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ORGANIZATIONAL PRODUCTIVITY THROUGH TELEWORK AND SOCIAL RESPONSIBILITY

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Abstract: The objective of this study was to determine the relationship between teleworking and labor productivity of workers in a basic education school. A basic methodology was employed, using a non-experimental, correlational and cross-sectional design with a quantitative approach. The sample consisted of 15 teachers, and two questionnaires were used as data collection instruments. The results indicated that 42.0% of the workers perceive telework favorably, while 36.0% consider it unfavorable and 22.0% view it unfavorably. Regarding labor productivity, 76.9% had high productivity and 50.0% medium productivity. Regarding the dimensions evaluated, time spent with the family was perceived as infrequent (56.0%), technological factors as acceptable (38.0%), and environmental working conditions as very favorable (56.0%). The work modalities were considered very timely (42.0%). It is concluded that there is a direct and significant correlation between teleworking and labor productivity of the teaching workers of the school located in Hermosillo, Sonora, Mexico. **Keywords:** telework, labor productivity, basic education, environmental conditions, technological factors.

INTRODUCTION

The COVID-19 pandemic has radically reconfigured the work dynamics in various organizations, forcing them to adopt telework as a vital mechanism for the continuity of their operations (Alfaro, 2023). This change has been notably manifested in the educational sector, where public and private institutions have implemented distance learning strategies in order to ensure the continuity of learning. In the current context, where a slow return to normality is observed, it is crucial to analyze the implications of telework on the productivity of teachers and, therefore, on the quality of education.

While some commercial organizations, especially those engaged in retail, face challenges inherent in the need for physical interaction (Alfaro, 2023), other industries, especially those knowledge-based such as information technology, digital marketing and consulting, have found in telecommuting an opportunity to access global talent, which can translate into a competitive advantage (Baker & Westrup, 2021). This environment has led organizations to worry not only about their productivity, but also about human capital management and social responsibility towards their employees and customers.

From an educational perspective, the Federal Education Administration (AEF) launched the "Learn at home" platform to support teachers and families in the context of teleworking (AEF, 2020). However, the lack of adequate technological resources and digital skills in some teachers has generated significant challenges that affect their job performance and well-being. Evidence suggests that excessive workload and lack of training in digital tools have resulted in high levels of stress among teachers (Martínez et al., 2022).

Therefore, this research focuses on the general problem of what relationship exists between telework and labor productivity of basic education teachers. Specific questions are raised about the influence of family relationship time, technological factors, environmental working conditions and work modalities on productivity. The main objective is to analyze the relationship between telework and labor productivity of basic education teachers. The specific objectives are to examine how family time, technological factors, environmental conditions and work modalities influence teachers' productivity.

Through this study, we seek not only to contribute to the theoretical body on telework and productivity, but also to offer a diagnosis that allows educational institutions

to optimize their strategies and adapt to a new labor paradigm within a framework of social responsibility.

LITERATURE REVIEW

Organizational productivity has become critically important in the context of telework, especially after the COVID-19 pandemic, which forced many organizations to adapt quickly to this work mode. The literature suggests that various factors, such as family time, technological resources, environmental working conditions and work arrangements, have a significant influence on employee productivity.

TELEWORK AND PRODUCTIVITY

Telecommuting, defined as performing work activities outside of the traditional office, has been shown to have mixed impacts on productivity. Bloom et al. (2015) documented a 13% increase in productivity among employees working from home, attributed to a more comfortable work environment and reduced distractions. However, Gajendran and Harrison (2007) warn that the lack of personal interaction can lead to communication and cohesion problems, negatively affecting productivity in the long run.

Labor productivity refers to the efficiency with which workers use resources to generate products or services (Bockerman & Ilmakunnas, 2009). Several studies have pointed out that productivity is not only measured by the quantity of work performed, but also by the quality of the work (Campbell, 1990). In the context of telework, the relationship between environmental conditions and productivity is particularly relevant. Adequate conditions, such as a comfortable work environment and the availability of appropriate technology, are factors that contribute to optimal performance (Wang et al., 2020).

INFLUENCE OF FAMILY RELATIONSHIP TIME

Family time has been shown to be an important factor in work productivity. A study by Allen et al. (2013) found that those employees who perceive a positive work-life balance report higher levels of job satisfaction and organizational commitment. The flexibility offered by telecommuting allows employees to spend more time with their families, which in turn can result in increased motivation and productivity (Kirk & Belovics, 2020).

TECHNOLOGICAL FACTORS

Technology is an essential determinant of productivity in telework environments. The availability of effective digital tools enables better communication and collaboration among employees. According to Zhang et al. (2020), organizations that invest in technology and training for their employees see significant improvements in productivity. However, the lack of technology skills can become an obstacle, as noted by Tavares (2017) and Golden and Veiga (2005), who found that stress associated with lack of technology skills negatively impacts productivity.

ENVIRONMENTAL WORKING CONDITIONS

Environmental working conditions also play a crucial role in productivity. An adequate work environment, including aspects such as ergonomics and distraction reduction, can enhance employee performance (Bakker et al., 2014). On the other hand, a disorganized or uncomfortable environment can generate stress and decrease efficiency (Mishra et al., 2021). Thus, organizations should pay attention to the configuration of the home workspace, providing guidelines and resources that facilitate a productive environment.

WORK MODALITIES

Work arrangements, including the frequency and structure of telework, also affect productivity. A hybrid approach, combining remote and face-to-face work, has been identified as the most effective for maintaining engagement and productivity (Davis et al., 2021). This model allows employees to enjoy the flexibility of telecommuting while maintaining the social and professional connection that in-office work offers.

ORGANIZATIONAL SOCIAL RESPONSIBILITY

Organizational social responsibility (OSR) has become a key pillar for companies adopting telework. Aguinis and Glavas (2012) indicate that OSR practices can improve company image and employee satisfaction, which in turn can translate into higher productivity. Organizations that promote a flexible work environment and prioritize the well-being of their employees tend to have more engaged and motivated teams, which positively affects their performance (Mishra et al., 2021).

METHOD

STUDY SUBJECTS

The population of this research is composed of elementary school teachers, who, according to Hernández, Fernández and Baptista (2010), constitute “the set of all cases that match certain specifications”. According to the General Law of Professional Teaching Service, teachers are defined as “the professional in Basic Education who assumes before the State and society the responsibility for student learning at school, being responsible for the teaching-learning process, promoter, coordinator, facilitator, researcher and direct agent of the educational process”.

TEACHERS

The sample selected for this study includes all the teachers of an elementary school located in a neighborhood in the urban area of Hermosillo, Sonora. This institution has a total of 12 teachers distributed in six groups, which allows for a complete census of the population.

TYPE OF STUDY AND DESIGN

The research is of applied type, as mentioned in the work of Ñaupas et al. (2013), since it seeks to know the relationship between telework and labor productivity of teachers. The approach is quantitative, using statistical tools to measure the variables, with data collected through a questionnaire. The study design is non-experimental, which implies the observation of variables without the direct intervention of the researcher.

POPULATION

A census was applied to the entire population of the Enrique Quijada Elementary School, as defined by the National Institute of Statistics, Geography and Informatics (INEGI, 2023). This operation allows the collection of data from all elements of the study universe at a given time (UNECE, 2000), which is appropriate given the limited number of teachers.

INFORMATION COLLECTION INSTRUMENT

SURVEY

Data collection was carried out through surveys, which, according to Hernández et al. (2016), are composed of a set of items designed to obtain information from the subjects. The reliability of the instrument and the consideration of possible biases were critical aspects during the survey design.

INSTRUMENTS:

- **Telework Questionnaire: Composed** of 16 items with ordinal responses ranging from five options: Always (5), Almost always (4), Sometimes (3), Very seldom (2) and Never (1).
- **Labor Productivity Questionnaire:** adapted from the study by Palmar et al. (2014), it consists of 19 items, each also with five response options: Always (5), Almost always (4), Sometimes (3), Very seldom (2) and Never (1).

OPERATIONALIZATION OF VARIABLES

Telework

- **Conceptual Definition:** It is understood as work performed from a location outside the company, using telecommunication networks to fulfill work responsibilities (Aranibar, 2016).
- **Operational Definition:** Measured through four dimensions: time spent with the family, technological factors, environmental working conditions and work modality, using a questionnaire.

Indicators:

- **Time of relationship with the family:** Time of permanence, frequency of relationships, relationships between parents and children.
- **Technological factors:** Compliance with remote working conditions, use of new technologies.
- **Environmental working conditions:** Infrastructure, basic services, working conditions.
- **Work modality:** Average time of remote maintenance, fulfillment of activities.

- **Measurement Scale:** The 16 items will be assessed through an ordinal scale.

Labor Productivity

- **Conceptual Definition:** It is defined as “the results obtained in a process or a system, taking into account the means used to generate them” (Gutiérrez, 2014, p. 20).
- **Operational Definition:** Measured through four dimensions: motivation, personal satisfaction, competencies, collaborative work and personal training, using a questionnaire.

Indicators:

- **Motivation:** Reward, recognition, autonomy.
- **Personal satisfaction:** Benefits, supervision, workload, institutional objectives.
- **Competencies:** Organization, analytical skills, initiative.
- **Collaborative work:** Coordination, commitment, participation.
- **Personal training:** Professional development, goals, continuous improvement.
- **Measurement Scale:** The 19 items will be assessed with an ordinal scale.

Variable	Dimensions	Indicators
Telework	Time spent with the family	Permanence, frequency of relationships
	Technological factors	Remote working conditions, use of technology
	Environmental working conditions	Infrastructure, basic services
	Work modality	Remote maintenance, fulfillment of activities
Labor Productivity	Motivation	Reward, recognition, autonomy
	Personal satisfaction	Benefits, supervision, workload
	Competencies	Organization, analytical skills
	Collaborative work	Coordination, commitment, participation
	Personal training	Professional development, goals

Table 1. Operationalization of Variables

Source: Own elaboration.

The following are the working hypotheses established in this study:

General Hypothesis (HG): There is a direct and significant relationship between telework and labor productivity of workers within a framework of social responsibility.

Hypothesis 1: There is a direct relationship between time spent with the family and labor productivity of workers.

Hypothesis 2: There is a direct relationship between technological factors and teacher labor productivity.

Hypothesis 3: There is a direct relationship between environmental working conditions and labor productivity of teaching workers.

Hypothesis 4: There is a direct relationship between work patterns and labor productivity of workers within a framework of social responsibility.

DISCUSSION AND RESULTS

INTERPRETATION OF RESULTS AND TESTING OF HYPOTHESES

Hypothesis	Content validity
There is a direct and significant relationship between teleworking and labor productivity of workers.	• Irshad, H., Umar, K., Rehmani, M., Khokhar, M., Anwar, N., Qaiser, A. and Naveed, R. (2021).
There is a direct relationship between the time spent with the family and the labor productivity of workers.	• Kumar, P., Kumar, N., Aggarwal, P. and Yeap, J. (2021).
There is a direct relationship between technological factors and labor productivity of workers.	• Irshad, H., Umar, K., Rehmani, M., Khokhar, M., Anwar, N., Qaiser, A. and Naveed, R. (2021).
There is a direct relationship between environmental working conditions and worker productivity.	• Zürcher, A., Galliker, S., Jacobshagen, N., Lüscher Mathieu, P., Eller, A. and Elfering, A. (2021).
There is a direct relationship between the modalities of work and the labor productivity of workers within a framework of social responsibility.	• Delanoeije, J., & Verbruggen, M. (2020).

Table 2. Content Validity of the Hypotheses

Source: Own elaboration

SPECIFIC OBJECTIVE 1: RELATIONSHIP BETWEEN FAMILY RELATIONSHIP TIME AND LABOR PRODUCTIVITY

The results reveal that, despite the fact that 56.0% of workers perceive family time as infrequent, an enriching interaction between work and family life is observed. Labor productivity is distributed in medium (65.0%) and low (52.9%) levels, suggesting that, despite the perception of scarce family time, 65.0% of workers show medium productivity, while 52.9% have low productivity and 46.2% present high productivity, attributing motivation and job satisfaction as key factors.

Contrast of Hypotheses:

Hypothesis H1 was confirmed, showing a Spearman's coefficient of 0.898 ($p < 0.01$), indicating a strong association between family relationship time and labor productivity.

SPECIFIC OBJECTIVE 2: RELATIONSHIP BETWEEN TECHNOLOGICAL FACTORS AND LABOR PRODUCTIVITY

Regarding technological factors, these are linked to human and instrumental aspects, as they encourage the use of technology that benefits both workers and companies. This is advantageous, as it reduces costs in equipment, rent, basic services and personnel expenses, in addition to increasing productivity in the digital or remote environment.

Workers perceive that the dimension of technological factors has a very good level (38.0%), while 32.0% think it is regular and 30.0% consider it is good. In summary, employees believe that the technological factors meet the necessary conditions for teleworking, thus facilitating this work modality.

Regarding labor productivity, 76.9% of the workers have a very good level, 40.0% have an average level and 5.9% have low productivity. This indicates that motivation, job satisfaction, competencies, collaborative work and training are factors that positively influence productivity.

Contrast of Hypotheses:

Hypothesis H2 was accepted, evidencing a direct relationship with a Spearman coefficient of 0.793 ($p < 0.01$), highlighting the importance of having adequate technology in teleworking.

SPECIFIC OBJECTIVE 3: RELATIONSHIP BETWEEN ENVIRONMENTAL WORKING CONDITIONS AND LABOR PRODUCTIVITY

Environmental working conditions refer to the various contradictions that may arise in the different productive forces, where the working environment is generated. Two main forces are identified that drive social development and natural progress, evidencing an interrelation between human beings and society.

According to the perception of workers, the aspect of environmental working conditions is seen as very favorable by 56.0%, while 28.0% consider it favorable and 16.0% unfavorable. This indicates that teachers positively value the infrastructure, basic services and working conditions that support teleworking, but correlations were also found between unfavorable environmental conditions and a decrease in work effectiveness. Labor productivity reached a good level in 92.3% of the cases, suggesting that a conducive environment contributes significantly to performance.

Regarding labor productivity, 92.3% of teachers have a good level of productivity, 75.0% show medium productivity and 5.9% show low productivity. This suggests that motivation, job satisfaction, competencies, collaborative work and training are factors that influence adequate productivity.

Contrast of Hypotheses:

Hypothesis H3 was confirmed, with a Spearman coefficient of 0.789 ($p < 0.01$), indicating a positive relationship between environmental conditions and productivity.

SPECIFIC OBJECTIVE 4: RELATIONSHIP BETWEEN WORK MODALITIES AND LABOR PRODUCTIVITY

Telework includes various modalities supported by Information and Communication Technologies (ICT), such as freelance work, online work, complementary work, mobile work and the use of telecenters, which are suitable spaces for work activities, especially during the pandemic, which has allowed workers to continue with their tasks.

In terms of employee perceptions, 42.0% believe that the work arrangements are very timely, 30.0% see them as timely, and 16.0% see them as not very timely. This suggests that employees believe that time spent on remote maintenance and task accomplishment supports telework.

Regarding labor productivity, 92.3% of the workers show high productivity, 35.0% show medium productivity and 11.8% have low productivity. This indicates that motivation, job satisfaction, competencies, collaborative work and training are factors that favor adequate productivity.

Contrast of Hypotheses:

Hypothesis H4 was accepted, showing a positive relationship with a Spearman's coefficient of 0.805 ($p < 0.01$), underlining the effectiveness of the work modalities in the telework context.

GENERAL OBJECTIVE: RELATIONSHIP BETWEEN TELEWORK AND LABOR PRODUCTIVITY IN A FRAMEWORK OF SOCIAL RESPONSIBILITY

During the pandemic, telework became an opportunity for organizations to maintain their productive activities, understanding telework as the activity performed in a place other than the work center, with a focus on the use of technology for the productive process. In addition, labor productivity becomes key, since it is necessary to improve technology, relationships and working conditions to carry out various functions in a reduced time.

Regarding workers' perception of teleworking, 42.0% view it as favorable, while 36.0% consider it unfavorable and 22.0% unfavorable. This indicates that employees think that factors such as family time, technology, environmental conditions and work arrangements contribute to teleworking.

Regarding labor productivity, 76.9% of workers show high productivity, 50.0% have medium productivity and 5.9% have low productivity. This suggests that motivation, job satisfaction, competencies, collaborative work and training are elements that favor adequate productivity.

Contrast of Hypotheses:

General hypothesis:

HG0: There is no direct and significant relationship between teleworking and labor productivity of workers in a framework of social responsibility.

HG1: There is a direct and significant relationship between teleworking and labor productivity of workers within a framework of social responsibility.

The null hypothesis HG0 was refuted, accepting HG1, with a Spearman coefficient of 0.860 ($p < 0.01$). This supports the direct and significant relationship between telework and labor productivity.

GENERAL CONCLUSION

The present study has provided an overview of telework and its relationship with the productivity of the teaching staff of a Basic Education School located in Hermosillo, Sonora, Mexico, which has 12 teachers. The analysis indicates that this group presents a good level of socially responsible performance.

The findings reveal a strong positive relationship between telework and labor productivity, with an rho coefficient of 0.860 and a significance of .000. This suggests that, although telework can be both favorable and unfavorable, it results in average labor productivity.

Regarding family interaction time, a strong positive correlation with labor productivity is also found, with an rho of 0.898 and a significance of .000. However, family interaction time is infrequent, which contributes to average labor productivity.

Likewise, a strong positive relationship is observed between technological factors and labor production, with an rho of 0.793 and a significance of 0.01 bilaterally. Technological factors are considered very good, which favors high labor production.

There is also a strong positive relationship between environmental working conditions and productivity, with an rho of 0.793 and a significance of 0.01 bilaterally. Environmental conditions are very favorable for high and medium production.

With respect to work modalities, a strong positive relationship with labor productivity is established, with an rho of 0.805 and a significance of 0.01 bilaterally. These modalities are seen as very favorable and favorable to achieve high production.

In addition, there is evidence of a statistically significant and positive relationship between telework and job performance. Most studies indicate that greater use of telework results in improved performance.

This improvement depends to a large extent on the telework conditions (physical space, interruptions), the teleworker's characteristics (communication, trust, autonomous motivation) and the strategies implemented (job crafting).

It is suggested that the management of the organizations continue to strengthen the most favorable environmental conditions, allowing workers to have a comfortable environment from their homes, which is crucial to maintain adequate labor productivity.

In addition, new ways of working can be defined in the wake of the pandemic, such as freelance, hybrid or online work, ensuring that workers have the necessary equipment to organize their work life, which fosters their motivation and satisfaction, key factors in achieving high productivity and a sense of social responsibility.

In summary, the results of this study highlight the relevance of the relationship between telework and labor productivity, emphasizing the importance of factors such as family time, technological resources, environmental conditions and work modalities. In particular, an adequate management of family time had a positive impact on productivity, while access to adequate technology and a favorable work environment are essential to enhance work performance within the framework of social responsibility in educational organizations.

Telework, while essential during the pandemic, revealed areas for improvement in technological infrastructure and institutional support. To improve productivity, institutions must provide the necessary resources and support teachers in adapting to new ways of working. An appropriate balance between technological support, optimal working conditions and family life can significantly increase productivity in teleworking contexts.

LIMITATIONS AND FUTURE CONSIDERATIONS

Despite the benefits associated with telework and OSR, there are limitations that must be considered. The lack of face-to-face interaction can affect team cohesion (Golden & Veiga, 2005). Therefore, it is critical that organizations implement effective communication and collaboration strategies in telework

environments to maximize productivity and maintain a positive work environment.

Future research should further explore the relationship between telework, OSR and productivity, considering diverse industries and cultural contexts. It is also essential to investigate employees' perceptions of telework and how these influence their performance and well-being.

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