

## Computer Literacy of the Employees of Iranian Industries (A Case Study)

Ali Fakhraeian

BE in Software Technology Engineering; IT Manager of Khormooj, Iran hospital

[ali\\_dariush69@yahoo.com](mailto:ali_dariush69@yahoo.com)

**Abstract :** This research aims to study the rate of computer literacy among the employees of Iranian Industries. The case study is conducted on Saipa auto manufacturer company (Société Anonyme Iranienne de Production Automobile). Regarding the objective, this research is an applied research and regarding the methodology, it is a descriptive one. The statistical population of the study includes all employees of SAIPA, containing 1080 employees. Since these employees are in different levels of education, we first classified them in three groups (experts, administrative staff, and worker). The sample size was determined by Krejcie& Morgan's table. Accordingly, regarding the sample size of each group, 50 experts, 200 administrative staff, and 240 workers were selected through cluster random sampling method. To collect the needed data, we used a researcher- based questionnaire. The validity of the questionnaire was confirmed by the experts of the field and its reliability, using Cronbach's alpha was obtained as 98. The results of the research showed that generally, the computer literacy of the employees of Iranian industries is lower than average. Of course the computer literacy of the expert group is better than two other groups because of their education level and the training courses they have passed.

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### 1. Introduction

One of the characteristics of the 21st century is the wonderful development of information and communications technology and the widespread use of global information network in order to increase the speed and the quality of the provided services with a desirable confidence. The role of this technology is to introduce the new services that were unimaginable before on one hand, and to accelerate the existed process on the other hand. Nowadays, there are more than 34 types of the literacy, where the educational literacy (literacy for writing and reading) is just one of this set of literacies. For examples of other literacies one can refer to political literacy, economic literacy, social literacy, media literacy, and technology literacy among the others. There are different definitions for the informatics and computer literacy in the related literature. Most of these definitions consider a basic knowledge of computer, working applicable programs, and operation system as the characteristics of computer literacy (Austin, S. I., 1999), and informatics literacy is described as having the basic knowledge of computer and internet to marketing the information and being able to make a communication (Kaufman, D. M., 1997). One of the characteristics of the 21st century is the wonderful development of information and communications technology and the widespread use of global information network in order to increase the speed and the quality of the provided services with a desirable confidence. The role of this technology is to introduce the new services that were unimaginable

before on one hand, and to accelerate the existed process on the other hand. Information technology is the tools for creating and transferring the knowledge, and it depicts an ideal society that is equipped with the knowledge, i.e. a knowledge- based society. To develop and survive at the current era, the organizations have to invest on information technology and have a special attention to this field of knowledge. One of the conditions of such a task is to have the efficient and expert human resources. The shortage of such resources will inevitably lead to the lack of development of IT in these organizations. In recent years, developed countries have always sought to employ technology- related staff. Regarding above- mentioned issue, this research aims to study the general computer literacy in the employees of Iranian study (with Saipa auto manufacturer company as the case study) because to develop this technology, the owners of the industry have to know their own current situation to be ready to take next steps and consequently increase the knowledge of their managers and employees about the information technology.

### 2. Literature review

All thinkers agree that the growth and ascendancy of any society depends on the existence of literate citizens. The experiences of different countries confirm this fact as well. All under-developed countries or developing countries have always suffered from the illiteracy of their people and governors. Since the world is rapidly changing and developing, the category of the literacy is a changing

and dynamic phenomenon. Along with the wide and rapid changes of the science and technology, the concept, scope, and standards of the literacy is changing and being developed. Unfortunately, the velocity of these changes and development has been so that many societies failed to grow like some other ones. This point is now a serious concern for many countries. After conducting wide researches on the technology and literacy in 19960s, Burk surprisingly said that "I never thought that such a huge numbers of people could be so unwise about the technology". He called this situation as a catastrophe and believed that we no longer will be able to train a new generation of "technologically illiterate". The term "technology literacy" was born since then and the researchers realized that we have to change and reform the methods of teaching and learning (specially teaching and learning of sciences and technology) in schools, universities, and even at the work spaces. According to the current definitions in England and Ireland, the literacy is the basic skills that are needed for every person. These skills include the ability to communicate with the others through speaking and listening, reading, writing, and using mathematics through a set of media and technologies in order to promote the ordinary language and collective participation.

The current era is known as the era of knowledge and moving toward a knowledge-based society. In such a society, the countries and organizations have to pay attention to two major concepts of literacy, mainly the technology literacy and informatics literacy. Although there are several different definitions for technology literacy, but in most of them, comprehending and understanding the technology and its characteristics, the process of its development and application, and evaluating its effects and consequences are regarded as the base of the technology literacy. Informatics literacy can be simply defined as the ability to understand the information, the ability to search and find the information, the ability to analyze the information, and the ability of using information technology and computer networks. According to the available literature, we found that there are several researches about the effects of the employees' skill in information and communication technology on the efficiency and productivity of the employees, but the researches that have studied the rate of the computer knowledge and of the employees and their general computer literacy are not so much.

In a research under the title of "Perception versus reality-determining business students' computer literacy skills and need for instruction in information concepts and technology", Wallace and

Clariana (2005) studied the computer skills and computer literacy of newcomer university students by the network tests. The findings of their research showed that the mean of scores of these students were significantly lower than what we can call mastery. The findings confirmed that the mentioned students lacked the needed computer knowledge and skills.

In another study titled "Internet research: The use of internet in the major and minor research", Brodshow (2002) conducted an opinion poll about the reasons of using internet. This opinion poll was administered on 377 researchers who used to use internet. The findings of the research showed that just a few percent of the researchers use internet for collecting their research information history, though most of the respondents said that they will use internet for their researchers in future more than before. The analysis of the numbers of received questionnaires showed that the respondents welcome land mailed questionnaires more than the e-mailed ones. Additionally, in this Brodshow realized that the use of internet among the university researchers is getting increased because it has caused some savings in their times and energies of the researchers.

In yet another research, Allehaibi (2001) in his PhD thesis studied the use of internet technology by the academic members of universities of Saudi Arabia. His findings showed that most respondents used internet. More than half of the mentioned internet users have started using internet since 2 years before and the others used to use internet longer than 2 years before. Moreover, Allehaibi found that approximately 25% of the respondents had no interest in using internet.

### 3. Methodology

Regarding the objective, this research is an applied research and regarding the method of data collection, it is a descriptive- analytic one. Since this research describes the current situation of the general literacy of the employees of SAIPA Auto Manufacturer Company as the studied case, thus this research is descriptive and since in this research we try to provide some executive solutions on the basis of the our findings in order to improve the current situation, this research can be considered as an applied one. This research is a filed study because the studied subject has been accessible to the researcher and he has conducted his research and collected his needed data in the environment of the studied case. Additionally, I have used library and archival method to review the literature. Statistical sample of the research includes 50 experts, 200 administrative staff, and 240 workers of the studied company. To collect the data, I have used a questionnaire. Our expected

mean of the results was equal to 2.5; the total score of the questionnaire was equal to 4.

#### 4. Data analysis

The descriptive characteristics of the general computer literacy of the expert group are shown in

table 1. As shown in the table, the highest mean relates to Word Processor, and the lowest mean relates to Access.

Table 1. Mean and standard deviation for the sub-groups of computer literacy for the experts of the studied company

Category	Number	Mean	Std. Deviation
Computer basics	50	2.85	.924
Internet	50	2.78	1.22
PowerPoint	50	2.46	1.13
Excel	50	2.12	1.37
Access	50	1.67	1.12
Word	50	3.12	1.54

The descriptive characteristics of the general computer literacy of the administrative staff group are shown in table 2. As shown in the table, the

highest mean relates to computer basics, and the lowest mean relates to Access.

Table 2. Mean and standard deviation for the sub-groups of computer literacy for the administrative staff of the studied company

Category	Number	Mean	Std. Deviation
Computer basics	200	2.42	0.895
Internet	200	1.98	1.22
PowerPoint	200	1.26	1.12
Excel	200	2.12	1.41
Access	200	1.45	1.65
Word	200	2.39	1.11

The descriptive characteristics of the general computer literacy of the workers group are shown in table 3. As shown in the table, the highest mean

relates to computer basics, and the lowest mean relates to Access.

Table 3. Mean and standard deviation for the sub-groups of computer literacy for the workers of the studied company

Category	Number	Mean	Std. Deviation
Computer basics	240	2.12	0.785
Internet	240	1.89	1.12
PowerPoint	240	1.78	1.23
Excel	240	1.75	1.45
Access	240	1.23	1.52
Word	240	2.98	1.28

Table 4. Mean of total obtained scores for each group

Mean of total scores for experts	Mean of total scores for administrative staff	Mean of total scores for workers
2.51	1.94	1.80

In table 4, the Mean of total obtained scores for each group has been calculated. We have used single group T-test in order to study the obtained mean against the expected mean of 2.5. The results showed that there is a significant difference between

the general computer literacy of the workers and administrative staff against the expected score of 2.5. Thus we can claim at the 95% confidence level that the general computer literacy of the workers and administrative staff is less than the average.

Regarding the results, the computer literacy of the experts is evaluated at the average level.

### 5. Conclusion

Nowadays, the employees' mastery on the computer skills and literacy is part of the necessities of every organization and it is regarded as one of the development factors. Being skillful in information and communication technology will lead to the increase and reinforcement of employees' self-confidence in digital societies. In our contemporary era, accomplishing the tasks by the employees depend on the computers. Thus the promotion of this capability will lead to doing the works better, and consequently, it will lead to increase in the efficiency and productivity of the organization. Additionally, it will lead to increase in the value of the individuals in their work spaces because his/ her dependency to others co-workers will be decreased and this can reinforce the motivation and the sense of being successful in the employees and finally it can reduce the costs of providing related services by the technical units of the universities. The results of the comparison test showed that the level of general computer literacy of the workers and administrative staff is less than the average, and this level is average for the experts of the company. In this regard, the study of the components of general computer literacy in the experts group shows that their computer literacy is less than average in categories of PowerPoint, Excel, and Access and this literacy places at the average level in the categories of WORD, computer basics, and internet. But the administrative staff and the workers' computer literacy is less than average in all categories. On the basis of the obtained results, it is necessary for the organizations to investigate the general computer literacy of the employees at the very beginning of the employment and if needed, the organizations have to administer some training courses for their new-coming employees. Regarding the rapid growth of sciences and technology in our period of time, having the computer literacy is necessary and inevitable for the employees of all organizations, regardless their field of activity.

### References

1. Austin SI. Baccalaureate nursing faculty performance of nursing computer literacy skills and curriculum integration of these skills through teaching practice. *J Nurs Educ* 1999; 38(6):260-266.
2. Kidd MR, McPhee W. The "lost generation": IT education for healthcare professionals. *Med J Aust* 1999;171(10):510-511.
3. Saranto K, Leino-Kilpi H. Computer literacy in nursing: developing the information technology syllabus in nursing education. *Journal of Advanced Nursing* 1997; 25(2):377-385.
4. Kaufman DM, Jennett PA. Preparing our future physicians: integrating medical informatics into the undergraduate medical education curriculum. *Stud Health Technology Inform* 1997;39:543-546.
5. Verhey MP. Information literacy in an undergraduate nursing curriculum: development, implementation, and evaluation. *J Nurs Educ* 1999; 38(6):252-259.
6. Allehaibi, M. M. (2001), Faculty adoption of internet technology in Saudi Arabian Universities. Unpublished doctoral dissertation, Florida State University, Tallahassee, Florida.
7. Brodshow, K. K. (2001). Internet research: The use of internet in the major and minor research. *Journal of Information Science*.
8. Matthews, G. E. (2002). The use of the internet among faculty at Utah State University: A demographic analysis, Ms, MAI 40/05.
9. Wallace, P. and Clariana, R. B. (2005). Perception versus reality-determining business students' computer literacy skills and need for instruction in information concepts and technology. *Journal of Information Technology Education*, 4, 141-151.
10. Ward JP, Gordon J, Field MJ, Lehman HP. Communication and information technology in medical education. *The Lancet* 2001; 357 (9258): 792-6.
11. Poluakof A, Palmer E, Devitt PG, Coventry BJ. Clinicians and Computer: Friends or Foes? *Teaching and Learning in Medicine* 2000; 12(2): 91-5.
12. Rarey KE, Romrell LJ, Pwalina W, Rathe R, Rosenberg JR. Assessment of computer-assisted instruction in the teaching of human gross anatomy. *Journal of Medical Education Technologies* 1997; 6(3): 4-9.
13. Greenhalgh T. Computer assisted learning in undergraduate medical education. *BMJ* 2001; 322: 40-44.

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