The Impact of Technology Factors on the Workers’ Productivity: An Empirical Study on Al Borg Cement Factory in Libya

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Abstract
This paper provides information about the worker’s productivity of Al Borg Cement Factory in Libya. It clearly outlines the productivity decrease that faces employees inside of workplace from the drop of performance. The introduction of new technologies has altered the structure of employment [1]. Employers and policymakers have emphasized the importance of upskilling and long learning so as to deal with accruing pressures elicited by technological modification and economic process [e.g., European Commission, 2007].

Introduction
Over the past many decades there are dramatic changes within the forms of technologies offered to businesses whether public or private. The speedy development and diffusion of recent data technologies such as computers, communications and networks has altered the production process in several workplaces. In conjunction with these basic changes in the physical capital of firms, it is jointly wide believed that the introduction of those new technologies has altered the structure of employment [1]. Employers and policymakers have emphasized the importance of upskilling and long learning so as to deal with accruing pressures elicited by technological modification and economic process [e.g., European Commission, 2007].

In his seminal work, Becker created a distinction between firm-specific and general training. General training ends up in skills that are equally applicable to alternative corporations whereas skills acquired through firm-specific coaching come off the unit lost once the skilled worker leaves the... firm that provided coaching. Below excellent competition within the market, employees ought to get hold of prices of general training and recoup these prices by earning higher wages. Once training is particular, firm pay (part of) the training costs. However, Acemoglu and Pischke indicate that in varied cases companies offer and get hold of training provided by companies, usually requiring specific skills from their employees.

Keywords: Technology; Training; Computing systemize; Internet; Productivity

Review of Relevant Literature

Studies carried out in works by Kristen and Lee [4], they have...
validated the fact that workers on their productivity are affected by the Internet. They reported that the six in ten approximately 61%. American workers who use the internet say email is “very important” for doing their job, and 54% say the same about the internet. Far fewer workers describe landline phones (35%) or cell phones and smartphones (24%) as “very important.” Just 4% say social networking sites like Twitter, Facebook or LinkedIn are “very important” to their work. Moreover, according to Kimmo [5] indicated that to increase productivity, the employer should have up-to-date internal communication guidelines and organize training and other support for employees, particularly when new communication tools are taken into use. More than that, including sharing, archiving relevant information and documents also should be available for co-employees as a common practice. Additionally, to evaluate the degree of workers skills and recording the production at work, it is possible to estimate the impact of the training on productivity at the workplace as indicated by Jozef and Stijn. For a better understanding of the issue, a chain of definitions gives below indicating their will corresponding relationships in Figure 1.

The definition of the organizational concepts is provided below as follows

Productivity characterizes the efficiency of productive output of workers, which is expressed by the number of products per unit time. Performance is the value of functional abilities of the body characterized by the quantity and quality of work at maximum intensity or activity. The type of performance and frequency of its changes are related to the duration of human Functional State (FS) phases outlined in works by Doroshev [6] and Gavrilov et al. [7]. According to Rohan and Madhumita [8] companies, today are forced to function in a world full of change and under various complications, and it is more important than ever to have the correct employees at the correct job with the right qualification and experience in order to survive the surrounding competition. The successful and prosperous future of an organization is dependent on its skilled, knowledgeable and well-experienced workforce that is why training is a fundamental and effectual instrument in the successful accomplishment of the firm’s goals and objectives. Training not only improves them resourcefully, but also gives them a chance to learn their job virtually and perform it more competently hence increasing firm’s productivity. Training has been an important variable in increasing organizational productivity, according to the Researchers’ comments including Colombo and Stanca [9], Sepulveda [10], Konings and Vanornemingen [11].

Research Methodology

Due to the advantages presented by the of data analysis, these approaches are adopted to analyze the statistical data by the survey method was used for data. Although most of the information related to technology and workers’ productivity were collected through interviews and survey, these interviews were carried out based on the questionnaires with statistical data analysis. This survey included 50 from 200 employees whose are work in the Al Borg Cement Factory in Libya while the real return of questionnaires form were 37 from 50 applications were applied on employees in this survey. The attitudinal questions attempted to reveal the viewpoints, opinions, and the perceptions of the interviewees with respect to the different dimensions and variables of the technology, communication, training, and productivity by using the Likert scale has been utilized to measure the study sample. In order to derive a usable questionnaire for this research, many standard questionnaires regarding technology and productivity were investigated.

Furthermore, the reliability of the questionnaire in these studies has been assessed by Cronbach’s alpha as percent (0.946), which is an appropriate criterion for evaluating the reliability of the measurement tools. And through a pre-test is done by using the SPSS package and Cronbach test. In Tables 1 and 2 below illustrate that the total reliability of the questionnaire was determined.

Results and Discussion

This study examined the relationship between technology and workers’ productivity in Al Borg Cement Factory in Libya. The empirical data collected is based on the perceptions and opinions of factory’s employees. Data analysis was used to test via a statistical program which is SPSS. Results of this case study in Al Borg Cement Factory in Libya indicated that a positive relationship exists between technology and productivity.

Technology and productivity

The analysis provided strong supporting for the relevance of the technology on productivity. Moreover, there is a correlative relationship between technological changes and productivity of the individual. The more of administration is interested in keeping up with the modern and advanced technological changes to achieve the more productivity. The findings of this study indicated that the perceived usefulness of technology has a significantly positive influence on employee’s productivity. In summary, results of the data analysis for our research are as shown below in Table 3. As a result, In this section, it can be shown the correlation between technology and individuals productivity in the plant in terms of the percent of answer workers is around 90% which say their company encourage employees and important to make modern technology.

Collecting information

The plant management based on to retain all data and information about customers by technological services. It has reduced by the employee’s survey that the prevalent situation in this company which the most its workers whose are affected by technology and help them in increased product. Therefore, the factory might keep whole documents

![Diagrammatic scheme of the relationship among technology and productivity.](image-url)
The plant management is not much adopted the use of the internet in the marketing processes of the product to reduce production costs and increase customer satisfaction. This is evident from the responses of the respondents, where the percentage of use of technology in the marketing processes of the product to reduce production costs is about 48%. This effect is not positive for management, taking into account that the presence of technology and its use in marketing and production processes through the internet which is clear in Table 5.

Internet and marketing

The plant management is not much adopted the use of the internet in the marketing processes of the product to reduce production costs and increase customer satisfaction. This indicates a lack of optimal using of technology. While, exist of technology, customer archive and a computerization system in the factory. Overall this variables positive impact on productivity. On the contrary, technology does not apply in the best way. This is evident from the responses of the respondents, where the percentage of use of technology in the marketing processes of the product to reduce production costs and increase customer satisfaction.

Employees training

In this section presents of the statistics analysis of workers training on use modern technology by developing a time schedule to improve production. It can be noted that the percent of research sample was 29.7% as demonstrate Table 6, who said wish the plant management achieves to the training of employees to use modern technology by developing a time schedule to improve production. This is not enough to reaching of increase productivity alone without other variables in the system. To seek how productivity can be improved with the use of technologies one has to apply a holistic view to unify all variables specifically. Such as communication, the internet, and training, we have illustrated that the bulk of the evidence from this study is that technology does have ability to improve and develop of individuals skills also, significant impact on productivity.

Overall, it can be the conclusion that the impact of technologies in cross the world. Even though technology users might the use of the technologies and understand the best way of circumstances to use it. This is not enough to reaching of increase productivity alone without other variables in the system. To seek how productivity can be improved with the use of technologies one has to apply a holistic view to unify all variables specifically. Such as communication, the internet, and training, we have illustrated that the bulk of the evidence from this study is that technology does have ability to improve and develop of individuals skills also, significant impact on productivity.

Table 6: The plant management achieves to the training of employees to use modern technology by developing a time schedule to improve production.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
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<tr>
<td>Strongly Disagree</td>
<td>11</td>
<td>29.7</td>
<td>29.7</td>
<td>29.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>9</td>
<td>24.3</td>
<td>24.3</td>
<td>44.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>7</td>
<td>18.9</td>
<td>18.9</td>
<td>62.9</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>27.0</td>
<td>27.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>8</td>
<td>21.6</td>
<td>21.6</td>
<td>100.0</td>
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<tr>
<td>Total</td>
<td>37</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

References

2. John V, Reenen RS (2005) information technology and productivity. It ain’t what you do it’s the way that you do I.T.

