

# The Effect of Remote Work on Employee Performance

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## Abstract

The aim of the study is the effect of remote work on the employee performance. Due to the technology and the rapid increase of globalization working online is one of the growing features happened. Multi-research questions were applied, but the main The questions are: What is the effect of remote work on the performance of an employee?, What are the challenges that face remote working?. The speed work of technology has resulted challenges and advantages of remote work. A sample of 150 employee selected by a random sampling method with different age and positions. The questionnaire was used to collect quantitative data were analyzed through SPSS V.26. The findings resulted that Remote work didn't have related with Challenges, they are not related and correlated. When Remote work increase then Motivation increases too, they are related and correlated. When Remote work increase then Performance increases too, they are related and correlated.

**Keywords:** remote work, virtual job, motivation, visibility, life balance, time zones, cultural awareness

## 1. Introduction

In many organizations during the last decade employees started to work from home, this due to the rapid increase of globalization and technological advancement. This kind of work is defined as remote work, which has become a growing feature in every-day business, and was initiated to reduce cost while increasing productivity at the same time (Declan, 2007). The US remote work population was at 2000 about 39 million, at that time technology was still growing, this number has increased to 55 million in 2004 and predicted to increase more in the next few years (Diekmann & Seidel, 2005).

Staples et al., (1999), stated that information technology is making a shift from the traditional organizational structure to the virtual organizations that work toward one goal. This virtual structure is done without the need to have centralized buildings, firms, institutions, or any physical issue (Hartman & Guss, 1996). The main objective of such a structure is to accomplish goals meant to be done and establish unique communication with management processes to maximize the benefit of the organization.

Remote work is been discussed as a solution for reducing costs and for increasing productivity, efficiency, creativity, and flexibility (Castellani et al., 2013). However, many challenges stand against the virtual working idea, these constraints are studied throughout cultures and described as an hinders for the effectiveness of remote work. These challenged are mainly, visibility, security, need for a high developed managerial plan, communication problems, time zone differences, cultural differences, and high level of strains (Ries, 2016).

Virtual employees are spreading in Lebanon nowadays, the country is starting accepting these kinds of employments, however many of them are not classified in the categories of employees, but they are specified as freelancers working for their own benefits for temporary contracts or projects. Lebanon as a country that is facing a harsh contextual setting (political, economic, and environmental) will have some unique challenges that affect the performance of remote workers, but still there is a growing opportunity to take advantage of such process.

The main issue in the remote work is the extent it differs from the traditional one, and the benefits that distinguish it from another type of work. The question is how remote work effect the performance of employees and how motivation mediate this relationship. The study will find the literature review necessary for this problem and will discuss the issue among the Lebanese community.

## 2. Research Problem

Remote work has been proved to be problematic, the increase remoteness among organizations to create a positive workplace, enhance the skills of the employees, and to increase positively their performance (Barsness et al., 2005). As the popularity of remote work increase around the world uncertainty about this issue also rise, which makes this field rich to be studied. Lebanon is one of the countries that accepted the issue of remote work and virtual employees, thus it is an opportunity to study and investigate the effect of remote work on performance in Lebanon.

## 3. Research Questions

1. What is the effect of remote work on the performance of an employee?
2. What are the challenges that face remote working?
3. What are the advantages of remote working in an organization?
4. How remote work affects performance in Lebanon?

## 4. Research Objective

1. To clarify how remote work affect performance of an employee.
2. To identify the challenges that face remote work.
3. To find out the advantages of remote working.
4. To understand how remote work is affects the performance in Lebanon.

## 5. Literature Review

### 5.1 Remote Working

Remote work is defined as working from a different location of the primary office (Thompson et al., 2015), however it is also described as individual working from home using information technology as emails, intranet (Halford, 2005). Another term of definition is that remote work refers to all type of work that is done from outside the main office of an organization, but still linked with it. Europeans consider remote work as any work that is conducted virtually without a real physical attendance (Golden & Veiga, 2005). Lastly, Kirk and Belovics (2006), mentioned that e-workers are fulltime homebased employees, who works, participate, and communicate through electronic mediums.

Statistically, reports show that 20%-25% of employees worked remotely, the number of these workers has increased by 115% within the period from 2005 to 2015 (Perry et al., 2018). Allen et al., (2015), stated that 54% of employees in 2700 firms in the US work remotely. Another finding was that 23% of full-timers work remotely whereas 35% of part-timers work remotely (SHRM, 2017). In addition, a report mentioned that in Europe 3% of employees are mobile workers in 2003, this percentage increases to 12.4% in 2012 then to 51% in 2014 (Charalampous, 2018).

### 5.2 Remote Working, Motivation, and Performance

The rapid increase of virtual working across the globe is accompanied with the increase of the performance of the employees and at the end fulfilling the needs of the organization hiring them. However, this increase in performance have been associated with the increase of motivation to this type of employees. Surveys done on 1184 managers argued that increase of performance if e-worker employees are influenced by motivation variable (Ries, 2016). Motivation has been a mediator that influence the relationship between remote working and performance as they are positively significant (Forson, 2012; Scholtz, 2010). A survey that is done by Sonic Wall assured that the main variable that influence performance is motivation, and the survey showed that 20% of employees are working outside the office and they are a reason of fulfillment and goal accomplishment to their organizations. 26% of these employees agreed that they were motivated to accomplish this work. Another survey that was done on 148 organizations that have virtual workers, agreed that e-workers achieve the target goal as they are motivated with more effectiveness and higher performance (Barsness et al., 2005).

### 5.3 Challenges Facing Remote Working

After listing the studies that shows the increase of remote work phenomena and the effect on performance and how motivation took a mediating role in the relation between these two variables, it is crucial to set up the paradox. The contradiction in this study is about the challenges that is facing the remote work phenomena and how much it hinders the effectiveness of such work, and how it could lead to a failure in the organization rather than increasing the performance. The study will list ten most popular challenges for remote working, which are

the lack of performance visibility, fear of security breach, carefully managing plans, time consuming to solve problems, remote work isn't for everyone, lack of face to face interaction, teamwork failure, cultural differences, increase of strains, autonomy problem.

1. Lack of performance visibility is one of the most issues that is discussed in the challenges of e-working issue. The remote-worker performance is less easily seen (Bailey & Kurland, 2002) managers cannot observe how much employees that work outside the office are working hard to achieve the target goal. In addition of the hard-working virtual employees could work for a time longer than a regular employee to attain the target that should be accomplished. The problem is that managers cannot see this by daily supervision, due to the lack of physical proximity (Barsness et al., 2005). Therefore, depending on that employees could feel that their work is underestimated and they will be not motivated, finally it will affect negatively the performance of the remote worker (Picci, 2010).
2. Security is one of the most important issues that any organization seeks to keep safe, remote work is a reason for security breaches, especially in the days of cyber-attacks. A survey was done by Sonic wall in 2006, showed that security will be more likely to be compromised when an organization employs worker to work from outside the office. Security of information could be an essential element for an institution to gain a competitive advantage on another organization, thus it could threaten this advantage with the presence of employees working outside the physical buildings of the company and not protected and checked up daily by supervisors.
3. Remote working is not an easy procedure to implement it is a complicated process that demand planning and organizing before any other step. Hunter (2018), stated that remote work needs cautious managing to assure that it will improve rather than weakening the quality of work or the performance that is still the most anticipated issue. Furthermore, to get sure that the remote work will leads to a higher performance the organization should take all contextual settings from external and internal factors into consideration, and then take the decision based on results to see if their organization is capable of adapting remote working efficiently.
4. Due to time zone differences and since the virtual employee is not physically present the firm will face problems in resolving unexpected issues. For example, when a situation demands a quick fix from the team there will be a delay from the remote worker team to solve the issue. Time consuming will definitely effect the performance negatively and will cause more serious problems, time-consuming is on the top list of reasons why organizations fail (Hunter, 2018).
5. Not all people could fit in the virtual world, employees should be familiar with technological advancement, in addition they should be willing to work remotely and have the standards to this kind of job. Remote work is better for employees who finds social network hard and they prefer to work alone. Williams (2010), argued that remote jobs are not equally suited for all people some could perform better in such issues as they could feel more motivated to work far from the physical place of the organization.
6. Communication is a big deal in the process of remote working, it is one of the most important ingredients for a better performance in the organization. Remote work and lack of face-to-face interaction will hinder the affective remote work, since the whole organization will be affected if the communication with each other is not well organized. Difference in communication and work practices can be amplified adding layers of complexity to the organization and increasing the probability of failure (Declan, 2007).
7. Team work is highly valued when talking about performance, if employees work within groups this will definitely increase the performance, save time, and assure a successful environment (Ries, 2016). However, team work is considered a challenge for remote workers it is complex especially with the absence of physical attendance of some employees while developing practices and representations. On the contrary, virtual team could be designed by the use of technology through video conferences.
8. Cultural differences are defined as the differences in thoughts, believes, practices, language that could hamper the practices of an organization. One of the most issue that organizations should focus on is the difference in culture, such issue could lead to delay and complexity in work. But at the same time cultural awareness training programs could help in avoiding such an issue (Declan, 2007).
9. Some studies have argued that remote work could lead to increase of stress in work and will affect the performance of employees working remotely (Charalampous, 2018). Clark and Baltes (2011), stated that remote work may function as a stressor.

10. Autonomy is another challenge facing remote work, it is just because such kind of work increase the dependency and self-managing, this creates an environment of conflict between managers that work in the physical branch and the virtual employee. This challenge could rise more when the managers start to have less trust in the remote employee (Sewell & Taskin, 2015).

#### *5.4 Advantages of Remote Work*

Remote work is considered beneficial as recent studies shown, in this study we have choose six advantages for using remote work in an organization depending on 2 studies and a survey (Declan, 2007; Hunter,2018; Sonic wall survey, 2007). This benefits are, the rapid increase of productivity, increase of creativity, higher flexibility, better life balance, cost benefit, and talented employees.

1. Increase of productivity was the most benefit discussed in the 2 studies and the survey, remote worker will remain productive, at least they will be either more or equally productive from office worker (Sonic wall survey, 2007). Declan (2007), stated that the main benefit of remote work is to maximize productivity. However, as 75% of the organizations adopt such a process 83% of them reported an improve of productivity (Hunter, 2007).
2. Remote work, in its nature considered a calm environment, the employee will work in an atmosphere that is peaceful, quiet, and in the mood that he choose. This description will allow the virtual employee to be more productive and the more creative.
3. Higher flexibility is the real face of remote work, in Canada, France, Australia, Germany, Netherlands, Spain, and the UK 10,000 people work remotely to attain flexibility in their work, 89% of managers in Europe agree that flexibility is a benefit from remote work.
4. A study that is done on 10,000 people in Europe at 2018 showed that 54% of people working remotely will obtain better life balance than office worker.
5. Cost benefit is the catalyst for an organization to employ virtual people that work from the home, they will benefit from cost reduction such as, rent, travel expenses, building, transportation expenses, and one of the most important issue is creating a fixed cost as remote employee has negligible variable cost in the salary. In addition to that, it will reduce by 25% the paperwork, and will reduce energy consumption by 32%.
6. The sixth issue is that organizations could benefit from employing higher talented employees, which could be outside the region of this firm. As the survey, shows that employees employed remotely are much talented by 76%.

The analysis of remote work often reveals a nuanced landscape of advantages and disadvantages, reflecting the evolving nature of work arrangements in modern society. Existing literature extensively explores these facets, offering insights into increased flexibility, reduced commuting time, and enhanced work-life balance as key benefits. Conversely, challenges such as decreased social interaction, potential feelings of isolation, and difficulties in communication have also been well-documented. However, amidst this breadth of research, a noticeable gap emerges, wherein previous studies may not adequately address the dynamic interplay between these advantages and disadvantages within specific organizational contexts. This gap serves as a pivotal point of departure for the practical segment of our study, as we aim to bridge theoretical insights with empirical observations, offering nuanced perspectives and actionable recommendations for optimizing remote work arrangements.

In addressing the identified gap, the practical component of this study seeks to delve deeper into the complexities of remote work dynamics within various organizational settings. By engaging in qualitative analyses and case studies, we aim to elucidate the contextual factors that influence the manifestation of both advantages and disadvantages associated with remote work. Through this approach, we endeavor to provide a comprehensive understanding of how remote work practices intersect with organizational culture, technology infrastructure, and individual preferences. Moreover, by soliciting feedback from employees and managers directly involved in remote work arrangements, we aim to capture nuanced perspectives that may not be fully captured in existing literature. Ultimately, this integrated approach aims to enrich theoretical frameworks and offer practical insights that can inform the development of effective remote work strategies tailored to specific organizational contexts.

#### *5.5 Hypotheses*

H1.0: There is no relation between Remote work and Challenges.

H1.1: There is relation between Remote work and Challenges.

H2.0: There is no relation between Remote work and Motivation.

H2.1: There is relation between Remote work and Motivation.

H3.0: There is no relation between Remote work and Performance.

H3.1: There is relation between Remote work and Performance.

**6. Methodology**

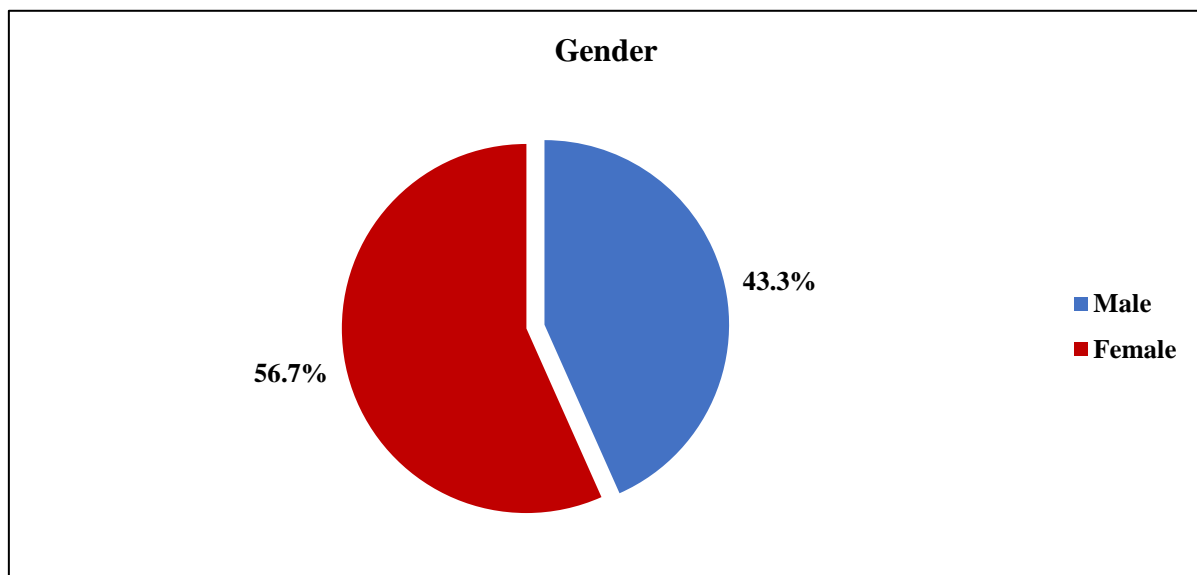
A quantitative method was used in this article by a questionnaire, where 150 employee as simple size worked remotely selected by random sampling method. Quantitative data were analyzed through statistical program SPSS V26, using descriptive statistics and correlation and multiple linear regression.

**7. Results and Findings**

*7.1 Demographic Information*

Table 1. Gender

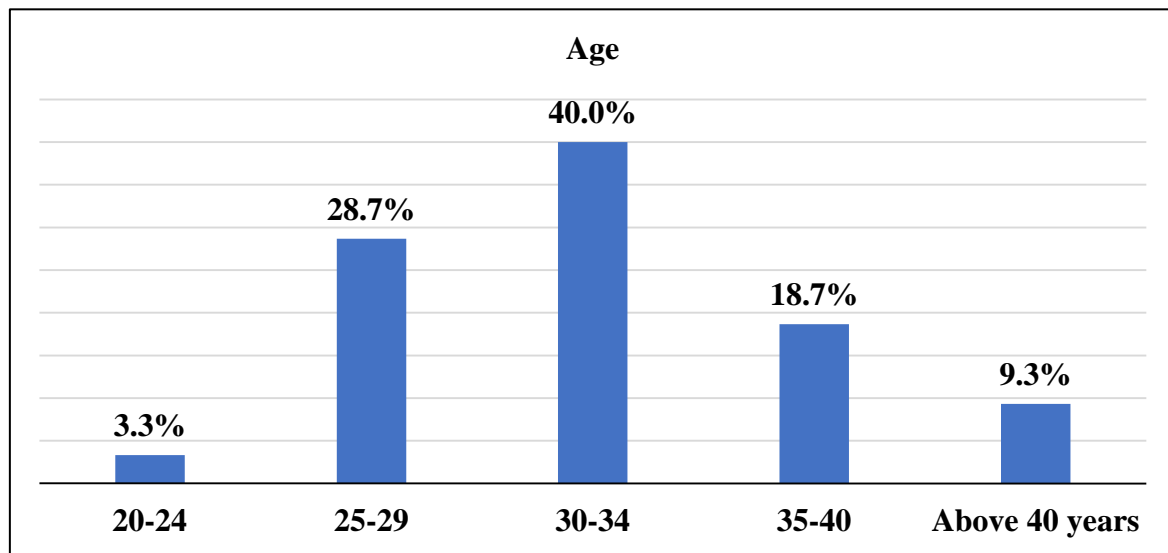
	Frequency	Percent
Male	65	43.3%
Female	85	56.7%
<b>Total</b>	<b>150</b>	<b>100.0%</b>



43.3% of participants were men and 56.7% of participants were women, according to the pie chart. This is comparable to Lebanon's general gender distribution, which is 48.8% male and 51.2% female (World meter). It is important to keep in mind, nevertheless, that the sample could not be entirely representative of Lebanon's distant worker community. For instance, if women believe that working remotely can help them balance work and family obligations, then they may be more inclined to take part in surveys regarding remote work.

Table 2. Age

	Frequency	Percent
20-24 years	5	3.3%
25-29 years	43	28.7%
30-34 years	60	40.0%
35-40 years	28	18.7%
Above 40 years	14	9.3%
<b>Total</b>	<b>150</b>	<b>100.0%</b>



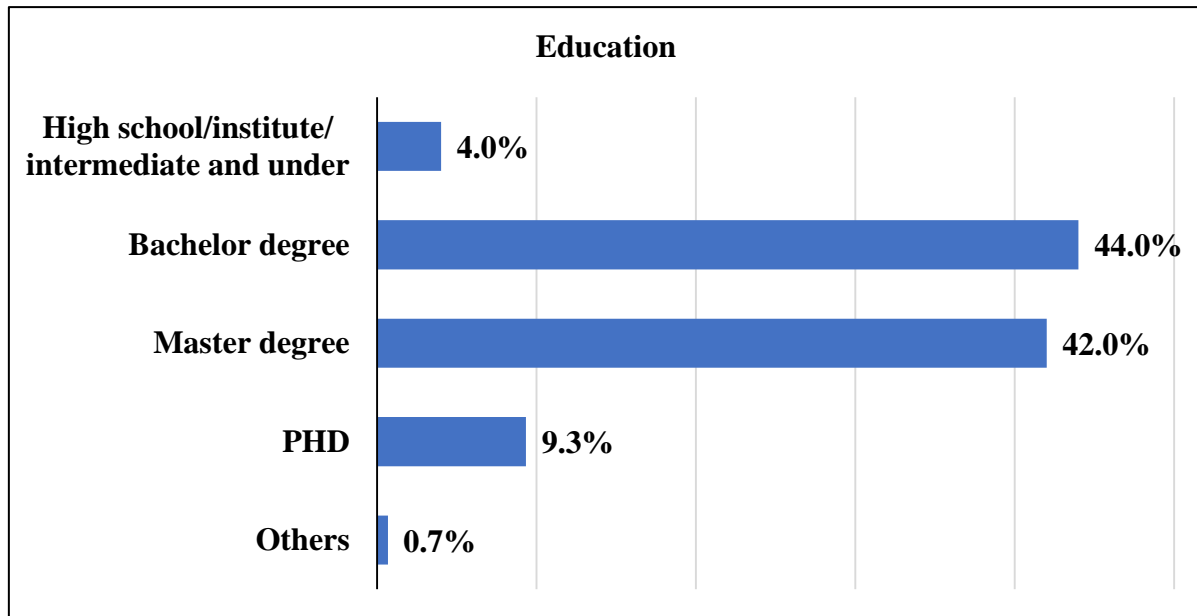
This distribution illustrates the age composition within the group being analyzed. Here's a breakdown of the findings:

The largest age group is individuals aged 30-34 years, comprising 40.0% of the population, the next most significant age group is individuals aged 25-29 years, representing 28.7% of the population. Those aged 35-40 years account for 18.7% of the population.

The 20-24 years age group constitutes 3.3% of the population, reflecting the smallest proportion. Lastly, individuals above 40 years old make up 9.3% of the population.

Table 1. Education

	Frequency	Percent
High school/institute/intermediate and under	6	4.0%
Bachelor degree	66	44.0%
Master degree	63	42.0%
PHD	14	9.3%
Others	1	0.7%
<b>Total</b>	<b>150</b>	<b>100.0%</b>

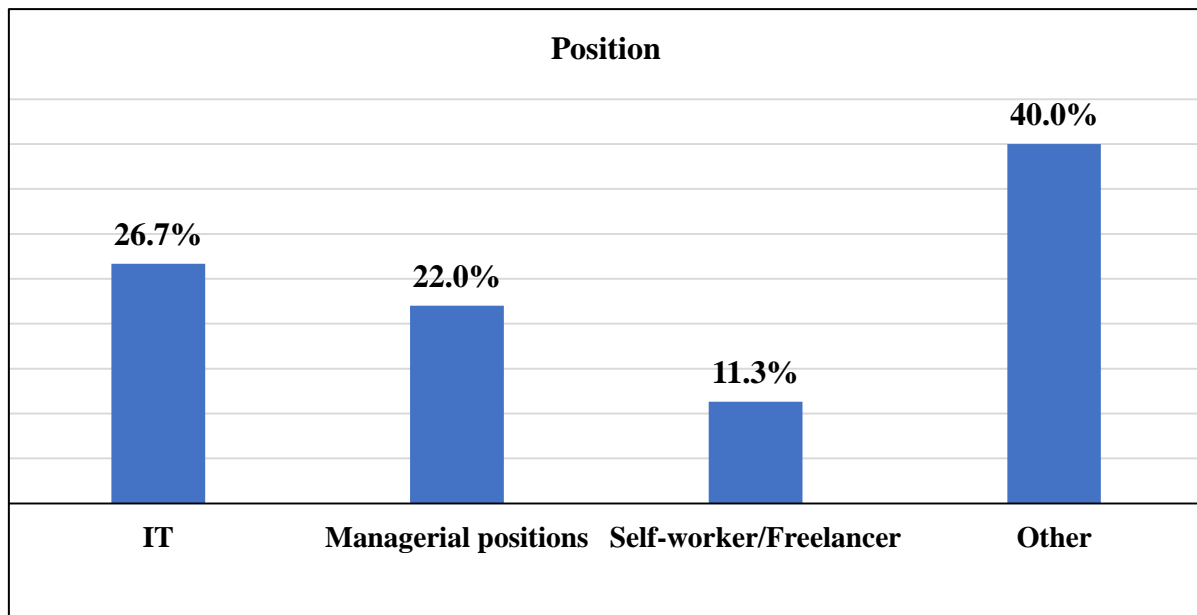


Here's an analysis of the educational distribution:

- **Bachelor's Degree:** The largest proportion of individuals in the population (44.0%) have completed a bachelor's degree. This suggests a significant level of tertiary education among the sample.
- **Master's Degree:** Following closely behind, 42.0% of the population hold a master's degree. This indicates a substantial portion of individuals with advanced education beyond the bachelor's level.
- **PhD:** 9.3% of the population possess a doctoral degree (PhD), indicating a smaller but notable segment with the highest level of academic attainment.
- **High School / Intermediate and Under:** 4.0% of the population have education up to the high school level or equivalent. While this group is relatively small compared to those with higher levels of education, they represent individuals with foundational educational backgrounds.
- **Others:** The remaining 0.7% likely represents individuals with educational qualifications that don't fit neatly into the categories specified, such as vocational certifications, associate degrees, or alternative educational paths.

Table 2. Position

	Frequency	Percent
IT	40	26.7%
Managerial positions	33	22.0%
Self-worker/Freelancer	17	11.3%
Other	60	40.0%
<b>Total</b>	<b>150</b>	<b>100.0%</b>



Here's an analysis of these job position distributions:

- **IT (Information Technology):** Represents 26.7% of the positions, indicating a significant presence of individuals working in technology-related roles.
- **Managerial Positions:** Comprising 22.0% of the positions, this category indicates a substantial portion of individuals holding managerial roles.
- **Self-worker/Freelancer:** Accounting for 11.3% of the positions, this category represents individuals who work for themselves or as independent contractors/freelancers. They might operate in various fields, including consulting, creative services, programming, and more.
- **Other:** The largest category at 40.0%, the "Other" designation likely encompasses a diverse range of job roles not explicitly categorized in the provided breakdown.

### 7.2 Descriptive Results of Items

Table 3. Challenges facing remote working items

Challenges facing remote working		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Lack of performance visibility	n	11	10	15	33	81	150
	%	7.3%	6.7%	10.0%	22.0%	54.0%	100%
Fear of security breach	n	12	8	11	37	82	150
	%	8.0%	5.3%	7.3%	24.7%	54.7%	100%
Carefully managing plans	n	9	16	49	24	52	150
	%	6.0%	10.7%	32.7%	16.0%	34.7%	100%
Time consuming to solve problems	n	7	7	22	31	83	150
	%	4.7%	4.7%	14.7%	20.7%	55.3%	100%
Remote work isn't for everyone.	n	4	6	13	20	107	150
	%	2.7%	4.0%	8.7%	13.3%	71.3%	100%
Lack of face-to-face interaction	n	1	5	14	29	101	150
	%	0.7%	3.3%	9.3%	19.3%	67.3%	100%



	%	0.7%	3.3%	9.3%	19.3%	67.3%	100%
Teamwork failure	n	6	8	18	35	83	150
	%	4.0%	5.3%	12.0%	23.3%	55.3%	100%
Cultural differences	n	9	7	39	40	55	150
	%	6.0%	4.7%	26.0%	26.7%	36.7%	100%
Increase of strains	n	6	4	48	61	31	150
	%	4.0%	2.7%	32.0%	40.7%	20.7%	100%
Autonomy problem	n	6	5	31	65	43	150
	%	4.0%	3.3%	20.7%	43.3%	28.7%	100%

Here's an analysis of distributions of level of agreement of respondents on Challenges facing remote working items:

- 76.0% are agree and strongly agree to that "Lack of performance visibility".
- 79.3% are agree and strongly agree to that "Fear of security breach".
- 50.7% are agree and strongly agree to that "Carefully managing plans".
- 76.0% are agree and strongly agree to that "Time consuming to solve problems".
- 84.7% are agree and strongly agree to that "Remote work isn't for everyone".
- 86.7% are agree and strongly agree to that "Lack of face-to-face interaction".
- 78.7% are agree and strongly agree to that "Teamwork failure".
- 63.3% are agree and strongly agree to that "Cultural differences".
- 61.3% are agree and strongly agree to that "Increase of strains".
- 72.0% are agree and strongly agree to that "Autonomy problem".

Table 4. Remote work

Remote work		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Better work environment	n	11	24	63	42	10	150
	%	7.3%	16.0%	42.0%	28.0%	6.7%	100%
Higher flexibility	n	9	17	61	50	13	150
	%	6.0%	11.3%	40.7%	33.3%	8.7%	100%
Increase of productivity	n	5	15	78	41	11	150
	%	3.3%	10.0%	52.0%	27.3%	7.3%	100%
Better life balance	n	5	23	63	49	10	150
	%	3.3%	15.3%	42.0%	32.7%	6.7%	100%
Cost benefit	n	9	6	72	48	15	150
	%	6.0%	4.0%	48.0%	32.0%	10.0%	100%
Employs hire talented employees	n	11	22	65	41	11	150
	%	7.3%	14.7%	43.3%	27.3%	7.3%	100%

Here's an analysis of distributions of level of agreement of respondents on Remote work items:

- 34.7% are agree and strongly agree to that "Better work environment".
- 42.0% are agree and strongly agree to that "Higher flexibility".

- 34.7% are agree and strongly agree to that “Increase of productivity”.
- 39.3% are agree and strongly agree to that “Better life balance”.
- 42.0% are agree and strongly agree to that “Cost benefit”.
- 34.7% are agree and strongly agree to that “Employs hire talented employees”.

Table 5. Motivation

Motivation		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Set clear expectation	n	11	10	15	33	81	150
	%	6	20	76	41	7	100%
Contribute to company work and reward hard work	n	4.0%	13.3%	50.7%	27.3%	4.7%	150
	%	8	32	65	37	8	100%
Share work with team members	n	5.3%	21.3%	43.3%	24.7%	5.3%	150
	%	7	27	58	45	13	100%
Building employee morale	n	4.7%	18.0%	38.7%	30.0%	8.7%	150
	%	10	35	59	37	9	100%
Communicate with supervisors and managers	n	6.7%	23.3%	39.3%	24.7%	6.0%	150
	%	7	26	54	44	19	100%
Chance for growth	n	4.7%	17.3%	36.0%	29.3%	12.7%	150
	%	15	38	57	31	9	100%

Here's an analysis of distributions of level of agreement of respondents on Motivation items:

- 32.0% are agree and strongly agree to that “Set clear expectation”.
- 30.0% are agree and strongly agree to that “Contribute to company work and reward hard work”.
- 38.7% are agree and strongly agree to that “Share work with team members”.
- 30.7% are agree and strongly agree to that “Building employee morale”.
- 42.0% are agree and strongly agree to that “Communicate with supervisors and managers”.
- 26.7% are agree and strongly agree to that “Chance for growth”.

Table 6. Performance

Performance		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
New learning opportunities	n	8	44	61	27	10	150
	%	5.3%	29.3%	40.7%	18.0%	6.7%	100%
Feedback on business processes and improve their overall work experience	n	9	40	63	30	8	150
	%	6.0%	26.7%	42.0%	20.0%	5.3%	100%
Training and development programs	n	10	34	63	34	9	150
	%	6.7%	22.7%	42.0%	22.7%	6.0%	100%
Receive promotions and salary increases	n	15	44	56	27	8	150
	%	10.0%	29.3%	37.3%	18.0%	5.3%	100%
Managing your time and prioritizing tasks	n	5	9	54	71	11	150
	%	3.3%	6.0%	36.0%	47.3%	7.3%	100%

Meet project deadlines	n	5	11	52	72	10	150
	%	3.3%	7.3%	34.7%	48.0%	6.7%	100%
Meet or exceed performance target	n	2	16	59	63	10	150
	%	1.3%	10.7%	39.3%	42.0%	6.7%	100%

Here's an analysis of distributions of level of agreement of respondents on Performance items:

- 24.7% are agree and strongly agree to that “employees have new learning opportunities”.
- 25.3% are agree and strongly agree to that “employees provided with feedback on business processes and improve their overall work experience?”.
- 28.7% are agree and strongly agree to that “employees enrolled in training and development programs”.
- 23.3% are agree and strongly agree to that “receive promotions and salary increases?”.
- 54.7% are agree and strongly agree to that “Managing your time and prioritizing tasks”.
- 54.7% are agree and strongly agree to that “Meet project deadlines”.
- 48.7% are agree and strongly agree to that “Meet or exceed performance target”.

### 7.3 Reliability Statistics

The statistics you've provided are Cronbach's alpha coefficients, which are measures of internal consistency reliability commonly used in psychometrics and research to assess the reliability of scales or sets of items. Here's an analysis based on the Cronbach's alpha values provided:

Table 7. Reliability Statistics “Cronbach's Alpha”

	N of Items	Cronbach's Alpha
Remote work	6	0.906
Challenges	10	0.924
Motivation	6	0.910
Performance	7	0.875

All Cronbach's alphas values on the table above are greater than 0.7, (Remote work 0.906 Challenges 0.924, Motivation 0.910, Performance 0.875), they suggest a high level of internal consistency reliability for the items or questions related to these sections.

This indicates that the items measuring aspects of remote work tend to be strongly correlated with each other, implying that they are effectively measuring the same underlying construct with minimal measurement error.

## 8. Hypothesis

H1.0: There is no relation between Remote work and Challenges.

H1.1: There is relation between Remote work and Challenges.

Table 8. Pearson correlation between remote work and challenges

		Remote work	Challenges
<b>Remote work</b>	Pearson Correlation	1	.106
	Sig. (2-tailed)		.198
	N	150	150
<b>Challenges</b>	Pearson Correlation	.106	1
	Sig. (2-tailed)	.198	
	N	150	150

Showing the table above, we can remark the results of Pearson correlation between Remote work and Challenges. There is no a correlation between them, the correlation observed is not statistically significant with a P-value equal 0.198 greater than conventional significance level ( $\alpha = 0.05$ ), so we accept H0 that say “There is no relation between Remote work and Challenges”.

Conclusion: Remote work didn't have related with Challenges, they are not related and correlated.

H2.0: There is no relation between Remote work and Motivation.

H2.1: There is relation between Remote work and Motivation.

Table 9. Pearson correlation between remote work and motivation

		Remote work	Motivation
<b>Remote work</b>	Pearson Correlation	1	.695**
	Sig. (2-tailed)		.000
	N	150	150
<b>Motivation</b>	Pearson Correlation	.695**	1
	Sig. (2-tailed)	.000	
	N	150	150

**\*\* Correlation is significant at the 0.01 level (2-tailed).**

Showing the table above, we can remark the results of Pearson correlation between Remote work and Motivation. There is a correlation between them, the correlation observed is statistically significant with a P-value equal 0.000 less than conventional significance level ( $\alpha = 0.05$ ), so we reject H0 and we accept H1 that say “There is relation between Remote work and Motivation”. According to Pearson Correlation value (0.695) we conclude a **high relation** between them.

Conclusion: When Remote work increase then Motivation increases too, they are related and correlated.

H3.0: There is no relation between Remote work and Performance.

H3.1: There is relation between Remote work and Performance.

Table 10. Pearson correlation between remote work and performance

		Remote work	Performance
<b>Remote work</b>	Pearson Correlation	1	.689**
	Sig. (2-tailed)		.000
	N	150	150
<b>Performance</b>	Pearson Correlation	.689**	1
	Sig. (2-tailed)	.000	
	N	150	150

**\*\* Correlation is significant at the 0.01 level (2-tailed).**

Showing the table above, we can remark the results of Pearson correlation between Remote work and Performance. There is a correlation between them, the correlation observed is statistically significant with a P-value equal 0.000 less than conventional significance level ( $\alpha = 0.05$ ), so we reject H0 and we accept H1 that say "There is relation between Remote work and Performance". According to Pearson Correlation value (0.689) we conclude a **high relation** between them.

Conclusion: When Remote work increase then Performance increases too, they are related and correlated.

Regression

Table 11. Regression between remote work (dependent) and sections (independent)

Model Summary							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate			
1	.747 <sup>a</sup>	0.558	0.549	3.155			
<b>a. Predictors: (Constant), Performance, Challenges, Motivation</b>							
ANOVA <sup>a</sup>							
Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1833.009	3	611.003	61.371	.000 <sup>b</sup>	
	Residual	1453.551	146	9.956			
	Total	3286.560	149				
<b>a. Dependent Variable: Remote work</b>							
<b>b. Predictors: (Constant), Performance, Challenges, Motivation</b>							
Coefficients <sup>a</sup>							
Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	2.032	1.724			1.179	0.240
	Challenges	0.047	0.031	0.085		1.538	0.126
	Motivation	0.382	0.079	0.398		4.851	<b>0.000</b>
	Performance	0.379	0.078	0.396		4.834	<b>0.000</b>
<b>a. Dependent Variable: Remote work</b>							

- **Analyze of Table 1- Model Summary:** Based on the R-squared, this model shows that: dependent variable (Remote work) can explain 55.8% of the variability of Predictors variables. Plus, based on the value of R, they are correlated 74.7% between them.
- **Analyze of Table 2- ANOVA:** Based on the p- value (Sig.) = 0.000 <0.05, this means this model is valid and significant.
- **Analyze of Table 3- Coefficients:** Remote work is significantly predicted by Motivation and Performance with a p- values equal 0.000 less than 0.05, and not significantly predicted by Challenges, with a p- values equal 0.126 greater than 0.05.

## 9. Interpretation

It is clear from looking at the survey data about remote work in Lebanon that there is a complex environment influenced by a range of occupational, demographic, and perceptual characteristics. The survey's gender distribution showed that women participated at a higher rate (56.7%) than did males (43.3%), which may indicate that women are more interested in and engaged in remote work because they see its advantages for work-life balance. Before extrapolating to the larger distant working population in Lebanon, it is important to carefully analyze the skew towards female respondents, especially in light of the modest deviation from the country's normal gender distribution.

The age distribution of respondents, who made up 68.7% of the sample population and were primarily in the 25-34 age bracket, suggests that younger to mid-career professionals had a strong preference for working remotely. This pattern might be an indication of how work preferences are changing throughout generations or of how chances for remote work are distributed differently among age groups. Furthermore, the distribution of respondents' educational backgrounds shows a preference for higher education, with 86% having at least a bachelor's degree. The high degree of education among survey respondents may indicate that remote work is more appealing or accessible to people with higher education levels, maybe as a result of the types of occupations that are available for remote work.

A big "Other" category (40%) suggests a varied variety of roles. The examination of job positions shows a high presence of remote work in specialized industries, especially IT (26.7%) and management (22.0%). This variety highlights how remote labor is becoming more prevalent in non-traditional industries, but it also presents new obstacles that call for updated organizational tactics, such as visibility, security, and less interpersonal interaction.

Benefits of remote work, such as cost savings and flexibility, are perceived with moderate agreement, reflecting a range of individual experiences. Motivational aspects emphasize the value of open communication and teamwork, but they also point out areas where prospects for growth and incentives should be improved. Performance aspects highlight the importance of self-management abilities but also highlight issues with learning, progression, and feedback, suggesting areas where remote workers may be under supported.

The survey's strong reliability scores attest to how well its measures capture constructs relevant to remote work. All things considered, the results show how complicated remote work is in Lebanon, with a diverse workforce, unique obstacles, and differing opinions on its advantages. This emphasizes the necessity of focused support initiatives to maximize the advantages of remote work for both individuals and businesses.

After investigating the correlation between different parameters and remote work, the analysis produced informative findings for all three hypotheses. The first hypothesis looked at any possible relationship between difficulties faced in distant work environments and work. As a result of the lack of statistically significant association (P-value = 0.198 > 0.05) in the data, the hypothesis that there is no connection between obstacles and remote work is accepted. This implies that although there are obstacles in remote work settings, they have little bearing on the uptake or efficiency of remote work procedures.

With a Pearson Correlation value of 0.695, the second hypothesis examined the association between motivation and remote work and found a statistically significant correlation (P-value = 0.000 < 0.05). Because of this finding, the null hypothesis was rejected in favor of the alternative, demonstrating a significant link between greater employee motivation and remote work. These results suggest that introducing remote work policies will probably increase workers' motivation.

A statistically significant association (P-value = 0.000 < 0.05) was found with a Pearson association value of 0.689 between remote work and performance, according to the third hypothesis. The idea that there is a substantial correlation between remote work practices and enhanced employee performance is supported by this result, which rejects the null hypothesis. This shows that more remote work options are linked to improved

worker performance results.

Regression analysis was used to confirm these results. The model demonstrated a strong correlation of 74.7% between the predictors and explained a substantial 55.8% of the variability of the predictors in remote work. The ANOVA results validated the statistical significance of the model ( $p\text{-value} = 0.000 < 0.05$ ), and the analysis of coefficients showed that performance and motivation are important indicators of the adoption and efficacy of remote work, while challenges did not appear to be a significant deterrent ( $p\text{-value} = 0.126 > 0.05$ ).

All things considered, the analysis shows a strong positive correlation between remote work and employee motivation and performance, indicating that implementing remote work policies may improve worker motivation and output. The absence of a noteworthy association between problems and remote work implies that the common obstacles associated with remote work do not exert a substantial impact on its efficacy or uptake. This could mean that companies have successfully addressed these issues or that there are more benefits to remote work than drawbacks, making it a sensible and advantageous model for both employers and workers.

## 10. Conclusion

An examination of remote work in Lebanon finds a complex environment in which people are adopting it more and more in a variety of fields, particularly among women, professionals in their early to mid-career stages, and those with higher education. While there are financial and flexible benefits to working remotely, there are drawbacks as well that call for creative organizational solutions. According to statistics, the difficulties of working remotely have little bearing on whether it is adopted or successful. On the other hand, there is a significant positive association between employee performance and motivation when working remotely, suggesting that remote work can boost both of these variables. Even while there are difficulties, they do not significantly hinder the effectiveness or uptake of remote work, indicating that the advantages exceed any possible drawbacks. The analysis highlights the need of providing focused assistance and devising effective tactics to optimize the advantages of telecommuting for individuals and enterprises in Lebanon.

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### Appendix. Survey Remote working

We are doing a survey about “**The effect of remote working on performance of employees**” Due to continue our PHD degree.

#### Section I. Demographics

<b>Gender</b>	Male
	Female
<b>Age</b>	20-24
	25-29
	30-34
	35-40
	Above 40 years
<b>Education</b>	High school/institute/intermediate and under
	Bachelor's degree
	Master's degree
	PHD
	Others
<b>Position</b>	IT
	Managerial positions
	Self-worker/Freelancer
	Other



Please fill the below by the Likert scale from 1 to 5 where:

1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree

1- Challenges facing remote working.

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
Lack of performance visibility					
Fear of security breach					
Carefully managing plans					
Time consuming to solve problems					
Remote work isn't for everyone					
Lack of face-to-face interaction					
Teamwork failure					
Cultural differences					
Increase of strains					
Autonomy problem					

2- Remote work

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
Better work environment					
Higher flexibility					
Increase of productivity					
Better life balance					
Cost benefit					
Employs hire talented employees					

3- Motivation

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
Set clear expectation					
Contribute to company work and reward hard work					
Share work with team members					
Building employee morale					
Communicate with supervisors and managers					
Chance for growth					

4- Performance

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
New learning opportunities					
Are employees provided with feedback on how to enhance business processes and improve their overall work experience?					
Feedback on business processes and improve their overall work experience					
Do employees frequently receive promotions and salary increases?					
Training and development programs					
Meet project deadlines					
Receive promotions and salary increases					

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