The Application of Computer Technology in Electronic Information Engineering

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Abstract. With the continuous progress and development of our country's economy, computer network technology has also been continuously improved and upgraded, and the level of EI technology has matured day by day, and the requirements on enterprises have become more and more stringent. In order to more fully expand the scope of EI computing and ensure that the technology is in a normal state of development, it is necessary to conduct applied research and exploration of EI engineering based on computer technology in order to use it for people to provide better services and create More value. This article is based on the research on the actual application of computer technology applied in our country's EI technology engineering. First, it uses the literature research method to summarize the characteristics of our country's EI technology engineering and the actual application of computer technology in EI engineering. In this paper, the investigation and research method is used to investigate some of the problems and suggestions faced by the actual application of computer technology in our country's EI technology engineering. Through the analysis of the results, the in-depth study of the development trend of our country's EI engineering is predicted. Survey results: Among the problems faced by the application of computer technology in EI engineering, local area network instability problems occur more frequently, accounting for about 45%, and then data and information security problems, accounting for about 30%. In the proposal for the development of the application of computer technology in EI engineering, the introduction of advanced local area networks will account for about 40% of the equipment, and about 35% for the strengthening of data security technology. It can be seen from this that the main research direction of computer technology application in EI engineering is local area network stability and data security.

Keywords: Information Engineering, Electronic Information, Computer Technology, Development Trend
1. Introduction

Electronic information engineering is the inevitable result of scientific and technological progress in our modern society [1-2]. Human daily life and industrial production are inseparable. Throughout today’s society, with the rapid development of computer Internet technology, it has also brought a broader development space to our country's EI technology [3-4]. On the one hand, people pay more and more attention to the continuous development of modern EI technology. It also promoted the progress of technology very well. The progress and development of our country's economy [5-6]. Therefore, in order to ensure the common development of computer network technology and electronic computing, it is necessary to deeply analyze the form and history of its current development [7-8].

In the research on the application of computer technology in EI engineering, there have been many research results and good responses have been obtained. For example, electronic equipment such as computers, mobile phones, refrigerators, and televisions are all manifestations of EI engineering applications. In the field of teaching, research and teaching, EI engineering also provides EI databases for scientific researchers for easy access. At the same time, when the paper is published, the retrieval function is becoming more and more convenient and accurate than manual retrieval, which reduces unnecessary waste of human resources [9]. EI engineering technology can accurately analyze the current road conditions, natural environment, etc., that people cannot predict in time, accurately analyze the situation, and create an information database to provide solutions and basis references for people's analysis and decision-making. For example, the computer will transmit the current weather conditions to the driving vehicles in real time, and provide solutions to avoid danger [10].

This article is based on the research on the actual application of computer technology applied in our country's EI technology engineering. First, it uses the literature research method to summarize the characteristics of our country's EI technology engineering and the actual application of computer technology in EI engineering. In this paper, the investigation and research method is used to investigate some of the problems and suggestions faced by the actual application of computer technology in our country's EI technology engineering. Through the analysis of the results, the in-depth study of the development trend of our country's EI engineering is predicted.

2. EI engineering and computer technology application research

2.1. Research methods

2.1.1. Literature research.

Reading books and articles related to EI engineering and computer technology application research at home and abroad, the advantage is that you can understand the development process of the research object from the source, and understand the development status of the research object. And provide a clear and structured theoretical basis for in-depth thesis development.

2.1.2. Investigation and research method.

The questionnaire survey method is that this article conducts a survey through pre-prepared questions and analyzes the answers of the interviewees to draw the necessary conclusions.
2.1.3. Quantitative analysis.

Qualitative analysis is related to quantitative analysis. Quantitative analysis refers to the analysis of mathematical hypothesis determination, data collection, analysis and testing.

Qualitative analysis refers to the process of conducting research through research and bibliographic analysis based on subjective understanding and qualitative analysis.

2.2. Features of EI engineering

2.2.1. Accuracy. Electronic information engineering has high accuracy in processing information. When processing information, when viewing its results and steps, you can set the processing of the inspection results to obtain more accurate results. Sometimes there are cases of incorrect information processing, but it is difficult to find these errors alone, resulting in low information processing accuracy and reduced information usage.

2.2.2. Convenience. Hardware equipment and system commands can be combined to perform batch processing of information, and information processing can achieve high efficiency. Through the combination of improved hardware equipment and advanced science and technology, EI engineering can be improved, and information can be processed at the same time.

2.2.3. Wide range. Information processing and better application is the main purpose of EI engineering. Nowadays, various information resources can be used to predict specific industries by analyzing the information obtained. Analyzing information includes different disciplines, and different companies apply more EI engineering, so that EI engineering can play a greater role.

2.3. Application of computer technology in ei engineering

2.3.1. Realize information transmission. From the analysis of the current situation, if a country wants to achieve continuous development, it must master advanced science and technology, and have the ability to innovate, develop and promote all aspects of advancement through EI engineering. The application of computer network technology in EI engineering can convey messages. Computer network technology is the foundation and core of EI engineering, and it also plays the most important role in the function of information transmission. Quickly adapt to the pace of international development and progress and the changes of the times, and realize efficient and high-speed information transmission at home and abroad, which can increase the confidence of the people of this country and keep it in the leading position in the fierce international competition. Therefore, the wide application of computer Internet technology in EI engineering can effectively solve the problems of slow information transmission and low information utilization in current EI engineering, and carry out complex and large amount of information transmission, and clarify the content of information.

2.3.2. Realize resource sharing. The use of computer network technology is widely used in the field of EI engineering, which can effectively share information resources and promote more integrated electronic functions. According to the application characteristics of modern computer Internet technology, we can understand that computer Internet technology is a kind of information and resources that can directly transmit a large amount of information and resources existing in software and hardware...
devices, and can effectively use the Internet to transmit information and resources, and through tcp / ip. The protocol accurately receives various networks and information, so that we can recognize and see information and resources differently. Switching terminals allows each terminal device to receive shared resources. Therefore, the use of computer Internet technology in EI engineering can not only improve the resource efficiency of information systems and networks, but also realize the sharing of information systems.

2.3.3. Realize information conversion. The use of computer network technology in EI engineering can perform information conversion. A lot of information that people use will be converted. For example, when people make a phone call to communicate, they first convert the voice signal into a digital signal, then convert the digital signal into a voice signal through transmission, and finally transmit it to a non-terminal device. Information is transmitted through signal conversion, and the voice that people want to express is also transmitted to another terminal. In this process, electronic computing plays the role of intermediate conversion, and different types of conversion can be executed as the information that needs to be transmitted. Therefore, the use of computer network technology in EI engineering can carry out information conversion, ensure the safety and accuracy of information transmission, and improve the efficiency of information transmission.

2.3.4. Realize equipment development. So far, the transmission and data collection of EI systems mainly use base stations. However, there are differences between different base stations. For example, the address and communication protocol of the communication base station are different and the frequency of information transmission is different. Therefore, there will be certain differences in the process of information transmission, so that the development of EI network technology and the operation in EI engineering can be to carry out equipment development and implementation. The content of equipment development mainly includes adapting to all possible different frequency problems between different base stations, frequency unification, and the creation of a complete unified and specific Internet security protocol.

2.3.5. Realize network management. Electronic information engineering mainly relies on computer and network technology to complete various tasks, such as the conversion and transmission of electronic information, the development and research and application of electronic equipment, and the maintenance and repair of EI system equipment. The use of computer and network technology can ensure electronics. The computer is safe and reliable. Therefore, the wide application of computer electronic network technology in the field of computer and electronic computing can effectively ensure the normal execution of various tasks. It is necessary to manage the network, formulate complete network management rules and regulations, and regularly check and update the network system. To ensure that existing problems are discovered in time, resolved in time, and the entire network is maintained.

2.4. Computer image processing algorithms in EI engineering

Auto encoder: Assuming the input is \( x = \{x_1, \ldots, x_m\} \). The encoding process and loss function are:

\[
 h(x) = f(w^T x + b) 
\]

\[
 L(W, b) = \frac{1}{m} \sum_{i=1}^{m} (x_i' - x_i)^2 
\]
3. Investigation on the use of computer technology in EI engineering

3.1. Research purpose

The questionnaire survey method is used to investigate the application of computer technology in EI engineering, to study the problems and development suggestions faced by the application of computer technology in EI engineering, and to provide suggestions for the future development trend of EI engineering.

3.2. Questionnaire survey

3.2.1. Number of questionnaires. According to the minimum sample size formula in statistics, the author sets the confidence level of the questionnaire to 80%, and the allowable error does not exceed 8%. Calculate the minimum sample size as

\[ n_0 = \left( \frac{t_a}{2\Delta p} \right)^2 = \left( \frac{1.645}{2 \times 0.075} \right)^2 = 120 \]  

That is, the minimum sample size of this questionnaire is 120 copies.

3.2.2. Source of questionnaire. Based on this article, it is a research on the application of computer technology in EI engineering. The place of investigation is set as EI engineering enterprises. Three EI engineering research and development enterprises are randomly selected in this city, denoted by A company, B company, and C company respectively. Based on the minimum sample size, the number of questionnaires distributed by the three companies were 40, 50, and 60, and the number of questionnaires returned were 38, 49, and 60.

4. Data analysis

4.1. Problems faced by the application of computer technology in EI engineering

This paper uses a questionnaire survey to study the problems faced by the application of computer technology in EI engineering. The results of the survey are shown in Table 1:

|                          | A company | B company | C company |
|--------------------------|-----------|-----------|-----------|
| LAN is unstable          | 46%       | 45%       | 48%       |
| Data leaked              | 30%       | 32%       | 29%       |
| Not advanced equipment   | 24%       | 23%       | 23%       |
It can be seen from Figure 1 that among the problems faced by the application of computer technology in EI engineering, the instability of the local area network occurs more, accounting for about 45%, and then the problem of data and information security accounting for about 30%.

4.2. Suggestions on the application and development of computer technology in EI engineering

This article uses a questionnaire survey to study the application and development of computer technology in EI engineering. The results of the survey are shown in Table 2:

Table 2. Suggestions on the application and development of computer technology in EI engineering

|                               | A company | B company | C company |
|-------------------------------|-----------|-----------|-----------|
| Strengthen data security      | 34%       | 36%       | 35%       |
| Introduce advanced equipment  | 23%       | 20%       | 25%       |
| Introduce advanced LAN equipment | 43%     | 44%       | 40%       |
Figure 2. Suggestions on the application and development of computer technology in EI engineering

It can be seen from Figure 2 that the introduction of advanced local area networks in the application and development of computer technology in EI engineering accounts for about 40% of equipment, and about 35% for enhanced data security technology. It can be seen from this that the main research direction of computer technology application in EI engineering is local area network stability and data security.

5. Conclusion

Electronic information is also closely related to all walks of life in the society. In order to effectively improve the social and economic benefits of the industry and promote the healthy and rapid development of the entire national economy, information technologies such as the Internet and computers must be reasonably and widely used in the lives of enterprises and government departments to effectively improve the lives of enterprises and governments. The efficiency, accuracy and exchange of resources between promote the healthy and sustainable development of enterprises and the EI industry. This paper investigates the application of computer technology in EI engineering, and predicts the development trend of the application of computer technology in EI engineering based on the results. The results of the survey are as follows: First, among the problems faced by the application of computer technology in EI engineering, the local area network is not there are more stability problems, accounting for about 45%, and then data and information security problems, accounting for about 30%. Second, in the recommendations for the development of the application of computer technology in EI engineering, the introduction of advanced local area networks will account for about 40% of equipment, and about 35% for strengthening data security technology. It can be seen from this that the main research direction of computer technology application in EI engineering is local area network stability and data security.

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