

The Impact of Health Literacy on Employee Productivity: An Empirical Investigation

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Abstract

The goal of this research was to examine the relationship between health literacy and employee productivity. We surveyed 232 employees and used multiple regression analysis to achieve the study's goal. According to the findings, health literacy has a positive and significant impact on employee productivity. This study also considered other relevant variables that could influence employee productivity. According to the findings, the work environment, technology, employee training, and work-life balance have positive and significant impacts on employee productivity. Employee productivity and health literacy have a complicated and nuanced relationship. Employers can improve their employees' quality of life and productivity by tackling low health literacy, resulting in overall improved business performance. According to the findings of this study, boosting health literacy and increasing staff productivity should be essential priorities for any firm. Providing information and resources on health and healthcare, encouraging preventative care and managing chronic disorders, developing workplace wellness programs, cultivating a culture of health and wellbeing, and facilitating access to healthcare specialists are all steps that can be taken to accomplish these aims. Employers can also maximize the productivity benefits of technology and a happy work environment by carefully assessing the tools and technologies employed and assuring their proper use, as well as taking into account the physical and social conditions under which work is performed. Workplace flexibility, such as telecommuting and flexible scheduling, can also help with work-life balance. Finally, investing in employee training and development can contribute to greater productivity through improving skills and knowledge.

Keywords: *Employee productivity, Health literacy, Multiple regression, Work environment, Work-life-balance*

1. Introduction

Employee productivity is critical for a variety of reasons. First and foremost, it has a direct impact on a company's profitability and competitiveness. When employees are productive, they may produce more items or services in less time, which can lead to more earnings and a stronger market position. Furthermore, productivity is frequently used to assess an organization's efficiency and effectiveness. High levels of productivity can indicate that a company is well-managed and capable of extracting the most from its staff [1], [2]. Employee productivity is also significant since it can lead to higher job satisfaction and engagement. Employees who can complete their work efficiently are more likely to feel a sense of achievement and pleasure in their employment. This might lead to increased motivation and a desire to continue contributing to the organization's success.

Finally, productivity is significant since it is a key indicator of an organization's overall performance. Companies that can consistently provide high-quality goods or services in a timely manner have a better chance of meeting their goals and objectives [3], [4]. This, in turn, can lead to higher client satisfaction and loyalty, as well as a better industry reputation.

Health literacy is the ability to comprehend and apply health information in order to make educated health decisions. It entails having the abilities and expertise to comprehend and use medical information, as well as being able to successfully communicate with healthcare specialists. People may struggle to make informed health decisions if they lack the required skills and knowledge to grasp and apply this information [5]–[9]. This can result in poor health and even unnecessary deaths.

One of the most significant ways that health literacy affects people is through altering their ability to manage chronic diseases. Chronic illnesses such as diabetes, heart disease, and asthma necessitate constant management and self-care to avoid complications and maintain excellent health. People with limited health literacy may struggle to understand how to manage their conditions and may fail to adhere to suggested treatment programs, resulting in poor health outcomes.

Low health literacy can have broader societal repercussions in addition to affecting individual health. It can, for example, increase healthcare expenses by necessitating further medical procedures and hospitalizations. It can also contribute to health inequities since those with low health literacy are less likely to seek preventative treatment and have poorer overall health outcomes [10], [11].

There are numerous approaches to improving health literacy, including offering information and resources to assist individuals understand their health and treatment [12], [13]. This could include resources for patient education, health fairs, and community workshops. Health providers can also help improve health literacy by offering clear, succinct information and taking the time to explain topics in simple terms.

Finally, health literacy is a critical aspect in general health and well-being. Individuals who have the abilities and knowledge to understand and apply health information are better able to make informed health decisions and manage chronic diseases [14]–[16]. Improving health literacy can have larger societal benefits, such as lower healthcare expenditures and better health outcomes.

4. Health literacy and employee productivity

Employee productivity and health literacy have a complicated and nuanced relationship. Health literacy is defined as an individual's ability to obtain, comprehend, and apply health information and services in order to make educated health decisions [17]. It entails comprehending medical instructions, comprehending the risks and benefits of various therapies, and effectively

communicating with healthcare personnel. In contrast, productivity refers to the efficiency with which an individual or group produces commodities or services.

One manner in which health literacy affects employee productivity is through absenteeism. Employee absenteeism is defined as a chronic or intentional trend of skipping work without justification. It can harm both the individual employee and the organization for which they work. Reduced productivity is one of the most serious repercussions of employee absence. When an employee is missing, their task is not completed, which can result in delays, missed deadlines, and a reduction in overall output. This might result in a drop in the quality of the organization's products or services, which can have a detrimental influence on client satisfaction and the company's overall success [18].

Absenteeism can also raise the workload of other employees, who may have to assume the absent employee's obligations in addition to their own. Employees may experience feelings of irritation, resentment, and burnout as a result of this. From the perspective of the missing employee, chronic absenteeism can result in lower job security, missed opportunities for advancement, and financial distress owing to lost earnings. It may also result in a decrease in the employee's skill set because they are unable to keep up with new advances and changes in their area [19].

Employee absenteeism can be caused by a variety of circumstances, including job discontent, stress, a poor work-life balance, and physical or mental health concerns. Organizations can combat absenteeism by improving working conditions, providing assistance to employees dealing with personal or health concerns, and providing opportunities for professional development and promotion. Finally, employee absenteeism can have a detrimental influence on both the individual employee and the organization for which they work [20]. Organizations must address the underlying reasons of absenteeism and create initiatives to limit its incidence.

Employees with inadequate health literacy are more likely to become ill and require medical attention, resulting in missed work days and decreased productivity. Individuals with low health literacy may also struggle to manage chronic disorders like diabetes or heart disease, which can contribute to absenteeism and lower productivity.

Another way health literacy affects employee productivity is through job performance. Employees who understand their health and how to manage it are more likely to be able to focus on their work and perform to their full potential [21]. Those with limited health literacy, on the other hand, may fail to understand and follow medical advice, resulting in poor job performance.

Another way health affects employee productivity is through mental and emotional well-being. Employees with good physical health are more likely to have higher mental clarity and focus, which leads to better job performance [22], [23]. Those suffering from bad health, on the other hand, may have difficulties concentrating and making judgments, resulting in diminished productivity.

In addition, insufficient health literacy can lead to increased healthcare expenditures for both the individual and the business. Employees with low health literacy may be unaware of the dangers and benefits of various therapies, prompting them to choose for more expensive treatments that may not be the most beneficial for their disease [24]. Employers may also face greater healthcare costs as a result of employee absenteeism and poor productivity among employees with low health literacy.

Both individuals and businesses can face major financial burdens as a result of healthcare costs. Employees' healthcare costs might include premiums for health insurance plans, copays and

deductibles for medical services, and out-of-pocket expenses for prescription prescriptions. These expenses can put a major burden on an employee's budget, particularly if the individual has a chronic health condition that necessitates frequent medical treatment [25].

The cost of providing healthcare benefits to employees can be high for companies as well. Employers may be required to cover a portion of their employees' health insurance premiums, as well as any costs related with on-site medical services or wellness programs. Furthermore, when employees are ill, it can lead to absenteeism, which reduces productivity and increases the workload for other employees. This may incur additional expenses for the employer.

Employees and employers can both take actions to reduce healthcare costs, such as shopping around for the most reasonable health insurance plans, negotiating lower fees with healthcare providers, and adopting good lifestyle practices to prevent the onset of chronic health disorders. Employers might also think about developing wellness programs and giving services to help employees maintain their health and avoid costly medical treatment.

Employers may address the relationship between health literacy and employee productivity by providing access to credible health information and education, using clear and simple language when speaking about health, and providing wellness programs and services. These treatments can help employees take charge of their health and enhance their overall well-being, resulting in higher productivity and lower healthcare expenses.

4. Review on factors affecting employee productivity

The connection between technology and employee productivity is complicated and nuanced. Employee productivity refers to the efficiency with which an individual or group produces goods or services, whereas technology refers to the use of tools and machines to boost productivity [26].

Automation and digital tools are two ways that technology can improve employee productivity. Automation can assist in streamlining operations and reducing the time and effort necessary to execute activities, resulting in enhanced productivity [5], [27]. Project management software and collaboration platforms, for example, can boost productivity by allowing staff to operate more efficiently and effectively.

Technology, on the other hand, might have a detrimental impact on employee productivity. The continual messages and distractions provided by digital gadgets might result in a phenomenon known as "continuous partial attention," which can reduce focus and productivity. Furthermore, reliance on technology can lead to a decline in critical thinking skills and problem-solving abilities as employees rely on machines to accomplish their work.

Finally, the relationship between technology and employee productivity is multidimensional and nuanced. While technology has the potential to dramatically boost productivity, businesses must carefully assess the tools and technologies they install and ensure that they are used in a way that supports rather than hinders productivity.

The connection between work environment and employee productivity is complicated and multifaceted. The physical and social conditions under which work is accomplished are referred to as the work environment, and include aspects such as lighting, noise level, temperature, and social contacts. The efficiency with which an individual or organization produces goods or services is referred to as employee productivity.

Physical comfort is one way that the work environment can affect employee productivity. Employees who operate in conditions that are too hot, cold, light, or dark may find it difficult to retain focus and productivity. Employees who operate in locations with a lot of noise or other distractions may also have trouble concentrating and working well.

The impact of the work environment on social relations and morale is another manner in which it might affect employee productivity. Employees who work in supportive and collaborative workplaces are more likely to be engaged and motivated, resulting in higher productivity. Those who operate in unpleasant or toxic situations, on the other hand, may feel lower motivation and productivity. Finally, the relationship between the workplace and employee productivity is complex and multidimensional. Employers may establish a pleasant work environment that fosters employee productivity and well-being by taking into account the physical and social conditions under which work is performed.

Training is a key part of employee development and can have a substantial impact on workplace productivity. Employees that are properly trained are more prepared to accomplish their work obligations, which can lead to enhanced efficiency and productivity.

One of the most important ways that training may boost productivity is through assisting employees in acquiring new skills and information. Employees who have been taught in the specific tasks and processes required for their profession are more likely to accomplish those jobs correctly and efficiently. Furthermore, training can assist employees in staying current on industry advancements and breakthroughs, allowing them to better understand their job and how they can contribute to the organization's goals.

Training can also help to reduce workplace errors and mishaps. Employees who have been properly trained are less likely to make mistakes that cause delays, rework, and customer discontent. This can save time and money while also improving the overall quality of an organization's products or services.

Effective training can also boost employee work satisfaction and motivation. Employees are more likely to be engaged and motivated at work if they believe they are being supported in their development and given opportunity to learn and progress [28]. This can result in improved loyalty and devotion to the organization, which can lead to increased productivity.

In conclusion, there is a beneficial association between training and staff productivity. Effective training can assist individuals in acquiring the skills and knowledge required to properly perform their job obligations, reducing errors and mistakes, and increasing job satisfaction and motivation. All of these characteristics can contribute to better workplace productivity.

Work-life balance has a significant impact on productivity by minimizing stress and burnout. Employees are less likely to feel overwhelmed and agitated when they can properly handle the demands of their career and personal lives [29]. This can result in improved physical and mental health, as well as enhanced energy and attention on the task. Employees who are unable to strike a healthy work-life balance, on the other hand, may experience elevated levels of stress and burnout, which can lead to decreased productivity, absenteeism, and even attrition.

Work-life balance can also boost productivity by enhancing job satisfaction and motivation. Employees are more likely to be content and interested in their jobs when they feel they have a good balance between their work and personal lives [30]. This might lead to increased motivation and a

stronger desire to contribute to the aims of the company. Employees may get disengaged and demotivated if they believe their job is absorbing too much of their time and energy, which can lead to a decrease in productivity [31].

Finally, there is a close association between work-life balance and employee productivity. Employees who can strike a healthy balance between their professional and personal lives are more likely to be satisfied and motivated, which can lead to higher productivity. Employees may feel heightened levels of stress and burnout when work-life balance is poor, which can lead to decreased productivity [32].

4. Methodology

This study applied multiple regression analysis with 5 independent variables developed summing the responses and normalizing before running regression. The productivity index is the dependent variables. The independent variables are as follows:

a. Health literacy (HL)

Health literacy is defined as an individual's capacity to comprehend and apply health information and services in order to make educated health decisions. It entails the ability to interpret and use healthcare-related information, as well as navigate the healthcare system and receive relevant resources. Health literacy is significant because it affects an individual's ability to control their own health and make informed healthcare decisions. Low health literacy can lead to health information misinterpretation, difficulty accessing the healthcare system, and poor health outcomes. High health literacy, on the other hand, can empower individuals to take ownership of their own health and make informed healthcare decisions.

b. Technology (Tech)

The tools, methods, and devices used in the workplace to execute activities, interact, and store and retrieve information are referred to as workplace technology. This includes both technology (computers, laptops, cellphones, and tablets) and software (productivity tools, project management tools, and communication platforms). Technology can be utilized to automate operations, expedite procedures, improve communication and cooperation, and provide access to a vast amount of information and resources.

c. work environment (WE)

The physical and social conditions under which work is accomplished are referred to as the work environment. It encompasses aspects like as workspace structure and design, resource and equipment availability, and social interactions and connections among employees. Employee well-being, productivity, and overall job satisfaction can all be influenced by the work environment. A safe and healthy physical workplace, helpful and respectful interactions among coworkers, chances for growth and development, and work-life balance are typical characteristics of a happy work environment. A bad work environment, on the other hand, may be defined by characteristics such as poor physical conditions, toxic or unhealthy relationships, a lack of support and opportunity, and an excessive workload or pressure.

d. Employee training (ETR)

Employee training is the process of educating employees with the knowledge, skills, and abilities they need to properly fulfill their job obligations. Classroom instruction, on-the-job training, online courses, and mentorship programs are all examples of training. Employee training is to improve job performance, promote efficiency, and support the organization's overall goals and objectives. Training can be provided to new workers to introduce them to the company and their job obligations, or to existing employees to keep them up to date on new advancements and technology in their industry, or to learn new skills that will help them succeed in their career. Effective employee training can boost employee work satisfaction, motivation, and retention. [33], [34]

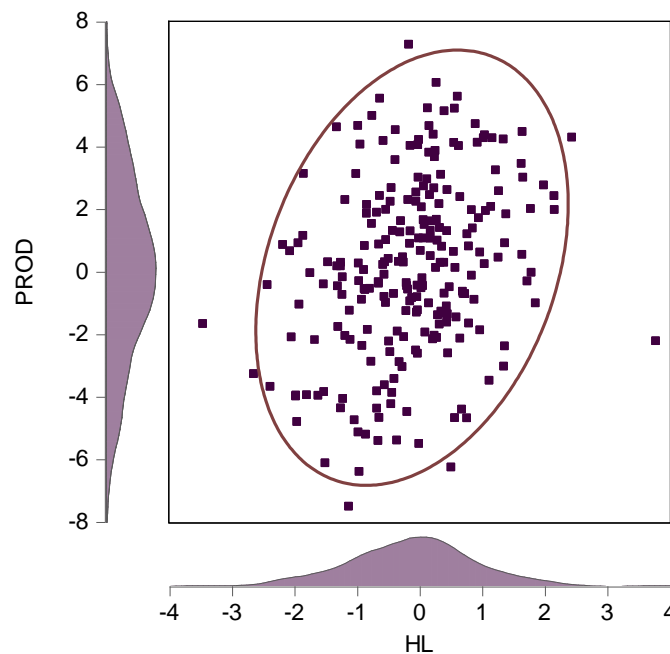
e. Work-life balance (WLB)

Work-life balance refers to an individual's capacity to efficiently handle the responsibilities of their career while also caring for their family, personal hobbies, and overall well-being. Achieving a healthy work-life balance can improve employee productivity.

5. Results and discussion

Table 1 presents the results of regression analysis of this study. It shows that health literacy has positive and significant effect on employee productivity. The confidence ellipse drawn figure also supports this claim. The confidence intervals for all the explanatory variables are presented in table 2. The residual diagnostics shown in Figure 2 indicates that our model is free from non-normality issue.

Figure 1. scatter plot, kernel density, and confidence ellipse between productivity and health literacy



Given the significance of the health literacy variable, improving health literacy and enhancing staff productivity should be top priorities for every company. Organizations can pursue these goals in a

variety of ways: Employee health and healthcare education and tools are a great way to increase health literacy. This could include distributing instructional materials, holding health fairs or workshops, or offering access to online resources. Organizations may boost health literacy and productivity by providing employees with the information and tools they need to understand and manage their health.

Another important step that organizations may take is to encourage their employees to seek preventive care and manage chronic illnesses. This could involve educating employees on the importance of preventative care, providing access to preventive treatments like flu vaccines, and encouraging employees to participate in chronic illness treatment programs. Employees who take care of their health are more likely to be able to function efficiently and effectively.

Table 1. Regression results

Dependent Variable: PROD
 Method: Least Squares
 Sample: 1 232
 Included observations: 232

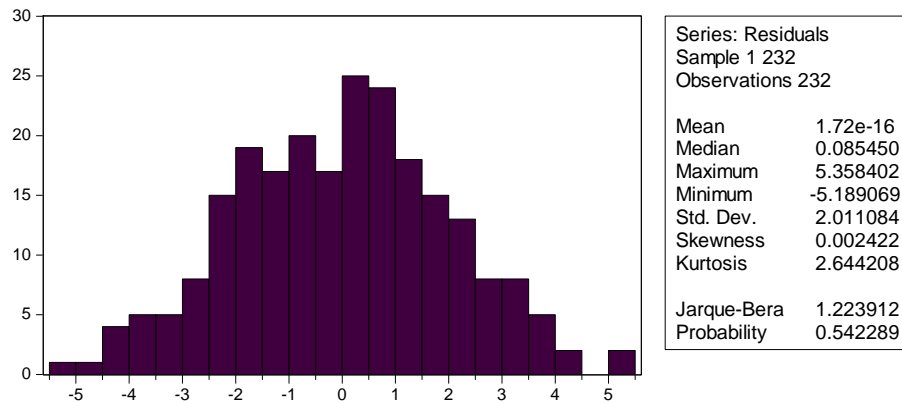
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	1.046598	0.128635	8.136176	<0.01
HL	0.905369	0.132520	6.831953	<0.01
TECH	0.962616	0.138116	6.969639	<0.01
WE	0.807578	0.130520	6.187365	<0.01
WLB	0.880837	0.140323	6.277213	<0.01
C	0.114889	0.136556	0.841333	0.4011
R-squared	0.493109	Mean dependent var		0.142153
Adjusted R-squared	0.481894	S.D. dependent var		2.824703
S.E. of regression	2.033209	Akaike info criterion		4.282629
Sum squared resid	934.2697	Schwarz criterion		4.371769
Log likelihood	-490.7850	Hannan-Quinn criter.		4.318578
F-statistic	43.97102	Durbin-Watson stat		2.007294
Prob(F-statistic)	<0.01			

Table 2. Coefficient Confidence Intervals

Sample: 1 232
 Included observations: 232

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
ETR	1.046598	0.834141	1.259055	0.793120	1.300075	0.712435	1.380761
HL	0.905369	0.686496	1.124242	0.644237	1.166502	0.561115	1.249624
TECH	0.962616	0.734501	1.190731	0.690457	1.234775	0.603825	1.321406
WE	0.807578	0.592007	1.023148	0.550385	1.064770	0.468517	1.146638
WLB	0.880837	0.649077	1.112598	0.604329	1.157346	0.516312	1.245363
C	0.114889	-0.110650	0.340427	-0.154196	0.383974	-0.239850	0.469627

Figure 2. Residual diagnostics



Another option for firms to improve health literacy and staff productivity is to implement workplace wellness initiatives. Employees' general health and well-being can be improved through workplace wellness programs, which can contribute to better productivity. On-site fitness facilities, healthy food options, and stress management resources could all be part of these programs. Organizations can promote health literacy and productivity by providing employees with the resources they need to care for their health.

Another key step that firms may take to improve health literacy and employee productivity is to foster a culture of health and well-being. Promote a culture that encourages self-care and healthy behaviors to encourage employees to prioritize their health and well-being. This could include providing healthy food options in the office, encouraging physical activity breaks, and fostering a positive work-life balance. Organizations can improve employee health literacy and productivity by fostering a culture that promotes health and well-being.

Finally, by offering access to healthcare providers, firms can boost health literacy and employee productivity. Organizations can help employees get the medical care and assistance they need to manage their health and avoid sickness by giving them access to healthcare specialists. This could include providing on-site clinics or services for locating and interacting with healthcare providers. Organizations can help enhance employees' health literacy and productivity by ensuring that they have access to the medical care they require.

Technology, work environment, work-life balance, and staff training all have a substantial impact on productivity, as seen in Table 1. Employers must carefully assess the tools and technologies they install and ensure that they are used in a way that supports rather than hinders productivity in order to maximize the benefits of technology on employee productivity. This may involve giving staff with

training and support to ensure they can use the tools effectively, establishing clear boundaries and expectations for the use of technology, and fostering a mix of digital and analog labor. Employers must carefully analyze the physical and social conditions under which work is performed in order to optimize the benefits of a favorable work environment on employee productivity. This could involve providing comfortable and ergonomic workstations, reducing noise and other distractions, and cultivating a collaborative and supportive atmosphere. Flexibility in the workplace is an important strategy to support work-life balance. Offering telecommuting, flexible scheduling, and job sharing can all help employees better manage their work and personal commitments. Another critical part is giving resources to help employees better manage their time and workload, such as time management training or tools like task lists and project management software. It is also critical to urge employees to prioritize their duties and concentrate on what is most important rather than attempting to do everything at once. Furthermore, encouraging employees to speak up and discuss their concerns regarding work-life balance, as well as promoting a culture of openness and transparency in the workplace, can assist to address any potential difficulties before they become big problems. Finally, providing assistance to employees who are having difficulty balancing work and life, such as access to mental health resources or employee assistance programs, can help to promote a healthy and positive work environment for all employees.

There are numerous methods for supporting and improving employee training in the workplace. First and foremost, a clear and thorough training program covering the relevant skills and information for employees to be successful in their tasks is required [35], [36]. This can involve in-person training as well as online tools like e-learning modules or webinars. It can be beneficial to include regular assessments and feedback throughout the training process to ensure that employees retain the material they are learning. Furthermore, providing continual learning and development opportunities, like as workshops or conferences, can assist in keeping staff motivated and involved in their learning path. Another strategy to promote employee training is to invest in the tools and resources required, such as training manuals or software, to ensure that staff have all they need to succeed. Finally, a supportive and collaborative work environment that encourages employees to ask questions and seek direction when needed is crucial for fostering a culture of continual learning and progress.

5. Conclusion

Employee productivity is crucial because it can lead to better profitability, competitiveness, more customer happiness, higher employee satisfaction, and higher quality. The general health of a company's staff can have a substantial impact on its bottom line. Employers who engage in their employees' health through initiatives such as wellness programs and access to healthcare resources may see lower healthcare expenditures and absenteeism, resulting in higher productivity and profitability. Improving health literacy and enhancing staff productivity should be top priorities for any company. Organizations can achieve these aims through offering health and healthcare education and resources, supporting preventative care and chronic condition management, creating workplace wellness programs, fostering a culture of health and well-being, and giving access to healthcare experts. These initiatives can help employees improve their health literacy, manage their health more effectively, and raise their productivity. Organizations may improve employee health and well-being, lower healthcare costs, and increase overall success by investing in health literacy.

There are various difficulties to increasing employee health literacy. One issue is a lack of time and resources for health education and training. Many employees are already overburdened with everyday job tasks and may lack the time or energy to learn about health-related topics. Another issue is a lack

of reliable and accurate health information. With so much contradictory information available online, employees may struggle to know what to believe and how to apply it to their own health and wellness. Another issue is a lack of staff motivation or involvement. Some employees may not see the value in learning about health and wellness, or they may be scared or overwhelmed by the issue. Finally, cultural or linguistic obstacles may prohibit some employees from completely comprehending and using health information. These difficulties can be overcome by providing focused and relevant health education and resources, providing flexible learning opportunities, and building a friendly and inclusive work environment that encourages people to prioritize their health and wellness.

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