considering the physical, chemical and biological factors that may threaten structures and objects, proactive measures should be taken for building security. Risk analysis studies should be carried out that include the necessary measures to reduce and minimize all risks such as static and roof loads (space roof systems, snow load, wind load, etc.), roof fires (lack of fire-resistant materials, no periodic maintenance and cleaning, no ventilation, etc.), burglary or sabotage. It is also important to take safety measures. Closed Circuit TV camera system, security guards, smart cards, alarm (early warning) systems etc. proactive measures should be taken.

### *Strategic Risk Assessment Model for Information Centers*

Suggestion In the "Strategic Risk Assessment Model for Information Centers", during the operational activities of the information center, when the human-originated, technology-based risks, external risks, internal risks, organizational risks are not taken into consideration, neglected or ignored, performance capacity will also be significantly reduced.

The items specified in the model are:

- **Human origin risks:** Employee, visitor / user originated risks,
- **Risks arising from technology:** Risks arising from technological systems established within the organization,
- **External risks:** Risks that may arise from the immediate surroundings of the information center (natural disasters are also evaluated in this article),
- **Internal risks:** Physical, biological and chemical risks arising from the internal environment of the information center,
- **Risks arising from the organization:** It refers to the risks arising from the administrative capacity of the information center.

Increasing the measures for these will also minimize the risks that may affect people, objects and building trio.

[10] https://tr.qwe.wiki.Sendai_Framework_for_Disaster_Risk_Reduction

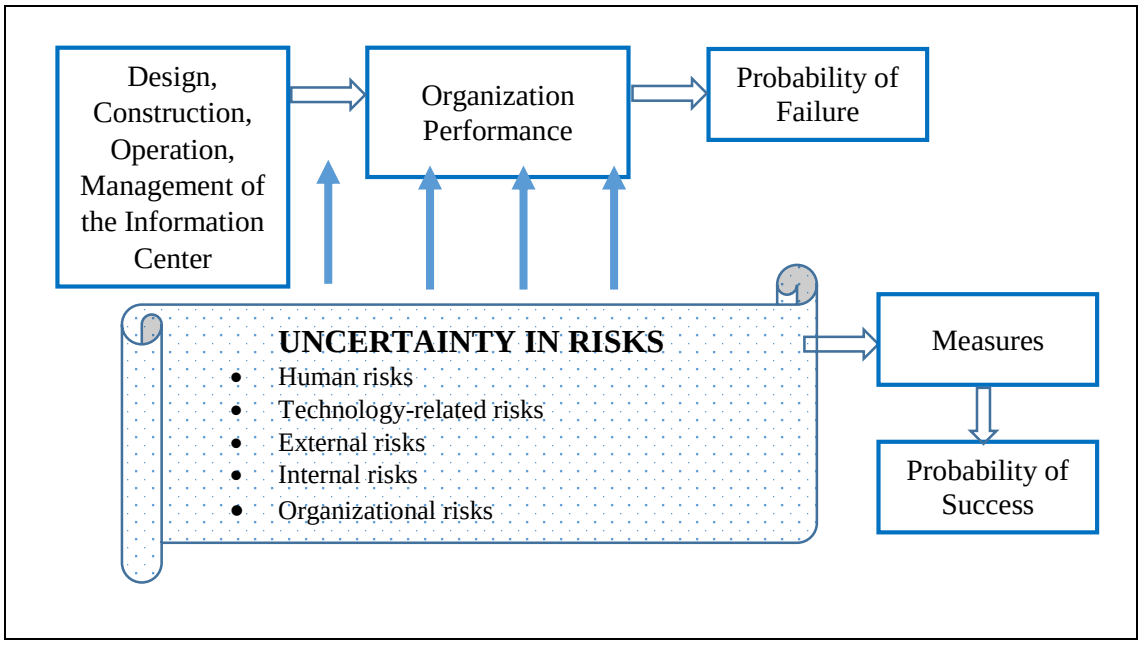


**Figure 2:** Strategic Risk Assessment Model for Information Centers

## EMERGENCY AND DISASTER MANAGEMENT

Information centers can be badly damaged or completely destroyed due to earthquakes, fires, floods, storms, lightning and other disasters. For this reason, measures should be taken for emergencies and disasters. After a likely emergency and disaster, information access services must continue their activities without interruption.

In Turkey, 98% of the population live in regions with an earthquake risk[11], it is important to take structural and non-structural measures for earthquake. An 'Earthquake is the primary disaster' that causes structural damage and loss of life and property. The damage of non structural material as a result of different earthquake sizes in the buildings renders many functions of the building dysfunctional. Therefore, it is necessary to conduct vurnerability analyzes for non-structural materials as well as structural elements in buildings.

While carrying out a risk assessment in information centers, the sources of these dangers, who can suffer from them, and the possible effects should be anticipated. In the emergency planning to be prepared as a result of the analyzes, all risk factors should be taken into consideration first, and priorities should be determined and written down by determining implementation strategies. In these strategies; key areas such as reading hall, research halls, storage areas etc. need to be identified. Preparation of evacuation plans should be included in case of any kind of risk. When choosing a location for information center buildings, risk areas such as stream beds, fault lines, landslide areas, high energy lines, and the seaside should be taken into consideration, and if there are buildings already built on such areas, additional measures should be taken for them. Industrial facilities around the information centers can also be found. Measures should also be taken so that fire does not spread to information centers. However, in the information center buildings serving in historical buildings, the installation can be installed afterward. In case of a disaster, installation-related problems may arise because the installation is old and is not checked periodically. In modern buildings for archives, it should be ensured that archive management is carried out according to scientific standards, in interior comfort conditions with appropriate shelving and air conditioning conditions, in secured areas (Şeşen at al., 2019).

[11] https://www.jmo.org.tr/resimler/ekler/95ade13c3d8aa09_ek.pdf?tipi=1...X..

### *Success Criteria for the Efficiency of Emergency Planning*

"Fire, explosion etc. that may occur in kitchen, cafeteria areas should be away from exhibition and storage areas due to risks. Glass plate negatives, cased photographs (such as daguerreotypes), and other fragile or vulnerable formats requirecareful storage to protect them from damage or loss and to keep them from damaging adjacent paper records (Ritzenthaler, 1990). All doors in the building should be designed so that they will not be damaged by fire and open outwards " (Kuzucuoğlu et al., 2015).The locations of heavy objects that will prevent the evacuation route in the evacuation corridors and the locations of fire extinguishing systems should be carefully selected. An effective minimization of fire damage strategy should be implemented. Recovery priorities for collections need to be determined.

Priority in emergency and disaster response plans for Cornell University Library is specified in the 'Response and Recovery Policy'[12]. Considering this situation, plans including material intervention, recovery and actions to be taken after recovery should be determined. The impact of risks can be reduced by disaster management planning, for example arrangements for salvaging the archive if a major incident such as a flood, a fire or a break-in happens. Taking action as soon as possible is essential to reduce damage caused by such incidents (The National Archives, 2016).

In order to respond rapidly to disasters that develop suddenly and have a devastating effect, importance should be attached to disaster emergency planning by institutions. In order to reduce disaster risks, studies regarding preparedness, risk reduction, response and recovery stages that will make information centers resistant to a possible disaster should be planned, and these plans should be continuously improved and the ideal plan should be reachable within the scenarios. Preparing plans that contain measures to increase the capacity of information centers is important for the sustainability of the collections in their bodies. All employees should be involved in reviewing and improving the plans.

Emergency action plans should be prepared separately for each disaster such as earthquake, fire, flood, storm. Floor plans and exit doors showing emergency exits must be determined in advance. Firstly, the areas where the material to be saved should be determined and written. Emergency teams, tools and equipment should be prepared in advance. Plans within the scope of the "Regulation on Emergency Situations in Workplaces"[13] or the "Regulation on the Protection of Buildings from Fire"[14], specially trained support person should be determined within the information center for each search, rescue, evacuation, firefighting and firstaid.

All records (archival and corporate records) should be kept as digital data in case of severe damage or complete disappearance of the works in such a way that restoration is not possible in natural disasters. Consideration should be given to the establishment of database storage and kept both internally and externally. Digitisation is one of the important techniques used in archives to protect unique archival material. In addition, the protection of material through digitisation ensures material is more accessible to more users (Senturk, 2013). It is also a good practice to store a set of duplicate records offsite in case of a disaster. This way, even though one set may be damaged or destroyed, you will still have your archival records (Murtagh, 2005). The method of protection to be used for each type of vital record should be outlined in the Vital Records Schedule. Procedures on how frequently material is to be copied, transferred to a storage location, and how transferred will be outlined in the schedule as well (Gov.of. Virgin Islands Archives and Records Management Unit, 2005).

[12] https://chinapreservationtutorial.library.cornell.edu/content/response-and-recovery

[13] Article 11 of the Regulation published in the Official Gazette dated 8 June 2013 and numbered 28681.

[14] Regulation published in the Official Gazette dated 19/12/2007 and numbered 26735.

***Strategic Emergency Model for Information Centers***

Uncertainties also exist during emergency planning and management. With the model suggested below, the stages of these uncertainties are shown.

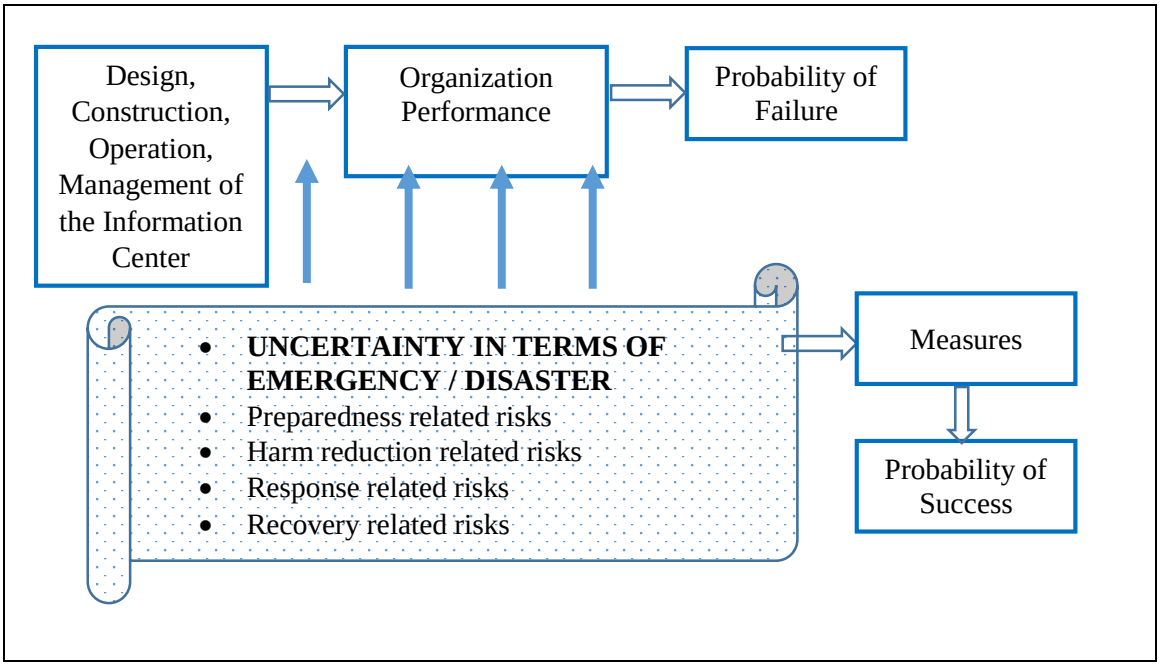


**Figure 3**: Strategic Emergency Model for Information Centers

As stated in the Suggestion Strategic Emergency Model for Information Centers;

- **Preparedness related risks:** Risks that may arise if the emergency teams for the employees are not equipped, training, and drills are not carried out,
- **Harm reduction related risks:** Risks that will arise if measures are not taken against structural and non-structural risks within the organization,
- **Response related risks:** Risks that may arise if there is no quick and effective response to the emergency / disaster / accident that will occur in the information center,
- **Recovery related risks:** The risks that will occur in the information center in case the emergency / disaster / accident damage cannot be eliminated in the short / medium and long term.

Increasing the measures for these will also minimize the risks that may affect people, objects and building trio. If the measures are not taken, will be a factor that will increase the probability of failure.

## CONCLUSION AND RECOMMENDATIONS

Numerous hazards and risks can be envisaged in the information centers that may result in loss. Their capacity to cause damage in the event of a potential emergency and disaster can also be very high. The scores obtained as a result of risk analyzes should be reduced to lower values with continuous reviews and should be minimized. In order to demonstrate successful risk management, the following should be considered:

• Occupational Health and Safety policy and objectives should be established in information center workplaces,

• OHS workplace unit should be established,

• Tools and activities such as written instructions and warning signs should be used to develop safe behaviors,

•Administration; Provide resources and time allocation for workplace health and safety, participation in risk responsibility, attend security meetings,

• It should be ensured that employees and users adopt, show interest and take responsibility in this regard, practices regarding workplace safety,

• Physical, biological, chemical, psychosocial and ergonomic risk factors in the workplace should be brought to the level of legal requirements,

• In order to create awareness of risk protection among employees, some promotional strategies should be determined,

• Training of employees on brief informative speeches, group meetings, personnel health, hygiene and work stress on workplace safety,

• Seminar programs including practices such as Workplace Health and Safety Week, emergency management, accident reporting and investigation, safety and environmental management systems should be organized.

Suggested "Strategic Risk Assessment Model for Information Centers" Model will increase the probability of failure, that is, prevent the information center from continuing its operational services.

According to suggested "Strategic Emergency Model for Information Centers"; Emergency planning studies should be prepared based on risk assessment studies. These studies for all risks in all buildings must be meticulously implemented, risks must be classified and controlled. The successful risk and emergency management will be realized by team work.

There is a necessity to re-design all kinds of information centers in our country as new generation research centers. Intelligent systems equipped with early warning systems should also take their place in the information center structures. Along with the smart city concept, the concept of smart information centers should also be bespoke and implemented with applications. New generation information centers have become not only hosting reading and study rooms, bookshelves but also have become social interaction centers where information is stored with its new forms, expanded flexible spaces. In the construction of information centers, there should be structures that support low energy consumption, natural material use and the use of renewable energy sources, which are called sustainable architecture, and a mechanism that systematically consolidates and presents the structure of the information center should be developed.

## REFERENCES

Bayazıt, M., (2007). *Mühendislikte Güvenilirlik ve Risk Analizi*. İstanbul: Birsen Yayınevi.

Benoit, G., Neirinc, D., (1987). *Endüstriyel ve Tropikal Ülkelerin Arşiv Binalarında En Ekonomik Korunma Metot ve Vasıtaları*. Ankara: Başbakanlık Devlet Arşivleri Genel Müdürlüğü Cumhuriyet Arşivi Dairesi Başkanlığı, 8.

Gov. of Virgin Islands Archives and Records Management Unit Deputy Governor's Office (2005). Archives and Records Management: Vital Records Protection, Disaster Preparedness And Recovery Guidelines. Erişim Adresi: https://gov.vg/sites/default/files/resources/vital_records_protection_and_disaster_preparedness_and_recovery.pdf

IFLA (1999). Disaster Planning: Prevention, Preparedness, Response, Recovery

Erişim Adresi: https://archive.ifla.org/VI/6/dswmedia/en/pdf/txt_sini.pdf

ISO, ISO/IEC 31010 (2009). *Risk Management - Risk Assessment Techniques*. Geneva: ISO Standarts.

Kuzucuoğlu A.H., (2014). "Arşiv ve Kütüphanelerdeki Risklere Yönelik Pasif Korumanın Önemi". *Türk Kütüphaneciliği*, 28 (3), 338-351.

Kuzucuoğlu A.H., Karatepe, Y., Tümer, E. (2015). "Koruma Altındaki Binalarda Sağlık-Güvenlik Parametreleri Açısından Tehlike Etmenleri". *UHBAB - Uluslararası Hakemli Beşerî ve Akademik Bilimler Dergisi*, 14, 313-332.

Murtagh, W.J., (2005). Archives Preservation Guidelines

Erişim Adresi: https://www.aa.org/assets/en_US/en_archivespreservations.pdf

OHS Legislation (2012). 6331 No. Occupational Health and Safety Law and Related Regulations.

Ritzenthaler, M.L., (1990). Preservation of Archival Records: Holdings Maintenance at the National Archives, Technical Information Paper Number 6. Erişim Adresi: https://www.archives.gov/files/preservation/holdings-maintenance/table-of-contents.pdf

Şentürk, B., (2013). Photographs as Archival Material-Arşiv Materyali Olarak Fotoğraflar, Türk Kütüphaneciliği 27, 4 (2013), 619-632.

Şeşen Y., Kuzucuoğlu A. H., (2019). Yerel Yönetimlerde Kurumsal Arşivlerin Sürdürülebilirliği / Sustainability Of Corporate Archives In Local Governments, Journal of World of Turks, Cilt.11, ss.331-343, 2019

The National Archives (2016). Archive Principles and Practice: An Introduction to Archives For Non-Archivists. Erişim Adresi: https://www.nationalarchives.gov.uk/documents/archives/archive-principles-and-practice-an-introduction-to-archives-for-non-archivists.pdf