



# Study of Artificial Neural Networks in Information Security Risk Assessment

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## ABSTRACT

**Objective:** The principle of a more comprehensive information capital and organization in the information age and maintain it is very important in this research We decided to use the themes of artificial intelligence algorithms to identify information security risks and impact of Planning for security Reduce risk. **Methodology:** For this purpose we examined the IT organization referred to security measures based on the Chkl sets the standard view and review the information we collect to attack the sources of information were both Clustering and classification of the information packet and a peak of the nightsaw the need of each one have for the probability of error And To Won According to the results of security measures and reduce the likelihood of attacks was effective in reducing dangerous attacks of the clustering of similar results, and they used the system shows the data integrity of the system may be Drnha the data on the different organizational and (c) of Adhsaz the impact of security measures to assess. **Results:** The results of this research can help managers in assessing and rating the risk to information security in the organization of the system designed in this study may be Impact of security measures on the reduction of information security risksshow. **Conclusion:** after presentation of the organization and review the data and information available and the resources to implement the research model of this study in order to improve results and compliance with the the coin real information below to copy the proposed change found Login to have consisted of real attacks Statistics information to the relevant organization in order to carry out the investigation after the observation and study of the statistics Vvyzhgy attacks the nervous system sorted them by teaching the necessary research to cthe night of the the security risk information by using the algorithm of the themes of artificial intelligence 68 M to be in this way given the number 87789 in the neural network C of the conjugate graded 69 to 10 layers, and 5 percent were trained in control and test data.

## 1. Introduction

The complexity of the economy and the dynamics and complexity of risks and uncertainties that develops and broader aspects such as political and social aspects finds (Stoll, 2015) 1 Artificial intelligence is also an important place in recent decades in research environments and practical solutions in organizations (Rahman and Saba, 2014) 2 information security risk management as one of the critical issues in organizations has become the information age.

### 1.2 Byan issue

Due to changes in organizational and business processes, companies need to survive and its competitive position in the exchange of information on the use of information technology, finance and control Khvddarnd exchange. Companies large and small over the technology in control and accelerate their business affairs have been used.

Information systems are large organizational affiliation to R 3 and Suha service network based on the one hand, and the extent of the Jadshdh to take advantage of this policy of oppression on the other hand increase the amount of disaster damage Bpz may there be Bhkarg of the communication and the diversity of activities all within its networks in large organizations and exchanged information increases the difficulty and complexity of the security of the. Although the access to information and the security and protection of information at the country level for the rulers of ancient time has been destroyed and access to military intelligence and sometimes ethnic country, but with the development of information technology and the use of

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information as an trade and profit, a new dimension to the discussion of information security ordered.

Proper management requires information security of information is the best way to manage the situation and make the right decision for its continuous improvement. Needed to identify the current status, a thorough and effective evaluation mechanism is a result of the more the reality Nearby is the assessment of the coin What are the organization's information security is very important, sincethis assessment is a string of new Khchh, studies, standards and methodologies in the context of ongoing and increasing day by day such the sealing.

Information Security Risk Assessment 4 based on ISO standard 5- 27001 and in combination with methods of phase 6 and expertsystem 7, is an example of the activities. The procedure for classification of assets, Zachman model is used and then determine the value of assets, the threat and impact of the damage Bpz of using a three-level modeling fuzzy membership function, the ultimate risk using expert system is the exchange of water.

Integration of research results AHP fuzzy mathematics and artificial neural network 9 is another method for the risk assessment of information security. The combination of theory RBF neural network and fuzzy evaluation of methods of particle swarm Nhsaz, for security risk assessment information is used.

Information security risk assessment based on artificial neural network and fuzzy AHP another way provided May be. 11 network security risks in other method uses probability, severity, fans of AHP and Shannon entropy of the waterexchange. In this way, decisions by using fuzzy logic and linguistic variables have been through. Also Andaz-hg of the entropy for the weighting of criteria is used (Sendi and Jabbarifar, 2010).

The method proposed in this context, information security risk assessment, considering factors probably influence May. In this way, the risk factors are categorized according to the ISO 17799 standard is assumed that determine the likelihood of each risk identified and then similar to determining the weights in the pairwise comparison S-hha Procedure AHP is. On these basis, the probability or weight of each factor of risk is determined using expert opinions.

On the other hand, the damage Bpz of each asset information for each risk factor to the severity of the impact of its relative value can be obtained through the same linguistic variables and considered by experts to be. Fuzzy model for assessing the risk of online networks Shnhadshdh peak of fuzzy logic controllers are part of this study is the quantification of the different coin based on the number of input variables that are associated with various components of the Jadshdhand.

This research is a new model for information security risk assessment using clustering and classification using And Khvh and classification neural network and classification tree based on the average nearest neighbor and the presentation of the Yi in the index model to determine the probability of the threat and damage Bpz taken and depending on the outcome of the incident, the assessment of the relevant risks (Bahrami, 2011).

### **1.3 The importance and necessity of research**

Information in organizations, institutions and advanced the scientific community, is considered to be a vital lifeline. Although the access to information and the security and protection of information at the country level for the rulers of ancient times has been destroyed and access to military intelligence and sometimes ethnic country, but with the development of information technology and the use of information as an commercial and profitable new dimension to the discussion of the ordered information security.

Convenient and fast access to information and supply it considered critical Organizations that information is crucial if we will have a central role and of the Deals in the information age, and not just consumers of information The following information we need to take advantage of relevance for organizations It provides parallel applicant and the movement of information and measures to be taken in relation to the protection of information (Feng, 2014).

So with the growing use of the Internet, exchanges of information and Nhha cost spent on the integrity of the data, and control and manage shift and information Nowadays create a comprehensive information security management system for the Shazp of the feel of it. A variety of methods and standards for the prevention of security threats ever Is provided with the advent of the first standard for information security management in 1995, a systematic approach to the issue of space Mnsaz exchange of information took place. According to this view securing the exchange of enterprise information security is not possible and it is necessary to repeat it on aregular basis one of the Mnsaz cycle, including design, (c) the Adhsaz, assess and rectify done.

This research is a new model for information security risk assessment using neural network gives presents in this flagship model Yi to determine the likelihood of the threat and damage Bpz taken and depending on the outcome of the incident, the relevant risk Assessment Suha in addition to the comparison between the approach of the themes algorithms, data collection methods and their strengths and weaknesses another aspect of the re search is new in this.

### **1.4 Research Objectives**

The main objective:

Creating a system clustering and classification method based on clustering and classification neural network information security risk assessment

Secondary objectives

Using neural network risk assessment and comparison with other methods may

Risk classification and priority Tbnd

Information Security Risk Assessment

Practical purposes

The results of this research can help managers in assessing and rating the risk to information security in the organization of the Knnnd.v Bhrhg the system designed in this study may be Impact of security measures on the reduction of information security risksshow.

### **1.5 hypothesis**

May be for information security risk assessment of neural network and artificial intelligence techniques used helicopter.

May be Tbnd specific classification and priority given to information security risk assessment.

What are the organization's information security risk assessment is favourable (Honghui and Yanling, 2010).

### **1.6 research questions**

You may be Security measures and security management to evaluate the performance of neural networks and artificial intelligence used  
Is it possible to check the effectiveness of the security measures (Khezri Pour, 2013).

### 1.7 definition of technical terms and jargon

-Security Information 15:

Protection of information regardless of its form (whether electronic, physical, etc.) against unauthorized access of misuse, disclosure, disruption, modification, reading, recording and destruction is May. In order to ensure continuity of the activities of the current security information to minimize risk and increase the return on capital Hgzar the face of the accepted and rejected opportunities.

- Information security risk 16 risk, the likelihood that a threat, system weaknesses and assets it used intelligence and the consequences of the negative. So one of the tasks Risk Manager risk identification, reduction, elimination and control their risk assessment and risk management in order to fulfill this task, thus creating one of the most important of his duties by the act of the ordered (Mehta and Gawande, 2015).

-ANN: Artificial Neural Network is a data Samanhprdzsh idea of the human brain and the processor's data processing small and very large deposits that are A network of Bhhmp of the behavior of continuous and parallel with each other to solve a problem.

-Standard 27000: Standard 27000 ISO / IEC standard by the International Organization for Standardization ISO 7799 BS developed and in place Nalml the standard bearer of the Information Security Management System has been raised.

The standard is to provide a holistic model of the process of establishing, implementing, operating, the, revision and review, maintenance and improvement of an information security management system has been develops. *Mfahym Data 17 and Data.*

### 1.8 Data

Netter in the Autumn of this level and it is a meaningless point in time and space no references to no particular time or place of the field of Bell's. Because of the lack of a significant relationship is with other things. Who says what about an event, "data" Won, cannot judge about the incident or decision they D.

Data also may be compilation of numbers and letters and signs and symptoms Yi The contract will be entered into the computer know that they are worthless without processing. Examples of data may be zero, and the perched in a memory that are of no value without processing (Nasiri floor, 2009).

### 1.9 Information

There are various definitions of information that are based on definitions of meaning (semantics), as some of the definitions are based on quantity. Some of these definitions are:

According to the definition of the word except the 18 data consists of all of the tens, indeed of activities and tasks for formal and non-formal and creative mind that each state registers, which may be published or distributed documentary or non-documentary (Ramos, 2015).

Based on the definition of information theory, quantitative data that B of activities Andaz-hg of an individual patient and the emergence of symbols defined in terms of the possibilities of the (Yazdi and Mahdavi Arestani, 2013). Informatics information in the dictionary means any compilation of digital materials 19 letters or symbols that have meaning was clear and specific and can be subjected to processing.

In other words, information that is obtained when the relationship is created between the data in space and time.

This relationship may be established between the data or data. So to some extent with background information and can help individuals on the basis of their previous matches understand and interpret.

In other words, the data processed during the operation of the charges are reasonable and are based Global Web information into knowledge paints are transported to the user.

So information is composed of data processing. Information has a variety of technical Tha sense of the everyday to the environment. Generally, the concept of Information related to the perception (thought), communication, control, data, form 20, education, knowledge, meaning 21, Model 22, Outlook 23 and display.

Information compilation of their knowledge, information what / where / how a subject matter means that it needs details is going.

In the words of Computer, information is processed data that has to be of value. Exploration and production of knowledge base information 24 placed as ordered.

Although the word to fit the data may also be used, but processing and reared raw, unprocessed data to be I have this indicator.

### 1.10 Important information

In different ages, countries of tools and methods of Vhha Yi and exclusive complex of attaining better conditions for their use of the most significant may be trying a number of communities in the past industrialization examples.

At the time, this was one of the most important of tools in the above categories is undoubtedly growing with the development of new technology, old tools and methods in business conditions and the development of a major part of the development of Aftg the new technology of their own and thus change the direction of the movement of societies around.

One of the prominent technologies of the past few decades may be in the area of information and Communications searched. the larger the differences between the new period should last times the speed of production, expansion and change them to be considered, the spread of information and communication technology converges and, the emergence of the internet 25 and the media, are factors that mankind today and everybody's trying to get it to them in their communities, through their own among the countries and societies that mentioned the word about them to be working.

One of the main elements in the era of new technology and undeniably pivotal role of the facade of D, information. Information, like all components of a community spirit that flows in the body and can provide the development and survival or the influence of many abnormalities, problems and difficulties ahead of them with (ISO / IEC, 27001). Ability to create order or disorder in the structure of data in motion and even thinking of various parts of society, including the private properties and is considered to be obvious that Shha.

And broad access to information, the blossoming of many hidden talents and in the shadow of the boom, which has managed this

type of human and ordered form of us watching the emergence of new technology and improving the quality of life of the facade of the two. But no comprehensive intellectual maturity in the shadow of his people to the development of such a life is not stable, and mature also not be fulfilled unless the production, correct processing, storage and protection of information and targeted beneficiary. One of the most important of the elements of the decision of the G's of today is considered to be key.

As long as and to the extent appropriate and targeted content is produced at the time and opportunity to be exploited and, most importantly, at all stages of the consistency and accuracy protect and preserve the. Today, information to all communities, most important of the treasures of the vote count d. In many organizations and sectors of society and even in personal cases, loss of data or damage to them irrecoverable losses resulted in a very difficult and perhaps rehabilitate them and to not be Phz. protecting the right of the current data in any system, whether it is in the context of the current or the new technology of the traditional Vhha used, including essential points that should be the early stages of production, operators will be considered (Zahra et al., 2015).

## 2. Materials and methods

### 2.1 The importance and role of information in organizations

One of the most important of assets 26 of every organization and because of the high value and vital 27 for every organization should be well protected. Sometimes it Like blood in the veins of the organization have been likened to the operating life of the vote count in (Van Svlmz, 2010 28 ( And In case of limitations and Jeopardizing this process, organizations will be faced with death. However, the importance of the information can be many benefits for the organization and an essential part in the success of organizations such as cash flow and market value. The binding factors other sources of information. organization.

29 the importance of the role of business in recent decades, in today's organizations to the extent that many leading scholars of effects on different aspects of the information revolution have learned.

Strategic planning 30 and targeted action to company information, the crucial role of wasting opportunities, re-work and waste of resources and Q is the incompatibility of information systems are and can correct the opportunity to take advantage of opportunities arising from information to have. This is a challenge to improve the quality of information in the organization in terms of accuracy, there at the right time, confidence in the validity and appropriateness of the source and creates it. Information is often driven business processes and high-level staff from 31 to operational 32 is applicable and effective information management will undoubtedly lead to competitive advantage and value to business And And has been working to please the shareholders and the capital of the Hgzaran 33 On the other hand Meg decision of the important processes of the foot of the activities of managers which is based on obtaining and processing information that is economical to have three traits privacy 34 and Health 35 and the availability of 36 have. Otherwise great losses for the organization of the times.

The water to Information and adequate supply and fast, always Note that the information in their organizations have a central role And is crucial. Organizations must have an appropriate infrastructure for your information to create and to Organize information on your organization move.

If we want to Information provider Information age, and not just consumers of information, we should Later, take advantage The following information relates to local and international applicants Provides the fastest possible time Them. Speed in production And supply valuable information, one The recipe for success.

In organizations, institutions and scientific societies in the information age. after Information should be organized Using computer networks, use Lawful and purposeful Information provided to others.

As the move towards a Advanced organization based technology collects data, measures must be in relation to the protection of information is also thought to be. The most important advantage and mission computer networks 38, sharing hardware resources 39 software and 40 and the water of the information quick and easy. Control at the gate of the use of shared resources, the most important goals of a network security system is.

With the expansion of computer networks, particularly the Internet, approach to information security and other shared resources has entered a new phase is sent. In this regard, it is necessary for any organization to protect valuable data, a specific strategy and abide by a security system and its implementation.

Efficient and targeted information for unit to raise awareness, generate leads and provide information, it will be very good.

In Otherwise, the absolute and permanent information without the specific transducers, the worst type of information which will certainly lead to a favorable outcome.

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### **2.3 History of Information Security**

increase safety and security is a concept that is inherent concerned with protecting the valuable things of the will ; in short, the safety of the roads of where health may be a supply of drugs and destruction of defects there in the way of achieving the objectives, define the cause.

Over time, as the world 's and the de Haro, the (1998) to hand the type of compression of No. of No. of the river, AED training time and place of the learned, the center of the Almighty the place of their own to the center of trembling and b of stability, data and Ho of the only of gross opaque because of reports of the Hu of the only the pure aim. The use of these terms, secure the the the the the tradition of the class of that lost their data.

From the perspective of linguistic "evidence" safe to be fixed to a certain signified to not see the show and in the dialogue of true variety of different of themselves as the rate of rejection but more importantly protect data as it is not always considered organizational capital processing is a major part of digital information storage and retrieval by and transfer information quickly and accurately in this space so no camels. As the network of local and global threats and theft and destruction of information more so perhaps one of the most important of these issues in the information age, the protection of the.

### **2.4 Security information in the computer age**

The computer age has drastically changed the information security domain. At the beginning of this period of security issues relating to matters under the of was:

Physical Security Computers position or status.

Confirmed reliability employees with years of oppression deal computer.

The best example of this period of the project Klvss project in Belek is a London park in half a second World War II was conducted. Black 's Park (c) to facilitate the decoding of Amha the exchange was made between the Allies. During World War II, a Lehman model of car encrypt / decrypt a lot of the names of the Ygma 41 used to be in order to accelerate the decoding process (c) of Amha of detached, Black The calculator is called electromagnetic pump used of that. during the war, the Germans never activated by the only the black of the park did not find the information and Peru Beige secret is to remain confidential. priority information about the project was published in 1970.

In the 1970s, the main focus on the physical security of buildings and also create appropriate incentives for the users. The course is limited to the security issues of the (Wie and Hung, 2010):

Protection against disasters such as fire, floods, power fluctuations and...

Protection against disclosure. Q.

In the course of the oppression of the network connection is not used to transfer data between different equipment to go. The data presented in the form of paper documents and then into the computer system to be. Mainly by preventing the disclosure of information to unauthorized information stored on magnetic media or paper documents prevented to be.

In order to avoid this the Ngvnh fraud, workers are seriously under consideration were management.

Protection against errors resulting from hardware malfunctions, during this period, Fan technology was very unstable today, as the software already unstable to be. Computer components could fail every day and the time between failures of information than hours or even days.

### **2.5 With the advent of internet security**

Internet in 1969 as a network such as the ARPANET 43 that the driver of America Department of Defense to be. The idea was to make using of them as connected together, create conditions where even if parts of the vast majority of the information system fails for any reason, the entire

network can continue to operate and maintain the network. From the outset thought networking was introduced to prevent the damaging effects of information attacks.

In 1971, the number of the Anhha of universities and public centers were connected to this network and researchers begin to exchange information through that. The occurrence of unexpected events information, more attention to security issues were. In 1988 the first ARPANET network was faced with a national security incident later Morris worm 44 was called.

Robert Morris, who was a student at the New York program by saying that the one able to reach another computer and it was reproduced in the and so to make of them aninfluence and then multiply geometrically.

It 88000 It was the computer was connected to the grid within a short period of ten percent tothe Anhha the network goes down following the incident, the Foundation was formed to deal with security incidents in the active coordination of the only to deal with security against attacks, training and networking equipment and methods of the preventive role:

Shrek the iPhone without my 46 first formations of the importance of information security team detected in the early 1970s was in charge of security issues. During the decades of the 1980s and 1990s saw Wes of Tr of information security threats created. Including the c of progress included the

The rapid development of the oppression of communication.

The introduction of personal computers and the environment of Tha of the distributed computing on the infrastructure ofcommunication.

In recent decades with the rise of computers, fans gather data almost to the theme of the land of Nhha of our lives imported. Our civilization depends on technological innovation and proper functioning of the fan technologies are essential for continued progressto be (Wangl and Zeng, 2010).

## **2.6 Key elements in the security of information**

In stabilize security, the key elements below, are a significant role in (Smith, 2006):

**Confidentiality:** the process by which This creates confidence in the privacy da de e-compliance and cannot be viewed by unauthorized users or others who may be able to track network traffic to be there.

In other words confidentiality to protect the information from unauthorized disclosure or prevent understanding they have to be. In other words, information should only be available to authorized persons or by restricting access or it can be done with the information coded M to be.

**Integrity and Integrity:**

The process by which this is not the confidence of the data against accidental changes or intentional always be protected, such as privacy, data integrity, data security is considered a key factor in the result.

The In other words integrity or health, including proper and adequate information. The importance of accuracy in decision-making monitoring of the accuracy of the information breach of the can arising from unauthorized changes, unexpected and inadvertently logged in.

**Availability:** The process by which this is the confidence of the cause that has always been available to authorized users and can be used in denial of service attacks, often attacks, the attackers aimed to be the work that they can use and application availability for users is virtually impossible and put it to work. in other words, the availability of resources for use by the relevant person at the right time as it is. This feature of the side is important. Because without active of the only companies continue normal Nam Yi life and the decision is timely not to be. Also responded to the device and to prevent significant losses of the Shud.

**Non-repudiation:** the endorsement is determined that an individual or group specific information is sent or received, and that individual or group not to be denied to receive information and non-repudiation requirement (c) of Adhsaz of many served bySoha such as interactive electronic business on the internet as it is.

**Authentication:** the process by which the water of approved recipients and operations are planned to be exported review and authorization to be. Fa of the problem, banks of data, tables and system-level resources such as keys row of hiding the data of the sample configuration of the resources requested by the client.

**Access control** 48 to limit the use of motors of Suha electronic only people who are allowed to use the purpose of access control, protection of confidentiality and integrity of information (Yousefi Khsrqy, 2008).

## **2.7 Security terms**

**Threat:** the potential for a destructive event or any items that are to be cold of tens of an organization, a scoring threat apples are said to be. In other words, any event that the potential for harm to the system of notice, as the threat of the lead.

**Attack:** an operation that centered on the abuse of the Ace of Bpz of the potential and of the problem of the occurrence of a disruptive event of there. Send malicious input to an application or more times the size of a network to disable a service, the samples Yi in the field of the is.

**Flaws:** violation of security policy say a system breach. Which are to be even by the employee as a result of lack of knowledge or (b) the accuracy of there.

**Influence:** The process of attacks and breaches caused by it and also managed access, repeatable, and otherwise thesystem is allowed to penetrate protected sources say.

**Security attacks:** an act that violates the organization's information security of a. An attack in different ways as it can be done either from within the organization or outside it.

**Security mechanism** 49: The mechanism for the recognition, prevention and treatment of a security breach are designed tobe. In fact, the mechanism of solution of the need for security problems. Location of Zmha of security procedures and the types of roles that used to counter the influence and its effects on the expression of the will and contains methods intended to diagnose, prevent and recover from attacks is.

**Security Service** 50: compilation of the location of Zmha of security, Fa of the problem and hence the roles is to help protect the network

of the facade of De In fact, the safe service of T, a service that promoting paced data security of the cause.

## 2.8 Weakness in the security

Weaknesses in the security systems of the of them is usually caused by the following: M. the Shu de:

Negligence 51 Brnamhvn the Sun: usually Brnamhvn the Sun and designers of the importance of security issues, not intelligence in the design and manufacturing software, follow the safety tips do the work.

Low priority 52: until recently, even those who secured the points of T A were sometimes less action than it does of thesecurity issues into consideration and therefore not to be.

Time and space constraints and costs 53: some people think of as their security practices for designing, coding of software testing during the production process involve high costs and loss account for many of the shows, so vital to safety data notto be.

(B) the supervision of Brnamhvn the Sun 54: Brnamhvn the Sun in tasks related to Brnamhvn of Q 's, usually as a result ofthe order of, mistakes will be repeated several times in the cause of security breaches that were.

Creative criminals 55: Human beings are creative and individuals with incentives to overcome the security barriers always the safe and discovered the mistakes that lead to dysfunction of T will find a way.

Low level of awareness 56: ordinary users naturally, because of the low level of knowledge is one, the threats around them are not aware of, and that's why seek ways to ensure data security and system suitable for the oppression of their own.

Non look of the Vaqb of Nune victims 57: Some users are aware of the security issues but of them not serious, the rate of therand, it is believed that the Chagah attack that will be taken against them.

## 2.9 Security incidents

In 2006, the highest rank in terms of penetration, the Ace of Bpz of each of the access of non authorized in preventing the oppression of providing users of the building. Annual Report 2008 growth of 5.23 percent compared to 2007 figures vulnerability of that, since 2001 to 2006 average Ace of Bpz of the of the of the annual growth of about 5.36 percent is. Between the 2006 and 2008 growth curve, teaching the place fallen to an average of about 2 percent. The graph below confirms this.

**Figure 2.1: Graph Ace of Bpz of the one of the years of 2000 and 2008**

Ace of Bpz of the the of the security, intrusion and access of non authorized in preventing the oppression of users provides the move. The Ace of prices for products such as: browser 58 of the Internet, serving the Sdhndh 59 e-mail, software for archiving 60 and player of multimedia that have been reported.

According to the report the CERT slot number of 61 security has increased exponentially, so the cost will increase.

**Table 1. Security incidents reported by Birch (i) CERT In 2008**

Number	Year
52 658	2001
82,094	2002
137 529	2003
251 252	2004
281 085	2005
337 117	2006
379 033	2007
421 949	2008

Safe loss of T and cyber-crime by CS / FBI (in 2007) reported shows the shows that 56 percent of respondents, gaps in security have recognized the estimate was that, and the Russians of computer hacking related to the only around 6.1 trillions of dollars into the global economy and hurt America alone 266 b of Lyon dollar has suffered losses due to accidents, the gaps of the security impact of the significant firm's market value 62 are. estimates show that the firms have stated that the security breach is detected within two days of being about 2.1 % of the market value of the the river. Statistics show that shows that, on average, per incident, about 1.65 to the dollar in Lyon, capital of the.

Today, security in cyber space 63 and virtual very high importance to Tether the natural environment of the is because any type of security breach occurs very fast in cyberspace, the place is also necessary to be physically present for cyberspace security breaches as well as the supply of the security in cyberspace is not the responsibility of a particular person.

the final of between 17 and 28 million dollars for the companies logged in. magazine MIS Quarterly In 1980 the results of a review of the key issues that the number of members of the management and a group of IT managers the data was released, during the 1980s, the issue of information security as a low-end rankings of the never rank of More than 12 failed. in 1994 security check were separated completely from the list of 20 top issue, however, verification of the of the year 2003 was carried out security and privacy fluctuate greatly, to the point that among the participants in the survey as the third great problem was detected following table rid of of how security issues over the years of 1980 to 2003 rankings of M was provided by the:

**Table 2. classification results MIS QUARTERLY From The problem of security of (Knapp et al., 2005)**

Rank	Year
12 #	1980
18 #	1986
19 #	1989
Fell	1994
3 #	2003

Below are a few examples of reports of security breaches and ways to deal with it in different nations expression of the will which indicates the importance that should be the subject of my straw in parallel over time to keep pace with the progress of information technologies Technologies of Information and Communication will. Site quarterly report APWG phishing attacks in the first half of 2009 indicate that records have been growing 7% more than the year before (unity and Saeed, 2009).

The spam from 7.6 percent in 2008 to 12.8 percent in 2009 grew by S & T. According to reports RSA In 2007, the attacks made by the only the fraudulent 64 ( phishing) is shown below.

### 3. Discussion and results

#### **Figure 3.1: The attacks phishing Reports under the RSA d in 2007**

And Summary Report on the following:

The staff over the Astha of a breach of security of the people.

The majority of its employees are committed to security issues does not know the b of such.

Information security awareness training is necessary but not effective.

Information security awareness training appropriate to the impact of Rbksh of, my assessment of it.

Staff believe three of the oppression of federal intelligence are facing threats for enterprise management to the way thingssuitable offer not to be.

Information security breaches in the very act of Qtr and report is broader than this. So that at any moment with a visit to each other for the only the News Agency of complaints including online 65 saw growth of security breaches and cybercrime, crook of the accounts of the government and the hacking of the personal and the number of the other of the only of natural and legal, etc. compared to a year before you are (the online complaints 2009 was 33.1% compared to 2008). thus, according to this news and figures in the result will be that the security of information. Do place special is not his. 2-6 Layh hay security information.

With Split and Trim security information into a series of layers, the researchers hope that grip better learn about it. McDonnell Douglas in 1984, a la model of all of the security information of the AE, respectively. The following charts express it is.

#### **Figure 2.3: La of tens of Security Information**

La approach the display of information security, in particular its traditional, essential given the size of the psychological factors of the 66's, a reason for it, is that most of the issues surrounding information security, dumb, because many of these Topics related to human factors and people of the lead and bronze, according to Schneider's book secrets and lies (2000) the human factor is very uncertain, arbitrary, capricious and hard tail tail Jamnd and researchers are not easily to be able to control and conquer the them. A major reason the iceberg by Polanyi (1994). This model indicates that it is obvious that only 5% of all our knowledge and implicit knowledge is the remaining 95 percent. However, tacit knowledge in a number of this type of action people are much more important and more effective. the figure below iceberg model that has been used to train security information show Of the ten- D (Taheri, 2007).

The information should be kept secure some obvious and some hidden.

#### **Figure 2.4: Iceberg Model of information security knowledge Polanyi in 1994 (Taheri, 2007) with**

Security detection system based on the oppression or solutions of explicit and implicit behavior of individuals. In the AS Mel hidden part is much more important than the obvious, of course, in the Skpz of Ritter's.

Agahy and information security training to users

As noted, one of the aspects important in the management of information security in the organization, according to the security of human resources. So regardless of human factors solutions, technical so the effect of the poor in information security management d. The factors effective human factors on the supply of the information security, the issue of information security awareness and training for users is (Silva, 2014) can be seen in the table below.

**Table 3. Factors human c affecting the Adhsaz the information security system**

Factor	See the author
People	People make things happen as the cause, line mesh information security is useless without people.



Tendency of people	Organizational culture plays a major in Information Security Management play of the works. Company Information Security Management Plan for the construction of the cause. Not with the same service is used by a company.
education and Education Security	Employees are not to be without sufficient education and training plan to fulfill the information security management system.
Ownership	Property data indicate that the person is the owner of the c the Adhsaz information security responsibilities.
job description	Job descriptions should reflect in charge of the only in information security, documentation and training needs of the school.

On the overall, the impact of Rgzar security of the combination of technical and functional elements of to the impact of the of the cross on the risks of the information to be removed.

Head of Tr latest technology tracks changes, the need for flexible security measures, (b) the camels feel of it, so the administration can remove correct information and inform the staff of the line mesh of, Charhand the value of information and methods of use it should be part of the Q of Astha of security and Q of politicians to have the appropriate human resources, be aligned.

Employees with information.

Vital deal must be removed from the concept of information security, they pounce. If security awareness and training to be considered as part of the jobs in the public sectors of the Nbarh noticeable improvement of the ability to see and their sense of responsibility toward work and responsibility of the Canon de.

#### 4. Conclusion

Talk about education, training and awareness, human resources, discussions of a lot has been done. The reason is that they are fundamentally an issue related to human factors. It is important to recognize that human problems in more Mvaq due as the main security shortcomings.

One of the best ways of reducing of the coin of information security in the organization, notification of security issues as more and more employees to be aware of the this means that they must take responsibility for their actions at work.

In a study in 2002 about the misuse of technology, information technology, was conducted by the UK Regulatory Commission, noted that most of the reasons for the use of the wrong people for the cause.

Of these, one-third of the reported cases and 23% are related to the lack of security awareness due to insufficient education or false. This indicates that the show if people are going security for the effectiveness of their work, the need is what we expect them to be better know.

**Table 4. classification of MIS Quarterly The security Bahs**

Rank	Aspects of information security
1	Top management support
2	Education and awareness User Directory
3	Malware 67
4	Manage Connections
5	Risk management and Ace of Bpz of each of
6	Issues related to the mesh of
7	Management at the gate of
8	Identity management and control at the gate of
9	Internal threats
10	Business continuity and disaster preparedness for security

dollars of L Bhkarg the the the the the method of study of the AH in the of the Research Study the science of designing the system of oppression of Information To The issues of the deals That Becker And Problematic are That And the characteristics of all of these Radarnd:

Limited to the only of instability That Based on the definition of the particular content of medium build And Mtrhshdhand. The information security attacks have this feature Interactions complex between the the Rmjmvhha the issue And The solution to it.

Likewise, it is the effects of various factors

A flexible one of the intrinsic in the change process And Products of the designer. In this system, there will be the possibility of changes.

Doctor Mohammad Mouse the Khan of after presentation of the organization and review the data and information available and the resources to implement the research model of this study in order to improve results and compliance with the the coin real information below to copy the proposed change found Login to have consisted of real attacks Statistics information to the relevant organization in order to carry out the investigation after the observation and study of the statistics Vvyzhgy attacks the nervous system sorted them by teaching the necessary research to cthe night of the the security risk information by using the algorithm of the themes of artificial intelligence 68 M to be in this way given the number 87789 in the neural network C of the conjugate graded 69 to 10 layers, and 5 percent were trained in control and test data.

#### 4.1 type of research

Applied research of the is and cross c the night of the researcher is seeking to type the information security risk (c)the evening.

#### 4.2 tidng with

Data cleansing software were also 25 cases of attacks on the agency in this system was put to test you., And characteristic features were detected attacks.

#### 4.3 population, sampling

Database of information attacks.

#### 4.5 Methods and data analysis tools

In this research, data and information to help IT organizations taken is

In order to carry out the investigation data of the organization's attacks in the fall and the primes of manifestations of AD.

#### 4.6 Suggestions

- Failure to properly collect data in the organization, including restrictions on the system
- Bhkarg of the system in the years of oppression various
- Characteristic parameters
- Improve efficiency Yi Q of the system using a combination of methods
- The use of other algorithms of the themes of intelligence artifact of
- Recorded the time of the attacks and the use of algorithms period of 70
- Measuring the impact of each cluster

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