

أثر تطبيق نظام العمل عن بعد على الارتباط التنظيمي للعاملين دراسة تطبيقية علي السيدات العاملات بجامعة المنصورة

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المستخلص

تهدف هذه الدراسة إلى دراسة التأثير المباشر وغير المباشر للعمل عن بُعد على المشاركة التنظيمية للموظفين، مع الأخذ في الاعتبار. طُبِّق استبيان لجمع البيانات من جامعة المنصورة. جُمعت البيانات من 380 عضوًا أكاديميًا في جامعة المنصورة باستخدام استبيان (معدل استجابة 50%).

أثبتت النتائج العديد من النقاط. يُعتمد العمل عن بُعد بشكل عام من المنزل لضمان تقديم الخدمات بشكل متسق، مع الالتزام بمعايير التباعد الاجتماعي التي وضعتها المنظمات الصحية الوطنية والدولية لتجنب انتقال المرض.

ومع ذلك، لم تحاول سوى دراسات قليلة استكشاف وجهات نظر الإدارة فيما يتعلق باستخدام العمل عن بُعد كأداة لتوفير الوقت بين المتخصصين في مجال التكنولوجيا. وقد أدت التعريفات المختلفة للعمل عن بُعد إلى تعقيد فهم آثار التحول من نموذج المكتب التقليدي إلى العمل عن بُعد والمصطلحات المرتبطة به مثل العمل عن بُعد والعمل من المنزل.

إن قدرة العاملين عن بُعد على الانتقال من وإلى أبعاد العمل والأسرة لها تأثير كبير على إنتاجيتهم وجودة حياتهم. كما استخدموا نظرية الحدود لدراسة قدرة الموظفين على الانتقال من العمل إلى الأسرة دون التسبب في صراعات كبيرة. ولاحظوا أنه في حين قد يتمتع الموظفون جسديًا عن العمل، فإن نسبة كبيرة منهم يجدون صعوبة في إكمال الانتقال المعرفي المصاحب. ولاحظوا أن العاملين عن بُعد عانوا من انقطاعات كبيرة بين العمل والمنزل، مما أدى إلى صراعات متكررة. ويميل الموظفون إلى مواجهة انقطاعات أقل بين العمل والمنزل عند العمل من مقرات مؤسساتهم.

الكلمات المفتاحية : نظام العمل عن بُعد، مشاركة الموظفين في المنظمة

The Effect of Telecommuting System on Organizational An Empirical Study On Working Engagement of Employees Woman At Mansoura University

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Abstract

This study aims to investigate both the direct and indirect impact of telecommuting and Organizational Engagement of Employees while

taking into account. A questionnaire was done so as to collect data from Mansoura University. Data were collected from 380 academic staff in Mansoura University using questionnaire (50% response rate).

The Results have proved many points. Telecommuting is generally adopted from home to ensure consistent delivery of services, adhering to social distance standards provided by national and international health organizations to avert transmission of the disease.

However, only a few studies have attempted to explore management perspectives regarding the use of telecommuting as a tool for timesaving among technology professionals. The varying definitions of telecommuting complicated the understanding the implications of shifting from the conventional office model to telecommuting and associated terms such as teleworking and working from home.

Teleworkers' ability to transition to and from their work and family dimensions has a significant influence on their productivity and quality of life. also utilized the Border Theory to examine employees' ability to transition from their work to their family dimensions without causing significant conflicts. noted that whereas employees might physically refrain from their work, a significant portion of them struggled to complete the accompanying cognitive role transition. observed that telecommuters experienced a significant portion of work-to-home and home-to-work interruptions that led to frequent conflicts. Employees tend to experience reduced work to-home interruptions when working from their organizations' premises.

Keywords: Telecommuting System, Organizational Engagement of Employees

1.1)

The concept of telecommuting provides employees with the choice of working from the traditional office setting or remote locations (Ansong & Boateng, 2018). For example, some companies allow employees to select compressed work weeks or choose start or end hours, depending on the amount of work to be completed (Beno, 2018). Time-use research investigates the time allocation of individuals to everyday activities. (Bieser,2022)Time-use data is usually collected by individuals keeping diaries about their everyday activities. A large collection of time-use data from more than 60 countries from 1961 until 2005 is collected and standardized in The Multinational Time Use Study (MTUS, Gershuny et al., 2020). This data either indicates how much time individuals spend on a set of activities per day (aggregate data) and/or the sequence of activities conducted (episode data). Data is enriched with demographic and socio-economic information about arists (e.g. gender, age, family status) and activity-related information. (Bieser,2022)

Telecommuting and other work arrangements that provide control over the location ortiming of work have been offered as a strategy for addressing the competing demands of workand home—and the inequalities that stem from

gendered time commitments (e.g., Gajendran & Harrison, 2007; Goldin, 2014; Ishizuka & Musick, 2021). US workers cite flexibility and control over their schedules as desirable features of work (Brenan, 2020; Mas & Pallais, 2017), and women with children in particular are willing to take wage penalties in exchange for more flexibility in work hours and locations (Mas & Pallais, 2017).

The purpose of this qualitative exploratory case study was to explore and understand the management perspective towards adopting telecommuting as a timesaving tool for IT professionals in Gwinnett County, Georgia. The study was important because it improved awareness of how teleworking can be adopted to improve employee performance in terms of timesaving. This chapter provides a comprehensive overview of the background, purpose, and nature of the case study, the research questions, theoretical foundation, conceptual framework, assumptions, scope, and delimitations related to the study and finally, the potential implications of the study to theory, social change, and practice.

1.2) Operational Definitions

Telecommuting System:

According to Ansong and Boateng (2018), telecommuting involves the practice where employees substitute part of their normal working hours to work from a remote location utilizing technology to communicate and interact with colleagues as needed to perform their tasks.

Organizational Engagement of Employees:

According to (Nabil et al, 2019) Employee Engagement is also often referred to as work engagement, which is a situation where members of an organization identify themselves with their work in an engagement or engagement, someone will employ and express themselves physically, cognitively and emotionally when showing their performance. The cognitive aspects of Employee Engagement include the beliefs employees have about the organization, its leaders and working conditions.

1.3) Research Motivation

A primary limitation of the exploratory case study was the lack of a standard definition of telecommuting. The lack of a common definition of telecommuting complicated the interpretation of employment relationships between workers and organizations.

The case study used Allen et al.'s (2015) definition of telecommuting 14 based on a wide range of empirical evidence. Another limitation of the exploratory case study

was my lack of control of the selected organizations' cultures and their influence on managers' perspectives on telecommuting. Organizations have different cultures that determine how employees are viewed and treated. Some organizations have a supportive culture, while others are indifferent. In addition to being time-intensive, qualitative designs do not determine causality, and findings cannot be verified.

1.4) Research Gap

The general problem in this qualitative exploratory case study was that many people who could work remotely are required to commute to work, causing time losses and lateness to work (Boell et al., 2016). Findings from a national survey on employee lateness showed that about 29% of all Americans who commute to work arrive late at least once a month (CareerBuilder, 2017). Tardiness costs U.S. businesses billions of dollars because it interferes with productivity (Mattress Clarity, 2019).

A national survey by Mattress Clarity that assessed 2,750 workers in the United States indicated that the costs of tardiness were more than \$700 million per annum in New York State, about \$1 billion in California, and \$500 million in Illinois (Mattress Clarity, 2019).

The specific problem was that although many technology jobs can be accomplished remotely, and there is considerable time lost in commuting to work, many companies have not embraced the concept of telecommuting (Choi, 2018). Evaluation of official labor market data showed that the extent of working from home increased from 2.9% in 2001 to 4.4% in 2012 (Felstead & Henseke, 2017). Statistics indicated that only 7% of Americans telework (Desilver, 2020).

However, approximately 50% of workers were required to telecommute due to the coronavirus pandemic (Hickman & Saad, 2020). With more than half of the population still reporting to fixed working space in a span of over 10 years of telecommuting in existence, teleworking was considered to be the least revolutionary (Allen et al., 2015; Felstead & Henseke, 2017). The gap in the literature exists with a limited understanding of the management perspective in using telecommuting for time loss remediation (Pirdavani et al., 2014).

1.5) Research Problem and Questions

Telecommuting has been adopted by a range of businesses, governments and not-for-profit organizations.

Organizations may use telecommuting to reduce costs (telecommuting employees do not require an office a space which needs to be rented or purchased, and incurs additional costs such as lighting, climate control, Some organizations adopt telecommuting to improve workers' quality of life, as teleworking typically reduces commuting time and time stuck.

In order to address the research gap, the following Three question are asked:

- **RQ1:** What is the relationship between the dimensions of the Research Variables (Telecommuting System – Organizational Engagement)?
- **RQ2:** Is there an effect of applying Telecommuting system on the organizational Engagement of working woman at Mansoura University?
- **RQ3:** Does the perception of working women at Mansoura University of the Research Variable (Telecommuting System – Organizational Engagement) differ according to the different demographic Variables (Years of Experience - Education Qualification - Place of Residence - Marital Status)?

1.6) Research Objectives

By investigating the research gap and its questions, this research embraces the following objectives:

- **1.6.1)** Determine the nature of correlation Relationship of Research Variable (Telecommuting System – Organizational Engagement).
- **1.6.2)** Measure the Effect of applying Telecommuting System on the organizational Engagement of working women at Mansoura University.
- **1.6.3)** Understand the nature of the difference in the perceptions of working woman at Mansoura University of the Research Variables (Telecommuting System – Organizational Engagement) according to the difference in the demographic Variable (years of experience - education qualification - place of residence - marital status).

1.7) Research Hypotheses

The research develops central three hypotheses based on previous studies in order to answer the research questions. These hypotheses are developed as follows:

- **H1:** There is no significant correlation Relationship between the dimensions of the research variables (Telecommuting System – Organizational Engagement).
- **H2:** There is no Significant effect for the application of Telecommuting System on organizational Engagement for working women at Mansoura University.
- **H3:** There is no significant difference in the perception of Working Woman at Mansoura University of the research Variables (Telecommuting System – Organizational Engagement). according to the difference of the demographic variables (years of experience - education qualification - place of residence - marital status).

2.2) Telecommuting System

2.2.1) the Definition of Telecommuting System

Telecommuting System is defined as “a work practice that involves members of an organization substituting a portion of their typical work hours to work away from a central workplace, using technology to interact with others as needed to conduct work tasks”.

Telecommuting is generally adopted from home to ensure consistent delivery of services, adhering to social distance standards provided by national and international health organizations to avert transmission of the disease. (Baha, Zahid, 2022)

2.2.2) The Importance of Telecommuting System

Telecommuting can help to create organizational efficiencies and improve competitive advantage. It has been studied from a variety of perspectives, including that of transportation, management, psychology, and information systems. However, telecommuting literature, while abundant and diversified, often reports contradictory results, creating dilemmas for practice and research.

Past researchers noting such conflicting findings often identify the lack of guiding theoretical bases as a key problem. In an attempt to explain the contradictory results found in prior research and in practice, we review telecommuting literature and expose conceptualisation issues that need to be addressed in the development of a telecommuting research model: telecommuting as both a context and an aspect of work, as a multi-level concept and as a time-dependent concept.

The proposed multi-level model, guided by socio-technical systems theory, illustrates the inter-relationships of telecommuting antecedents and outcomes across levels of analysis and over time. The research offers a number of important implications for future research, as well as for managers involved in or affected by telecommuting in their organizations.

2.3.1) The Definition of Organizational Engagement of Employees .

Organizational Engagement (OE) of Employees as a condition where an employee is attached to the organization. Generally, high engagement can be seen by the strong bond between two parties and employees having a dedication to giving the best effort for their organization. It is stated that engagement can directly affect the business itself and could reduce costs related to the high turnover rate, meaning engagement can also reduce TI. Some studies implicated that SWE can improve OE. The presence of SWE could also prevent disengagement between employees and the organization. (Fanny, 2022)

Organizational Engagement of Employees is the psychological condition of the individual in playing a role in the work (Lambert et al., 2021). In addition, employee engagement refers to the condition of a person's attachment to work (Chaudhary et al., 2021). Thus, the association between employees indicates emotional, cognitive and physical involvement that then motivates them in completing the task with feelings of satisfaction and enthusiasm (Jaupi & Llaci, 2015). According to Shrotryia and Dhanda (2020), employee engagement refers to the condition of a person's attachment to work.

The concept of engagement is growing through research from Mercer (2011) that emphasizes the affective state or psychological condition of employees. Therefore, leadership is needed by organizations to develop a conducive work environment and build motivation for members so as to generate the expected feedback from various aspects (Stoner et al., 1994).

An entrepreneurial leader needs to do two things in the face of challenges where the two are interconnected. First, imagine and create a scenario to deal with any possibilities that occur in the future that may affect the current planned circumstances or can be referred to as scenario enactment. Second, an entrepreneur leader needs cast enactment, to awaken the trust of his subordinates and all stakeholders that the whole process of transforming from a regulated transaction will be possible by stringing

together all the resources owned. That way, it can be concluded that the main characteristic of entrepreneur leaders is to be able to continue to innovate in utilizing existing opportunities for the betterment of the organization and dare to risk uncertainty (Chell & Athayde, 2011).

Thus, the work culture has a role to be able to provide a direction for organizational policy in member management (Solossa et al., 2015). A system of shared meaning formed by members and at the same time a differentiator with one organization with another.

2.3.2) The Importance of Organizational Engagement of Employees

Employee engagement has been perceived as a motivational factor towards organization's objectives achievement. The good environment that is offered to the worker enables him to offer the best that the organization needs for its achievement of goals and objectives (Paluku 2016).

Studies indicate that there is no single description regarding engagement of an employee. There is no general accepted approach to describe the terminology of employee engagement. Employee engagement is characterized by the presence of workers at work place, fulfillment of its responsibility, leadership relationship with workers and leadership consideration of workers as focal point for organizational performance.

Lumina (2014) argued that employees were engaging in complex transactions that were structured in such a manner in order to misrepresent the financial performance of the organization. There are many aspects of life and not only services that characterize employee engagement. Diversity of organizations intensifies problems of work place that hinder organization performance. Studies show that individual employee's problems can be of personal ability to work, supervision issues of leadership and personal trauma to cope with the workload. Organizations tended to consider financial aspects of employee to achieve organizational goals.

There is potential and opportunity for organization that consider both financial and non-financial factor for their performance. Regardless the size of the organization and its type, objectives from nonfinancial factors could be benefit to the organizational performance.

3.5) Data Collection

3.6.4) Population and Sample Size

3.6.4.1) Population and Sampling

Population is the whole group from which a sample is selected. Because of the difficulty in collecting data from the entire population, research depends on sampling. As sampling saves money and time and helps to make a generalization of results to the whole population (Kothari, 2004). Sample should be representative to be able to generalize the findings. So, the sample size must be sufficient to achieve representativeness. Drawing on Acharya et al. (2013), sampling is divided into two approaches, namely probability sampling (representative sampling) and non-probability sampling. This study adopts the probability sampling as it inquires the capability to generalize sample data to all elements of population. Moreover, Saunders et al. (2007) stressed that survey-based research commonly depends on probability sampling.

3.6.4.4) Sample Size

After identifying the study population and the sampling frame, the researcher would identify the suitable sample size. Selecting sample size should be precise and enough in order to be able to represent the whole population. The appropriate sample size depends on types of statistical analysis the researcher uses, the margin of error, confidence level, and the population size (Saunders et al., 2009). Saunders et al. (2009) stressed that at a 5% margin of error, 95% confidence level, and population between 5000 and 10000, the required sample ranges from 350 to 380.

4.4) Tests of hypotheses and analysis of result

The research hypotheses were tested as follows:

- 1) the first hypothesis test: which states that

There is no significant correlation Relationship between the dimensions of the research variables (Telecommuting System – Organizational Engagement).

To test this hypothesis, the researcher calculated the Pearson correlation coefficient to determine the type and strength of the relationship between the dimensions of teleworking style requirements and the dimensions of organizational engagement of workers, and the following table shows the statistical analysis of the results of that relationship:

Table (4.5)

Correlation coefficients between dimensions of Telecommuting System and Organizational Engagement of Employees

	Senior Management	Organizational Engagement of Employees	Telecommuting System	Job Satisfaction	Quality of relationships With Colleagues	Quality of relationships with Superiors	Balance between family life and professional life	Independence	Technology Architecture	Inner Confidence
Senior Management	-	.869**	.834**	.858**	.874**	.799**	.816**	.903**	.988**	.930**
Inner Confidence			.787**	.773**	.829**	.832**	.696**	.818**	.920**	.862**
Technology Architecture				.773**	.784**	.793**	.754**	.833**	.889**	.856**
Independence					.843**	.777**	.785**	.841**	.863**	.910**
Balance between family life and professional life						.829**	.798**	.847**	.887**	.948**
Quality of relationships with Superiors							.768**	.789**	.840**	.884**
Quality of relationships With Colleagues								.828**	.816**	.890**
Job Satisfaction									.912**	.955**
Telecommuting System										.944**
Organizational Engagement of Employees										-

* Pearson correlation coefficients at a significance level of 0.05

** Pearson correlation coefficients at a significance level of 0.01

Source: Prepared by the researcher according to statistical analysis.

It is clear from the previous table that there is a direct moral correlation at the level of **0.01** between the variables of the requirements of the remote working style and the dimensions of the organizational attachment of workers, which means rejecting the imposition of nothingness and accepting the alternative imposition.

There is significant correlation at 0.01 between the dimensions of the research variables (Telecommuting System – Organizational Engagement)

4.5) the second hypothesis test: which states that:

There is no moral effect for the application of Telecommuting System and the organizational for working women at Mansoura University.

4.5.1) the first sub-hypothesis:

There is no significant effect for the application of Telecommuting System and the Organizational engagement for working women at Mansoura University.

4.5.2) the Second sub–hypothesis:

There is no significant effect for the application of Telecommuting System and the Balance between family life and work life engagement for working woman at Mansoura University.

4.5.3) the Third sub–hypothesis:

There is no significant effect for the application of Telecommuting System and the Quality of relationships with Superiors engagement for working woman at Mansoura University.

4.5.4) the Fourth sub–hypothesis:

There is no significant effect for the application of Telecommuting System and the Quality of relationships With Colleagues engagement for working woman at Mansoura University.

4.5.5) the Fifth sub– hypothesis:

There is no significant effect for the application of Telecommuting System and the Job Satisfaction engagement for working woman at Mansoura University.

4.5.6) the sixth sub– hypothesis:

There is no significant effect of total score Telecommuting System and the total score of Organizational Engagement of Employees for working woman at Mansoura University.

4.5.7) the seventh sub–hypothesis:

There is no significant effect for the application of Telecommuting System and the total score of Organizational Engagement of Employees for working women at Mansoura University

4.5.1) the first sub–hypothesis test, which states that:

There is no significant effect for the application of Telecommuting System and the organizational engagement for working woman at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.6)

Regression analysis related to the relation between Telecommuting System and the Independence

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
Constant	Independence Y1	1.162	.346		3.363	.001
Senior Management X1		.168	.011	.702	14.938	.000
Technology Architecture X3		.177	.044	.188	4.004	.000
F = 556.372 sig. = 0.001						
R ² = 0.747						

Source: Prepared by the researcher according to statistical analysis.

4.5.3) the third sub-hypothesis test, which states that:

There is no significant effect for the application of Telecommuting System and the Quality of relationships with Superiors engagement for working woman at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.9)

Regression analysis related to the relation between Telecommuting System and the Quality of relationships with Superiors

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
Constant	Quality of relationships with Superiors Y3	1.172	.349		3.354	.001
Inner Confidence X2		.419	.032	.547	12.913	.000
Technology Architecture X3		.339	.039	.363	8.584	.000
F = 544.229 sig. = 0.001						
R ² = 0.743						

Source: Prepared by the researcher according to statistical analysis.

4.5.4) the fourth sub-hypothesis test, which states that :

There is no significant effect for the application of Telecommuting System and the Quality of relationships With Colleagues engagement for working women at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.11)

Regression analysis related to the relation between Telecommuting System and the Quality of relationships With Colleagues

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
Constant	Quality of relationships With Colleagues Y4	1.814	.399		4.548	.000
Senior Management X1		.169	.016	.699	10.413	.000
Technology Architecture X3		.254	.051	.268	4.994	.000
Inner Confidence X2		-.096	.047	-.123	-2.054	.041
F = 274.254 sig. = 0.001						
R ² = 0.687						

Source: Prepared by the researcher according to statistical analysis.

4.5.5) the fifth sub-hypothesis test, which states that:

There is no significant effect for the application of Telecommuting System and the Job Satisfaction for working women at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.12)

Regression analysis related to the relation between Telecommuting System and the Job Satisfaction

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
Constant	Job Satisfaction Y5	1.139	.747		1.525	.128
Senior Management X1		.440	.024	.682	18.027	.000
Technology Architecture X3		.665	.095	.264	6.978	.000
F = 957.734 sig. = 0.001						
R ² = 0.836						

Source: Prepared by the researcher according to statistical analysis.

4.5.6) the sixth sub-hypothesis test, which states that:

There is no significant effect of total score Telecommuting System and the total score of Organizational Engagement of Employee for working women at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.14)

Regression analysis related to the relation between Telecommuting System and the Organizational Engagement of Employees

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
Constant	Organizational Engagement of Employees Ytot	6.139	1.715		3.579	0.000
Telecommuting System Xtot		1.119	0.020	0.944	55.353	0.000
F = 3063.991 sig. = 0.001						
R ² = 0.890						

Source: Prepared by the researcher according to statistical analysis.

4.5.7) the seventh sub-hypothesis test, which states that:

There is no significant effect for the application of Telecommuting System and the total score of Organizational Engagement of Employees link for working women at Mansoura University.

To test the validity of this hypothesis, the researcher used the simple Linear Regression analysis (Stepwise), which is used to predict the changes of the dependent variable, which is affected by one independent variable, and the following table shows the result of this statistical analysis as follows:

Table (4.15)

Regression analysis related to the relation between Telecommuting System and the total score of Organizational Engagement of Employees

Model	Dependent Variable	Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
Constant	Organizational Engagement of Employees Ytot	6.244	1.722			
Senior Management X1		1.063	0.070	0.597	15.131	0.000
Inner Confidence X2		0.918	0.202	0.160	4.552	0.000
Technology Architecture X3		1.619	0.220	0.232	7.362	0.000
F = 1032.431 sig. = 0.001						
R ² = 0.892						

Source: Prepared by the researcher according to statistical analysis.

4.6) The third hypothesis

There is no significant difference in the perception of working woman at Mansoura University of the research (Telecommuting System- Organizational Engagement) variables according to the different demographic variables (years of experience - education qualification - place of residence - marital status).

4.6.1) First: differences according to chronological age:

The "single variance analysis" test was used for independent groups to determine the significance of differences between the responses of working women at Mansoura University in the two research variables (requirements for remote working style – organizational engagement of workers) according to chronological age, and the following table shows this: Table (4.16)

On way Anova at Telecommuting System – Organizational Engagement according to age

Variables	Source of variance	Sum of Squares	Df	Mean Square	F	Sig.
Telecommuting System	Between Groups	8258.528	4	2064.632	7.173	.000
	Within Groups	107648.343	374	287.830		
	Total	115906.871	378			
Organizational Engagement	Between Groups	17127.425	4	4281.856	10.969	.000
	Within Groups	146001.129	374	390.377		
	Total	163128.554	378			

Table (4.17)

Descriptive at Telecommuting System – Organizational Engagement according to age

		N	Mean	Std. Deviation
Telecommuting System	less than 25	10	100.0000	.00000
	25-35	126	87.5635	15.38857
	35-45	123	80.3821	18.19679
	45-55	91	80.3956	17.82313
	more than 55	29	76.3448	17.98864
	Total	379	82.9815	17.51091
Organizational Engagement	less than 25	10	119.0000	.00000
	25-35	126	106.4683	18.39073
	35-45	123	94.6260	20.70852
	45-55	91	95.5824	20.40211
	more than 55	29	89.3793	22.31498
	Total	379	99.0343	20.77395

Source: Prepared by the researcher according to statistical analysis.

Table (4.18)**Multiple Comparisons according to age**

variables	Age sets		Mean difference	Sign.
	less than 25	25-35	12.43651	-
		35-45	19.61789	0.05
		45-55	19.60440	0.05
		more than 55	23.65517	0.05
Telecommuting System	25-35	35-45	7.18138	0.05
		45-55	7.16789	0.05
		more than 55	11.21866	0.05
	35-45	45-55	-.01349	-
		more than 55	4.03729	-
	45-55	more than 55	4.05078	-
	less than 25	25-35	12.53175	-
		35-45	24.37398	0.05
		45-55	23.41758	0.05
		more than 55	29.62069	0.05
Organizational Engagement	25-35	35-45	11.84224	0.05
		45-55	10.88584	0.05
		more than 55	17.08894	0.05
	35-45	45-55	-.95640	-
		more than 55	5.24671	-
	45-55	more than 55	6.20311	-

Source: Prepared by the researcher according to statistical analysis.

With regard to the two variables requirements for the remote working style, the organizational engagement of employees, it is clear from the previous table that:

There are significant differences between the under-25 age group and the rest of the groups in favor of the under-25 age group. With the exception of the class 25-35, the differences were non-significant.

The presence of differences between the age group of 25-35 years and between each of the categories of 35-45, 45-55 years, 55 and over is a function in favor of 25-35 years.

The rest of the comparisons are non-functional.

4.6.2) Second: differences according to the academic qualification:

The "single variance analysis" test was used for independent groups to determine the significance of differences in the responses of working women at Mansoura University in the two research variables (requirements for the method of remote work – organizational engagement of workers) according to the academic qualification, and the following table shows this:

Table (4.19)

On way Anova at Telecommuting System – Organizational Engagement according to education level

Variables	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Telecommuting System	Between Groups	1648.311	2	824.155	2.712	.068
	Within Groups	114258.560	376	303.879		
	Total	115906.871	378			
Organizational Engagement	Between Groups	3096.807	2	1548.403	3.638	.027
	Within Groups	160031.747	376	425.616		
	Total	163128.554	378			

Source: Prepared by the researcher according to statistical analysis.

Table (4.20)

Descriptives at Organizational Engagement according to education level

		N	Mean	Std. Deviation	Maximum
Telecommuting System	high studies	116	94.7328	20.53517	119.00
	high qualification	207	100.8696	20.89217	120.00
	Moderate	56	101.1607	19.82723	118.00
	Total	379	99.0343	20.77395	120.00

Source: Prepared by the researcher according to statistical analysis.

It is clear from the previous table that there is a D difference of 0.05 between the category of graduate students and the category of higher qualifications in favor of the category of higher qualifications.

The rest of the comparisons are non-functional.

Table (4.21)**Multiple Comparisons according to education level**

variables	education level sets		Mean difference	Sign.
Organizational Engagement	high studies	high qualification	-6.13681	0.05
		Moderate	-6.42796	-
	high qualification	Moderate	.29115	-

Source: Prepared by the researcher according to statistical analysis.

4.6.3) Third: differences according to marital status:

The "single variance analysis" test for independent groups was used to determine the significance of the differences between the responses of working women at Mansoura University in the two research variables (teleworking style requirements – organizational engagement of workers) according to marital status, and the following table shows this:

Table (4.22)

**On way Anova at Telecommuting System – Organizational Engagement
according to status**

Variables	Source of variance	Sum of Squares	Df	Mean Square	F	Sig.
Telecommuting System	Between Groups	23572.737	4	5893.184	23.870	.000
	Within Groups	92334.133	374	246.883		
	Total	115906.871	378			
Organizational Engagement	Between Groups	37553.473	4	9388.368	27.961	.000
	Within Groups	125575.081	374	335.762		
	Total	163128.554	378			

Source: Prepared by the researcher according to statistical analysis:

It is clear from the previous table that the value of " F " is a function in both variables, which means that there are significant differences between the averages of age groups in both variables according to the social status variable, and to determine the direction of these differences, the Toki test was used for multiple comparisons as shown in the following table:

Table (4.23)

Descriptives at Telecommuting System – Organizational Engagement according to status

		N	Mean	Std. Deviation
Telecommuting System	Single	75	89.9067	15.99930
	married with child	154	80.4481	17.50632
	Divorced	14	63.0714	6.18266
	Morfan	28	64.6786	5.73523
	married with no child	108	89.1111	15.32107
	Total	379	82.9815	17.51091
Organizational Engagement	Single	75	107.4000	18.75158
	married with child	154	95.7013	20.81230
	Divorced	14	75.2857	6.70738
	Morfan	28	75.4643	5.64691
	married with no child	108	107.1667	17.24941
	Total	379	99.0343	20.77395

Source: Prepared by the researcher according to statistical analysis.

Table (4.24)

Multiple Comparisons according to status

variables	status sets		Mean difference	Sign.
	single	married with child	9.45861	0.05
		divorced	26.83524	0.05
		Morfan	25.22810	0.05
		married with no child	.79556	-
Telecommuting System	married with child	divorced	17.37662	0.05
		Morfan	15.76948	0.05
		married with no child	-8.66306	0.05
	divorced	Morfan	-1.60714	-
		married with no child	-26.03968	0.05
	morfan	married with no child	-24.43254	0.05
	single	married with chils	11.69870	0.05

		divorced	32.11429	0.05
		Morfan	31.93571	0.05
		married with no child	.23333	-
Organizational Engagement	married with chils	divorced	20.41558	0.05
		Morfan	20.23701	0.05
		married with no child	-11.46537	0.05
	divorced	Morfan	-.17857	-
		married with no child	-31.88095	0.05
	morfan	married with no child	-31.70238	0.05

4.6.4) Fourth: differences according to years of experience:

The "single variance analysis" test was used for independent groups to determine the significance of the differences between the responses of working women at Mansoura University in the two research variables (requirements for remote working style – organizational engagement of workers) according to years of experience, and the following table shows this:

Table (4.25)

On way Anova at Telecommuting System – Organizational Engagement according to experience

variables	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Telecommuting System	Between Groups	11714.339	4	2928.585	10.512	.000
	Within Groups	104192.532	374	278.590		
	Total	115906.871	378			
Organizational Engagement	Between Groups	15931.356	4	3982.839	10.120	.000
	Within Groups	147197.198	374	393.575		
	Total	163128.554	378			

Source: Prepared by the researcher according to statistical analysis:

Table (4.26)

Descriptives at Telecommuting System – Organizational Engagement according to experience

Source: Prepared by the researcher according to statistical analysis.

		N	Mean	Std. Deviation	Maximum
Telecommuting System	less than 5	58	91.7241	13.06367	100.00
	5-10	149	83.7852	17.54052	100.00
	10-15	110	83.0182	15.59051	100.00
	15-20	40	70.2000	18.77969	99.00
	more than 20	22	77.5455	20.33230	99.00
	Total	379	82.9815	17.51091	100.00
Organizational Engagement	less than 5	58	109.7586	16.59878	120.00
	5-10	149	100.3624	21.39090	119.00
	10-15	110	97.7455	18.99417	120.00
	15-20	40	84.5750	18.06241	114.00
	more than 20	22	94.5000	23.62757	119.00
	Total	379	99.0343	20.77395	120.00

Table (4.27)

Multiple Comparisons according to status

variables	status sets		Mean difference	Sign.
	less than 5	5-10	7.93890	0.05
		10-15	8.70596	0.05
		15-20	21.52414	0.05
		more than 20	14.17868	0.05
Telecommuting System	5-10	10-15	.76705	-
		15-20	13.58523	0.05
		more than 20	6.23978	-
	10-15	15-20	12.81818	0.05
		more than 20	5.47273	-
	15-20	more than 20	-7.34545	-
	less than 5	5-10	9.39620	0.05
		10-15	12.01317	0.05
		15-20	25.18362	0.05
		more than 20	15.25862	0.05
Organizational Engagement	5-10	10-15	2.61696	-
		15-20	15.78742	0.05
		more than 20	5.86242	-
	10-15	15-20	13.17045	0.05
		more than 20	3.24545	-
	15-20	more than 20	-9.92500	-

Source: Prepared by the researcher according to statistical analysis.

With regard to the two variables requirements for the remote working style, the organizational engagement of employees, it is clear from the previous table that:

- 1- There are significant differences between the category of experience less than 5 years and the rest of the categories in favor of the category less than 5 years.
- 2- There are significant differences between the experience category of 5-10 years and the category of 15-20 years for the best category of 5-10 years.
- 3- There are significant differences between the experience category of 10-15 years and the category of 15-20 years for the best category of 10-15 years.

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