

## Providing a Model for Flexible Working Hours in Public Organizations with Emphasis on Enhancing the Productivity Level of Knowledge Workers in the Ministry of Cooperatives, Labor, and Social Welfare

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### Article Info

### ABSTRACT

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**Purpose:** Flexible working hours can impact employee productivity. Therefore, the current research aimed to present a model for flexible working hours in public organizations, emphasizing increasing the productivity level of knowledge workers.

**Methodology:** The present study was applied in objective and mixed-method (qualitative and quantitative) in execution. The qualitative study population included all academic and organizational experts familiar with the research domain, with a sample size of 25 determined based on theoretical saturation principle and selected through purposive sampling. The quantitative study population comprised all staff members of the Ministry of Cooperatives, Labor, and Social Welfare, with a sample size of 205 determined by Cochran's formula and selected through simple random sampling. Data for qualitative and quantitative sections were collected respectively using interviews and researcher-made questionnaires and analyzed with thematic analysis and exploratory factor analysis methods in Maxqda and Smart-PLS software, respectively.

**Findings:** Qualitative findings revealed that flexible working hours encompassed 15 sub-themes in 3 main themes: floating work hours, floating work location, and collaborative work; and employee productivity comprised 20 sub-themes in 3 main themes: self-management, self-control, and self-organization. Quantitative findings indicated that all themes of flexible working hours and employee productivity had a factor loading and extracted variance mean higher than 0.50 and Cronbach's alpha and composite reliability higher than 0.80. Other findings showed that the themes of floating work hours, floating work location, and collaborative work had a direct and significant effect on flexible working hours, and the themes of self-management, self-control, and self-organization had a direct and significant effect on employee productivity, and flexible working hours had a direct and significant effect on employee productivity ( $P < 0.05$ ).

**Conclusion:** The results of this study indicate that flexible working hours play an effective role in enhancing the level of employee productivity. Therefore, to improve employee productivity, the themes of floating work hours, floating work location, and collaborative work can be utilized.

**Keywords:** Flexible working hours, employee productivity, public organizations, self-management, self-control, self-organization.

## 1. Introduction

Today, the productivity of employees and organizations is a cornerstone of various organizational programs. This is because having a dynamic and secure future in the competitive world of organizations depends on employee productivity (Pang, 2018). The most important and vital asset of any organization is its human resources, and the quality, capability, and productivity of its human resources play a significant role in the survival and existence of the organization (Zhang et al., 2021). Human resources of any organization are considered its main capital and play an effective role in the economic development of the organization and society (Song et al., 2023). The term productivity is among the concepts that have been of interest to scientific communities and various nations for more than 230 years since the first scientific attempt and understanding of it, initially defined in 1776 as the production of power and later in the Littré dictionary in 1883 and the Larousse dictionary in 1946 as the production of knowledge and technique. Nowadays, productivity is viewed as a mindset meaning intelligent performance and functioning (Mehdipoor & Bibi Hafizeh, 2020). Productivity is the capability to achieve stated goals within a specific time frame with a determined cost and an acceptable standard, referring to the time spent by employees to perform job duties to achieve expected results (Florez & Cortissoz, 2017). Productivity is a comprehensive concept meaning achieving maximum possible profit by optimally using labor, power, talent, skills of human resources, and other factors affecting profitability for the organization and enhancing societal welfare (von Schéele et al., 2019). Also, productivity means maximizing the use of resources, human resources, facilities, etc., in a scientific way and reducing production costs, expanding markets, increasing employment, raising wages, improving living standards, and delivering profits to employees, managers, organizational officials, stakeholders, and consumers (Abeille et al., 2022).

One of the important dimensions of productivity is employee productivity, meaning the maximum appropriate and effective use of employees to achieve efficiency and effectiveness, and various individual, organizational, and environmental factors influence it (Sheveleva et al., 2023). Improving employee productivity is a significant priority for organizations as it paves the way for achieving organizational goals, and employees and their productivity are the most important factors for improving organizational

productivity (Cai et al., 2018). One of the main goals of any organization is to increase its employees' productivity, which is only achieved through the joint efforts of organizational managers and human resource officials, but unfortunately, the efforts of some employees lead to increased productivity. Indeed, policies and planning governing business processes should be such that the waste of organizational costs per human resource is minimized (Ma & Ye, 2019). Employee productivity is one of the important indicators in measuring the productivity of organizations and represents the contribution of employees or human resources in producing services and products (Rajesh et al., 2021). Modern organizations need to establish an appropriate organizational structure for their employees to increase their productivity and maintain their position relative to competitors, which necessitates supporting their employees towards greater productivity (Tulu, 2017). Employee productivity is one of the main factors for the success and achievement of organizational goals, and an organization with higher employee productivity can achieve its goals more effectively and desirably. In contrast, neglecting employee productivity and focusing on other factors leads to reduced efficiency and effectiveness of the organization, which can lead to increased errors, incidents, and professional events (Kale et al., 2019). Knowledge workers are highly regarded by employers due to their innovation and creativity, and managing knowledge workers requires different approaches, tools, and methods compared to managing non-knowledge workers. There is a common idea based on the need for a more autonomous and independent management style for knowledge workers compared to non-knowledge workers (Banihashemi et al., 2021).

One of the factors that can affect the productivity of knowledge workers is flexible working hours. In response to environmental changes, organizations need the ability to adapt to fluctuations in demand and changes in the environment for success or even survival. This urgent need for organizational adaptability, especially regarding working hours, has emerged (Emami et al., 2020). This concept does not change the total number of hours employees are employed but refers to a work schedule where employees' working days are centered around a core of mid-day hours, and all employees are required to be present during these hours (Munch & Proulhac, 2023). The traditional full-time working time during specific hours of the day and specific days of the week with fixed start and end times and fixed daily rest periods had a uniform timetable for all employees.

This model gradually became dissatisfactory for many employees and employers, setting the stage for change. Some employees prefer to start their work early in the morning, for example, at 5 or 6, and leave their workplace mid-day. In contrast, others prefer to start work later and stay at work until late (Florez & Cortissoz, 2017; Hafezian & Golpasand, 2019). Flexible working hours are a type of working hours that allows employees to adjust their working hours according to important aspects of their lives (Ashkan et al., 2019). Benefits of flexible working hours for individuals include a better balance between work and life, less commuting, less fatigue and burnout, more holidays, organizing their activities to fit personal needs, and a lower rate of illness, and using such programs leads to the creation and increase of more motivated workforce, more efficient and effective operations, less job burnout, and fewer mistakes and undesirable incidents (Hafezian & Golpasand, 2019).

Amini, Dorri Giv, and Ahmadi Zahrani (2022) in a study on identifying factors affecting the enhancement of productivity of remote workers during COVID-19 concluded that there are 21 sub-themes in 7 main themes including individual factors, economic factors, physiological and psychological factors, social factors, technological factors, organizational factors, and situational factors related to the work environment (Amini et al., 2022).

Silim and Stirling (2014) in a study on women and flexible work for improving employment outcomes for women concluded that flexible work policy has increased the demand for women's work in Europe and reduced women's unemployment. Also, flexible work has led to higher employment rates for women, re-engaging them with the labor market, and better utilizing their potential skills and abilities (Silim & Stirling, 2014).

Developed and developing countries have realized the importance of employee productivity as one of the necessities for economic development and gaining a competitive advantage, always seeking different methods to increase their employees' productivity to maintain and improve their position compared to competitor organizations. Also, in the current knowledge-based era, where knowledge is considered the most important capital of any organization, knowledge workers are regarded as the most important intellectual capitals of the organization, including the Ministry of Cooperatives, Labor, and Social

Welfare. According to the World Health Organization and the International Labour Organization, employees are exposed to physical, mental, psychological, and social disorders, indicating that having poor policies regarding working conditions gradually creates numerous physical and non-physical problems for all employees, including knowledge workers. Additionally, the issue of productivity of knowledge workers, considering one of the effective factors on it, namely flexible working hours in the organization, has been less studied, and in the Ministry of Cooperatives, Labor, and Social Welfare, it has not been examined. Therefore, this research attempts to present a model of flexible working hours in public organizations with an emphasis on increasing the productivity level of knowledge workers among the staff employees of the Ministry of Cooperatives, Labor, and Social Welfare. Given the issues raised, it seems that flexible working hours can affect employee productivity. Therefore, the current research was conducted with the aim of presenting a model for flexible working hours in public organizations, emphasizing increasing the productivity level of knowledge workers.

## 2. Methods and Materials

### 2.1. Study Design and Participants

Considering the objective of this study, the current research was applied in purpose and mixed-method (qualitative and quantitative) in execution. The qualitative study population included all academic and organizational experts familiar with the research domain, with a sample size of 25 determined based on the principle of theoretical saturation and selected through purposive sampling. The method of purposive sampling involved initially reviewing samples based on certain criteria, and if those criteria were met, the samples were selected. In this study, the most important criteria included having at least a Master's degree, willingness to participate in the research, consent to record interviews, and possessing sufficient knowledge in the research domain. The demographic information of the academic and organizational experts in the current research was reported in Table 1, indicating that most of them were academic experts (60%), with doctoral degrees (68%), male (84%), aged 51-55 years (40%), and had a work experience of over 20 years (68%).

**Table 1**

*Demographic Information of Academic and Organizational Experts in the Current Study*

Variable	Category	Frequency
Position	Academic Experts	15
	Organizational Experts	10
Education	Master's Degree	8
	Doctoral Degree	17
Gender	Female	4
	Male	21
Age	45 and under	1
	46-50	9
	51-55	10
	Over 55	5
Work Experience	10 and under	3
	11-20	5
	Over 20	17

Also, the quantitative study population comprised all staff members of the Ministry of Cooperatives, Labor, and Social Welfare, with a sample size of 205 determined by Cochran's formula and selected through simple random sampling. In this study, 230 employees of the Ministry were selected as the sample and were sent the instruments, but 25 questionnaires were discarded due to being incomplete, and eventually, analyses were conducted for 205 participants.

## 2.2. Data Collection

Data were collected through semi-structured interviews with faculty members and educational group managers, and a researcher-made questionnaire was completed by all sample members, namely four groups of faculty members, educational group managers, graduates of Primary Education from Farhangian University campuses, and primary school principals. Semi-structured interview questions were designed for interviews with two groups of faculty members and educational group managers based on theoretical foundations and with the help of guide and consultant professors. Interviews were conducted individually at a previously determined time and place, with each interview lasting about 40 to 50 minutes. During the interview, important and key points were noted, and interviews were recorded to ensure that no information was accidentally missed. The researcher-made questionnaire,

designed based on interviews with the interviewees, namely two groups of faculty members and educational group managers, asked all samples, including samples from all four groups of faculty members, educational group managers, graduates of Primary Education from Farhangian University campuses, and primary school principals, to respond to the questionnaire and specify their opinions on the desirability of the items.

## 2.3. Data Analysis

In this study, due to the presence of qualitative and quantitative sections, data were analyzed using thematic analysis and exploratory factor analysis methods in Maxqda and Smart-PLS software, respectively.

## 3. Findings and Results

In the qualitative section of this study, 25 academic and organizational experts participated, whose data from interviews were analyzed using thematic analysis. The results of the thematic analysis of interviews were reported in Table 2, showing that flexible working hours had 15 sub-themes within 3 main themes: floating work hours, floating work location, and collaborative work; and employee productivity had 20 sub-themes within 3 main themes: self-management, self-control, and self-organization.

**Table 2***The Results of Qualitative Analysis*

Category	Main Theme	Sub-theme
Flexible Working Hours	Floating Work Hours	Overtime
		Rotating Shifts
		Night Shifts
		Employee choice of start and end times
		Temporary/Casual Work
		Scheduled Work Hours
		Part-Time Work
		Fixed Contracts
		Remote Work
		Job Rotation
Employee Productivity	Collaborative Work	Work Division Among Two or More People
		Teamwork or Team Collaboration
		Ability to Set Work and Personal Goals
		Updating Job Information
		Use of Creative Ideas in Job
		Creating Order
		Planning for Goals
		Time Management
		Identifying Opportunities to Achieve Goals
		Internal Voice
	Self-Control	Ability to Control Outcomes of Individual Activities
		Utilizing Information Technology in Work
		Adjusting Behavioral Characteristics to Current Conditions and Situations
		Sensitivity in Social Situations
		Organizing Work and Personal Tasks to Achieve Goals
		Self-Efficacy
		Effective Performance of Duties

In the quantitative section of this study, 205 staff members of the Ministry of Cooperatives, Labor, and Social Welfare participated, whose data from the questionnaires were analyzed using exploratory factor analysis. The results of mean, standard deviation, skewness, and kurtosis of

variables were reported in Table 3, confirming the normality assumption for flexible working hours and employee productivity and each of their components due to the skewness and kurtosis values ranging between +1 and -1.

**Table 3***Mean, Standard Deviation, Skewness, and Kurtosis of Variables in the Current Study*

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Flexible Working Hours	3.47	0.69	0.43	-0.65
Floating Work Hours	3.65	0.61	-0.04	-0.35
Floating Work Location	3.31	0.83	0.47	-0.19
Collaborative Work	3.26	0.86	0.30	-0.85
Employee Productivity	3.29	0.71	0.61	-0.51
Self-Management	3.21	0.70	0.62	-0.51
Self-Control	3.42	0.74	0.46	-0.43
Self-Organization	3.26	0.92	0.27	-0.85

The results of the exploratory factor analysis of the questionnaires were reported in Table 4, showing that all themes of flexible working hours and employee productivity

had a factor loading and extracted variance mean higher than 0.50, and Cronbach's alpha and composite reliability higher than 0.80.



**Table 4**

*Exploratory Factor Analysis of Questionnaires in the Current Study*

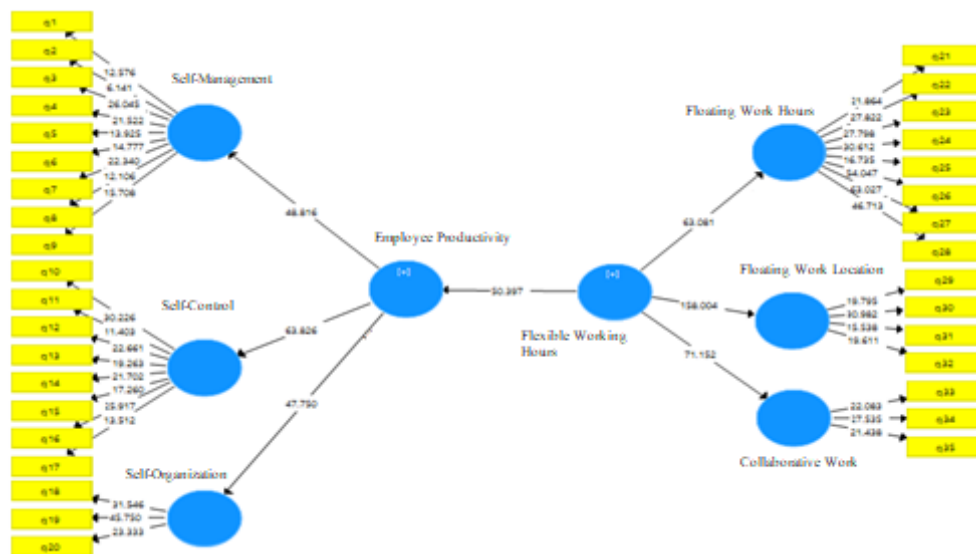
Variable	Number of Items	Factor Loading	Extracted Variance Mean	Cronbach's Alpha	Composite Reliability
Flexible Working Hours	15	0.68	0.55	0.88	0.90
Floating Work Hours	8	0.72	0.67	0.89	0.91
Floating Work Location	4	0.81	0.72	0.83	0.86
Collaborative Work	3	0.59	0.63	0.81	0.84
Employee Productivity	20	0.55	0.58	0.94	0.96
Self-Management	9	0.64	0.61	0.92	0.94
Self-Control	8	0.70	0.63	0.90	0.91
Self-Organization	3	0.55	0.59	0.85	0.87

The R2 fit index for the model constructs was 0.79, 0.91, 0.80, 0.75, 0.79, and 0.76, and the Q2 fit index for them was 0.21, 0.26, 0.21, 0.23, 0.24, 0.29, 0.24, and 0.24, all positive and at a desirable level. The results of the flexible working hours model with an emphasis on enhancing employee productivity were reported in terms of t-statistics, showing that the themes of floating work hours, floating work

location, and collaborative work had a direct and significant effect on flexible working hours, and the themes of self-management, self-control, and self-organization had a direct and significant effect on employee productivity, and flexible working hours had a direct and significant effect on employee productivity ( $P < 0.05$ ).

**Figure 1**

*Structural Model of The Study with T-Values*



#### 4. Discussion and Conclusion

Employee productivity is a crucial and vital issue and can create a competitive advantage for the organization. Flexible working hours can impact employee productivity. Therefore, this research aimed to present a model of flexible working hours in public organizations, emphasizing the enhancement of knowledge workers' productivity levels.

In this study, the findings of the qualitative section indicated that flexible working hours consisted of 15 sub-

themes within 3 main themes: floating work hours, floating work location, and collaborative work; and employee productivity consisted of 20 sub-themes within 3 main themes: self-management, self-control, and self-organization. The findings of the quantitative section showed that all themes of flexible working hours and employee productivity had a factor loading and extracted variance mean higher than 0.50, and Cronbach's alpha and composite reliability higher than 0.80. Other findings indicated that the themes of floating work hours, floating

work location, and collaborative work had a direct and significant effect on flexible working hours, and the themes of self-management, self-control, and self-organization had a direct and significant effect on employee productivity, and flexible working hours had a direct and significant effect on employee productivity. Although no research was found on the model of flexible working hours on employee productivity, in some aspects, the findings of this study were consistent with the findings of previous studies (Abd Rahman et al., 2013; Emami et al., 2020; Florez & Cortissoz, 2017; Hafezian & Golpasand, 2019; Munch & Proulhac, 2023; Tulu, 2017).

Interpreting the findings of this study, it can be said that floating work hours mean employees have enough independence to work and can advance their tasks when they are most productive. In the past, floating work hours meant employees could work from seven in the morning to four in the afternoon; in other words, arrive at work one hour earlier in the morning and leave one hour earlier in the afternoon, but today, employees in the third millennium demand more flexibility in their working hours from employers. They need various options for making their work schedules flexible and sometimes want their work schedule to be flexible according to their life needs. When employees work with floating work hours, they work more independently, minimizing the need to consult managers. Floating work hours help managers and employers have more time and focus on other tasks. Also, floating work locations refer to remote work and performing job duties remotely without physical presence in offices, organizations, and companies, provided that it does not harm the quality of work and employees perform their job duties with full seriousness. Floating work locations offer many benefits for employers, the most important of which is saving costs and facilities. This reduction does not mean that employees receive lower wages, but it also reduces work and environmental expenses. With this tactic, costs such as system expenses, electricity, water, equipment, rent, transportation, etc., are significantly reduced, and items like parking space, workspace, furniture, etc., are minimized. Studies indicate that if a person is outside the framework and control of the organization, they strive to improve themselves to achieve maximum efficiency in the shortest possible time. Additionally, collaborative work blends and complements the individual strengths of each member with each other, thereby bringing individuals closer together with a sense of camaraderie and a common vision to use their strengths in a coordinated way to achieve meaningful and significant goals. Therefore, the basis of collaborative and

team work is a common goal, and if each team member has a different agenda, cooperation will be difficult and achieving goals much harder. Teamwork brings people from a wide range of backgrounds together to access different experiences and creates an appropriate environment for brainstorming and creative problem-solving. Collaborative work allows employees to overcome obstacles and present creative solutions to problems. Many businesses rely on risk-taking, and employees working alone are significantly concerned about taking risks, which in turn can prevent employees from sharing potentially pioneering ideas. Consequently, if a foundation for team collaboration can be established when taking risks, both praise and blame are distributed among the team, and the sense of shared success also helps improve internal communications.

In interpreting other findings of this study, it can be said that self-management is an internal and cognitive process through which an individual can consciously and constructively examine and change their thoughts towards innovation and progress. In other words, self-management is a technique that helps the system to automatically guide and control itself. This theme is an educational process that encourages and guides individuals and employees of a group to achieve a specific behavior and desired result. One of the most important tasks and skills in self-management and achieving it is planning, which saves time, energy, and costs and prevents ambiguity, confusion, and going down wrong paths that can have very significant losses. Planning makes achieving goals more feasible, and if we do not know what to do to achieve goals and which tasks and activities are more important, we will face many difficulties in achieving goals. Also, regarding the theme of self-control, it can be said that the characteristics of employees, especially knowledge workers, can be examined from various dimensions, and this issue has led to different attitudes about this topic. Since knowledge workers are responsible for managing and guiding knowledge, they will distinguish themselves from others through their abilities. Success in knowledge work depends on what the individual does themselves, not on orders given to them. In such circumstances, an individual who thinks independently and uses creativity will achieve success. Self-controlled individuals have an internal control center and create order and a framework within themselves using internal motivation without external supervision or with limited and calculated order, achieving job success. Additionally, regarding the theme of self-organization, it can be said that human behavior is not only controlled by the environment but cognitive processes play an important role

in human behavior. Human performance and learning are affected by cognitive orientations, emotions, expectations, beliefs, and values, and humans are active beings and affect events in their lives. Humans are influenced by psychological factors and actively affect their motivations and behaviors. In other words, individuals are not driven by internal forces nor are they acted upon by environmental stimuli, but psychological functions, performance, behavior, environment, and stimuli determine it.

Other findings indicated that flexible working hours increased the productivity level of knowledge workers. Flexible working hours are one of the facilities that employees, especially third-millennium knowledge workers, highly welcome and are pleased with. Also, implementing flexible working hours or a flexible work schedule has benefits for both employers and employees, and these benefits make it necessary for employers to consider this method as a beneficial strategy. Moreover, flexible working hours are also very attractive to employees, and with the advancement of technology, employees can easily communicate with each other regardless of their geographical location and engage in work and activities. This flexible work style helps employees maintain their work-life balance and even have another part-time job. Additionally, flexible working hours allow them to perform their important tasks during the quietest hours of the day and complete more tasks. Contrary to the general belief that flexible working hours lead to a lack of managerial supervision over employees or that employees do not perform their duties adequately and satisfactorily, studies indicate that flexible working hours increase employee productivity through the processes described.

Based on the results of this study, the following practical suggestions are offered to managers, employers, and employees.

The Ministry of Cooperatives, Labor, and Social Welfare should develop appropriate programs for attracting, training, and interacting with knowledge workers by having a better understanding of their personality and behavior, thereby paying special attention to its knowledge workers and adopting necessary strategies to ensure their satisfaction and loyalty to the organization.

To reduce work pressure on knowledge workers, managers and employers are advised to overlook mistakes made by these employees that result from the work process and only issue warnings.

Given the introverted nature suitable for knowledge workers, it is appropriate to provide a suitable work

environment for them. Also, providing opportunities for mental rest such as walking areas, sports, rest, and even sleep during work can also be provided by the organization for knowledge workers.

### Authors' Contributions

In this study, authors had different contributions and roles; the first author was responsible for data collection, and other authors were responsible for analysis and writing of the article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

There was no conflict of interest among the authors in the present research.

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### Ethical Considerations

The importance and necessity of the research were explained to participants of both qualitative and quantitative sections, and assurances were given regarding ethical considerations such as confidentiality and the privacy of personal information, etc.

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