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Impact of Flexible Work Arrangements on Workers' Productivity in Information and Communication Technology Sector

"An Empirical Study of the Gaza Strip ICT Firms"

أثر ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات
دراسة ميدانية على شركات تكنولوجيا المعلومات والاتصالات بقطاع غزة

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يقول تعالى في كتابه العزيز

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ﴾

صدق الله العظيم

سورة البقرة – الآية 32

Dedication

I dedicate this work...

To my father who provided us with all the necessities for success

To my loving mother

To my brothers and sisters

To all my friends

And finally to all my wonderful teachers and advisors without whom

none of this would be possible

Acknowledgment

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List of Abbreviations

| Abbreviations | Descriptions |
|----------------------|---|
| ATUS | American Time Use Survey |
| BLS | Bureau of Labor Statistics |
| CARNET | Canadian Aging Research Network |
| CPS | Current Population Survey |
| FWAs | Flexible Working Arrangements |
| GDP | Gross Domestic Product |
| GSS | General Social Survey |
| HR | Human Resource |
| HPWS | High Performance Work System |
| ICT | Information and Communication Technology |
| NGO | Non-Governmental Organization |
| NHS | National Health Service |
| NOS | National Organization Survey |
| NSCW | National Study of the Changing Workforce |
| PCBS | Palestinian Central Bureau of Statistics |
| PECDAR | Palestinian Economic Council for Development and Reconstruction |
| PICTI | Palestine Information and Communications Technology Incubator |
| PITA | Palestinian Information Technology Association |
| PNINA | Palestinian National Internet Naming Authority |
| SPA | State Pension Age |
| WERS | Workplace Employment Relations Survey |

Abstract

This research aimed to highlight the concepts of flexibility in work and to study the impact of five types of flexible work arrangements on workers' productivity in information and communication technology sector, as an empirical study of the Gaza strip information and communication technology companies. Using the descriptive analytical approach, the researcher used five variables to represent the flexibility level through the types of flexible work arrangements, supported regulations of the organization, employees' support, management support, and types of work to investigate the impact of these variables on workers' productivity. In addition, a questionnaire has been developed and tested by a pilot study and then distributed to a sample consisting of 196 employees where 92% response rate achieved. The sample was comprehensive by which the whole study population used as the sample. The collected data was analyzed by statistical methods and processed through the SPSS software.

The most notable finding of the study was the presence of the positive impact of flexible work arrangements on workers' productivity since 65.68% of the employees agreed on that and 79.91% of information and communication technology companies' employees agreed with the presence of impact of the types of FWAs applied on their productivity. While the supported regulations of the organization to FWAs programs had the highest impact, where 81.95% of the respondents agreed with its impact on their productivity positively. 46.68% of the respondents disagreed with presence of employees' support to different FWAs programs. 50.81% of the respondents disagreed with the presence of management support to FWAs which effect on their productivity.

The study recommended that information and communication technology companies should raise the awareness of the management and staff about FWAs programs and its importance and its great effects on employees' productivity. The researcher recommended companies to support family-friendly organizational culture and to go toward writing companies policies and laws that lay down the applicability of various FWAs and govern the selection processes among the various FWAs.

المخلص

هدفت هذه الدراسة إلى الكشف عن أثر خمسة أنواع من ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بقطاع غزة وقد اعتمدت هذه الدراسة على المنهج الوصفي التحليلي للوصول للنتائج، وقد تم فحص تأثير عدد من المتغيرات على درجة المرونة المطبقة في شركات قطاع تكنولوجيا المعلومات والاتصالات، وشملت نوع ترتيبات العمل المرنة، سياسات وقوانين المؤسسة الداعمة لترتيبات العمل المرنة، دعم العاملين، دعم الإدارة، ونوع العمل. وعلى ضوء هذه المتغيرات تم تصميم استبيان كأداة للدراسة و قد تم عمل عينة استطلاع ومن ثم توزيعه على عينة مكونة من 196 موظف مثلوا عينة البحث لمجتمع الدراسة واستجاب 178 موظف ليمثلوا نسبة استجابة تقدر بـ 92%. بعد ذلك تم تحليل البيانات باستخدام الأساليب الإحصائية من خلال البرنامج الإحصائي SPSS.

وكان من أبرز نتائج الدراسة وجود تأثير ايجابي لترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات حيث وافق 65.68% من الموظفين على ذلك، ووافق 79.91% من الموظفين على وجود أثر لنوع ترتيبات العمل المرنة المطبقة على إنتاجيتهم، و كانت سياسات وقوانين المؤسسة الداعمة لترتيبات العمل المرنة هي الأكثر تأثيراً حسب آراء الموظفين حيث وافق 81.95% على أثرها على إنتاجيتهم، بينما 46.68% من المستجيبين للدراسة لم يوافقوا على وجود دعم للموظفين لمختلف لترتيبات العمل المرنة، ولم يوافق 50.81% من المستجيبين على أن الإدارة تدعم ترتيبات العمل المرنة مما يؤثر على مستوى إنتاجيتهم.

وخلصت الدراسة لمجموعة من التوصيات كان أبرزها، زيادة الوعي لدى الإدارة والموظفين في شركات تكنولوجيا المعلومات والاتصالات حول أهمية ترتيبات العمل المرنة وآثارها الكبيرة على إنتاجية الموظفين، وأوصت الباحثة الشركات بضرورة الذهاب بإتجاه كتابة سياسات وقوانين تضبط ترتيبات العمل المرنة وتحكم عملية الاختيار بين مختلف الترتيبات.

Chapter 1

Introduction

1.1 Introduction.

In the developed world, people are working longer and longer hours and the evidence is mounting that this is damaging their health and family life (Cooper, 2008). Greater flexibility would have some positive effects. Individuals would have more choice, control and likely achieve a better fit of their hours worked to their preferences (Burke, 2008).

Flexibility at work now takes various forms and includes job sharing, variable working time and telecommuting alongside conventional part time schedules. These arrangements vary across different countries and reflect the amount of control over working time that employer or employee enjoys in relation to when the work is done and the number of hours worked during a specific period (Cole, 2006).

This study presents the results of an investigation on the attitudes towards flexible work arrangements among information and communication technology workers and the effect of such arrangements on their productivity in the Gaza Strip in Palestine.

The success of flexible working arrangement (FWA) seems to be controlled by the actual arrangements used, the type of industry they are used in, the culture they are implemented in and the relative flexibility of the work practice itself. These variables can be used in the implemented action of FWA to achieve a more effective outcome (Stavrou & Kilaniotis, 2010).

Productivity is the quotient obtained by dividing output by one of the factors of production. In this way, it is possible to speak of the productivity of capital, investment, or raw materials according to whether output is being considered in relating to capital, investment or materials (Al-Bakry, 2002). Productivity is not a measure of production or output produced. It is a measure of how well resources are combined and utilized to accomplish specific and desirable results. The concept of productivity recognizes the interplay between various factors in the workplace. The output or results achieved may be related to many different inputs or resources in the form of various productivity ratios. Each of separate productivity ratios is influenced by a combination of many relevant factors (Bain, 1982).

According to Bureau of Labor Statistics BLS (2010), productivity measurements describe the relationship between real output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although these measurements relate output to hours at work of all persons engaged in a sector, they do not measure the specific contribution of labor, capital, or any other factor of production.

About Information and Communication Technology (ICT) sector in Palestine; and as mentioned by Palestinian Information Technology Association (PITA), the deployment of ICT in Palestine started relatively late in comparison with developed countries and some countries in the Third World. Palestinian companies began their work in providing ICT in the West Bank and Gaza only in the early 1980's with services that were mostly focused on retail and some wholesale of computers and electronics.

"At present, the IT sector is playing a vital role in the Palestinian economy. It was characterized by its fast development and growth, where it witnessed growth rates ranged between 25 - 30 % until year 2000" (<http://www.pita.ps/newweb/etemplate.php?id=49>, 20/8/2011, 10:45PM).

The software industry produced a wide range of solutions and packages in areas such as human resources management, projects and sales management, finance and accounting, education related solutions, management information systems, children education and entertainment. In addition to that, many solutions were specifically designed to address specific public, non-governmental organization (NGO), and private enterprises need (<http://www.pita.ps>, 20/8/2011, 11:30AM).

Many private sector firms and institutions such as Palestine Information and Communications Technology Incubator (PCTI) and Palestinian National Internet Naming Authority (PNINA) are participating annually in international exhibitions. Many companies also established presence in Arab countries. Other companies succeeded in exporting their solutions to the regional markets. Examples of these markets are Saudi Arabia, Yemen, Qatar, Bahrain, Egypt, and Jordan (PITA, 2000).

In this chapter; six topics are discussed, including research problem, research hypothesis and variables, research objectives, research importance, and research methodology.

1.2 Problem Statement and Justification

Research from Families and Work Institute's (2002), National Study of the Changing Workforce (NSCW), demonstrates that a critical element of workplace effectiveness is flexibility. By creating flexible work arrangements, companies can keep good employees and not force them to sacrifice family life. An FWA will help them benefit personally and professionally and the result will be people who are more loyal, committed and productive (Smith, 2002).

The economics of information based on ICT activities considered the ideal solutions for the Palestinian case, because the adoption of this technology on the availability of professionally trained manpower, regardless of their geographical location and the obstacles they face (PITA, 2006).

PECDAR (2009), mentioned that the ICT sector was one of the most active Palestinian sectors in terms of growth. The highest annual rate of increase of value-added participation helped the Palestinian economy, but it is almost the only sector capable of achieving positive annual growth rates in light of the conditions and circumstances of the siege and continued closures.

In addition, it achieves the highest rate of worker productivity and with a marked difference from the rest of the sectors, where the average worker productivity from 2000-2006 was 51.982\$. The industrial sector does not exceed \$9.143 dollars. The service sector, after the dismissal of the activities of the ICT does not exceed \$5.191 dollars. Finally, the insurance and financial activities sector did not exceed \$37.481 dollars.

The previous PECDAR numbers reflect the importance of workers' productivity in the ICT sector and their contribution to Palestinian economic growth. The research shed light on the productivity of working under flexible working system.

The problem of the study stems from the existence of some constraints in the productive process. Like the long work hours and the conflict between time work and family responsibilities. These constraints affect the overall level of performance of the employees which is directly reflect the level of productivity achieved within companies operating in the ICT sector. The main question that arises is:

Main Question

"What is the impact of flexible work arrangements (FWA) on the productivity of workers in ICT firms in the Gaza Strip?"

1.3 Research Variables

Figure 1.1 shows the research model of the critical factors affecting workers' productivity at ICT companies.

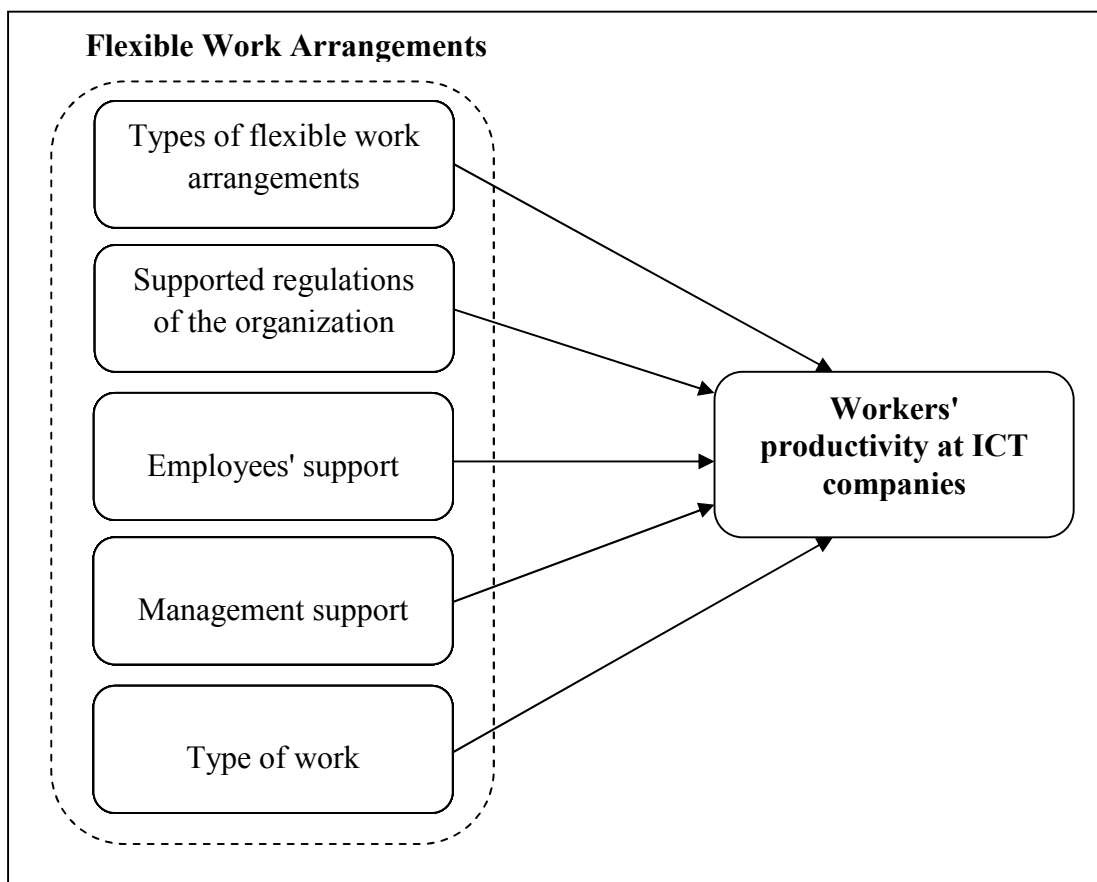
Dependent variable: Level of workers' productivity at ICT companies.

Independent variable: Flexible work arrangements.

Work flexibility is affected by six factors:

1. Types of flexible work arrangements.
2. Supported regulations of the organization.
3. Employees' support.
4. Management support.
5. Types of work.
6. Personal characteristics.
 - 6.1 Age
 - 6.2 Gender
 - 6.3 Marital status
 - 6.4 Level of education
 - 6.5 Experience
 - 6.6 Children

Figure 1.1: Research model of the critical factors affecting workers' productivity at ICT companies



Source: Designed by the researcher (2011)

1.4 Research Hypotheses

To evaluate the impact of FWAs on the level of workers' productivity in the ICT sector, the following hypotheses were constructed:

FIRST: There is a significance effect between independent variables and the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).

The following sub-hypotheses stem from the first hypothesis:

- i. Types of flexible work arrangements have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).*
- ii. Supported regulations of the organization have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).*
- iii. Employees' support have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).*
- iv. Types of work have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).*
- v. Management support has significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$).*
- vi. There are no significant statistical differences among respondents' answers regarding the impact of FWAs on the level of workers' productivity in the ICT sector, due to personal characteristics (Gender, Age, Education, Experience, Marital Status and Children) (at the level of significance $\alpha = 0.05$).*

1.5 Research Objectives

This study achieves several objectives including:

- To study the impact of FWAs on workers' productivity under in ICT companies in the Gaza Strip.
- To rank the factors that affect flexibility and then worker productivity in the ICT sector.
- To enrich the Palestinian content of studies of such research linking between FWAs and workers' productivity.
- Finally, to provide recommendations and appropriate proposals to managers in the ICT sector to achieve a better level of performance and increase workers' productivity.

1.6 Research Importance

- This topic gains its importance from the globally increasingly attention paid to workplace conditions when workers are unable to adequately meet family responsibilities because of their long working hours. This makes workers often feel that meeting family needs could negatively impact their job standing.
- The study examines one of the most productive sectors of the Palestinian economy that has been rising over time and study the impact of flexible working arrangements on workers' productivity of the Palestinian ICT sector.
- According to the knowledge of the researcher, this study is considered the first to address flexible work arrangements in the Palestinian ICT sector. So, this

research will make a contribution to literature pertaining to flexible work arrangements and will help to further theory.

1.7 Research Methodology

The researcher followed the descriptive analytical approach in conducting the research. This research is categorized under the applied research that depends mainly on data collection from primary sources through distributing a questionnaire that is designed especially for this research. Questionnaires will target the study sample and the collected data was analyzed by SPSS. The researcher briefs the statistical analysis tools used in chapter four.

1.8 Definition of Key Terms

Flexible Work Arrangements (FWAs)

Defined as employer provided benefits that permit employees some level of control over when and where they work outside of the standard workday (Hill et al., 2001).

Flexible Work Arrangements (FWAs) alter the time and/or place that work is conducted on a regular basis - in a manner that is as manageable and predictable as possible for both employees and employers (Sloan, 2010).

Flexitime

Start and/or end the work day earlier (or later) than usual, where workers can set their own starting and stopping times (Kelly & Kalev, 2006).

Flexitime does not alter the total number of hours for which the employee was hired. A work schedule in which employees' workdays are built around a core of mid-day hours when all workers are required to be present (Dessler, 2008).

Compressed Hours

Work fewer (or no) hours some days, and longer hours on other days e.g., work 37.5 hours in 4 days, with one day off (Sundo & Fujii, 2005).

Telecommuting

Work from home for all or part of the work week (Blair-Loy & Wharton, 2002).

Part-Time

Work less than 30 hours a week (Tarrant, 2007).

Job-Sharing

Share the responsibility and benefits of one full-time position with another employee (Gottlieb et al., 1998).

Core Time

Most flexible working hours schemes have a period during the day when employees must be present. This is known as "**core time**" (Ridgley et al., 2005).

Productivity

Productivity is the quotient obtained by dividing output by one of the factors of production. In this way, it is possible to speak of the productivity of capital, investment, or raw materials according to whether output is being considered in relating to capital, investment or materials (Al-Bakry, 2002).

Chapter 2

Theoretical Framework

2.1 Introduction

Flexible Work Arrangements (FWAs) provide organizations and their employees the ability to make choices about when (e.g., flextime, compressed workweeks), where (e.g. telecommuting), and for how long (e.g. part-time, reduced hours) work-related activities are accomplished. These types of work arrangements have seen a rise in popularity due to a change in workforce demographics and employee demands for greater work-life balance (Wendt, 2010).

Recent studies suggest that job flexibility can offer many benefits to both employers and employees, including improved job satisfaction, reduced absenteeism, greater commitment, and reduced turnover (Bailyn et al., 2001).

The working-time schedule is being revisited by many organizations in response to a multitude of factors, including regulatory changes and sectoral competitive pressures. Underlying these changes is the realization that the number of hours that a job demands and employee control over any variation in the hours worked significantly affects the scope of personal and domestic activities. Organizations have also in the recent past begun introducing flexibility measures to increase the responsiveness of their products and services to market needs (Eldridge & Nisar, 2011). This chapter deals with three different topics related to research subject:

- The definition of flexible work arrangements.
- Then, productivity concept is introduced.
- Finally, the Palestinian ICT context is covered.

2.2 Flexible Work Arrangements

2.2.1 Introduction

Many organizations have begun to offer flexible work arrangements to help employees balance work and family demands (Galinsky et al., 2008). The ways that flexibility impacts works, and the resultant effects on the bottom line, are of greatest interest to organizations and likely to be deciding factors when they consider either formally implementing or informally permitting flexibility. Most organizations are left to decide if and how they will offer flexibility, and decisions are largely based on how they perceive such arrangements will affect their ability to be responsive to business needs (Fisher, 2010).

By creating a Flexible Work Arrangements (FWAs), companies can keep good employees and not force them to sacrifice family life. Flexible work arrangements will help them benefit personally and professionally and the result will be people who are more loyal, committed and productive (Smith, 2002).

The following section shows the definition of flexible work arrangements and explains the different types with the most pros and cons for each type. A brief introduction about the history of FWAs is introduced. How FWAs can address personal and organizational needs are explained with the effects on organizational productivity, work-family balance, and employee's stress, attitudes and morale. Finally, ethical considerations in FWAs are described.

2.2.2 Definition of Flexible Work Arrangements

Flexible work arrangements are defined as employer provided benefits that permit employees some level of control over when and where they work outside of the standard workday (Hill et al., 2001).

The term flexible working covers flexibility in terms of the hours that are worked and the location and includes the following: Part-time, Flexi-time, Staggered hours, Compressed working, Job sharing, Shift swapping, Self rostering, Time off in lieu, Term-time working, Annual hours, V-time working, Zero-hours contracts, Home working/telecommuting, Sabbatical/career break, and others.

The study examined the relation between the availability of five popular types of flexible work arrangements: flexitime, telecommuting, part time, job-sharing, and compressed workweek and the level of workers' productivity.

2.2.3 Definitions of Alternative Work Arrangements

This section shows the definitions of the five types of alternative work arrangements, Flexitime, Compressed hours, Telecommuting, Part-time, and Job-Sharing, and briefly considering its benefits for employees and management and the challenges that arise when applying it, as they are described by Gottlieb and others (1998) and Dessler (2008).

2.2.3.1 Flexitime

- **Definition:** A work schedule in which employees' workdays are built around a core of mid-day hours when all workers are required to be present (Dessler, 2008). The most prevalent alternative work arrangement, flexitime or flexible work hours, typically consists of flexible workday start and finish times. Most organizations that offer flexitime require all employees to be on the job during a set of core hours, but allow employees more choice over their work schedules on either side of these core hours (Ridgley et al., 2005).

Flexitime is in operation as a part of the HR benefit package offered to employees (Scandura & Lankau, 1997). Flexitime does not alter the total number of hours for which the employee was hired, but most flexitime arrangements include schemes for logging surplus and deficit hours they may have incurred. For example, if during a given week, an employee's family demands require him to arrive at work when core hours begin at 10:00 and leave when core hours end at 16:00, then over a five-day work week, she/he will accrue a deficit of 10 hours in her regular 40-hours work week. She can then repay her debt by extending her hours through the two flexitime periods (08:00 to 10:00, and 16:00 to 18:00) during another week, or by working extra hours on certain days in the months ahead (Gottlieb et al., 1998).

- **Benefits:** As a HR practice, flexitime provides considerable benefits to both employer and employee (Cohen & Single, 2003). Employee keeps full pay and benefits, unless number of hours worked each week decreases. Employee's working and time off hours more closely meet their needs, often enhances employee's productivity, may facilitate recruiting and retention, and it can reduce absenteeism and tardiness. Operational, managerial or professional work settings can accommodate flexitime (Almer & Kaplan, 2002).

Flexible hours can be extended even more by further dividing core hours into two periods, one in the morning and one in the afternoon, with a flexible lunch period in

between. This provides a third party of flexible hours, when employees can tend to tasks and domestic chores look in on elderly relatives, or have lunch with a child Flexi leave enables employees to build up a small amount of time to accommodate occasional appointments without using holiday or work time (Ridgley et al., 2005).

- **Challenges:** Employee may not provide supervision at all hours. Key people may be unavailable at certain times, requiring cross-training to ensure coverage and may create difficulty in scheduling meetings, coordinating projects, etc. like other flexible work arrangements, the degree of variation in employees' hours of work that can be accommodated depends on the number of daily hours the organization operates, the hours each employee is required to be present, the extent to which satisfaction of other workers' and customers' needs depends on interaction with the employee, and the manager's tolerance of work schedule variability (Anderson & Ungemah, 1999).

Some managers prefer predictability and therefore ask their employees to commit to flexitime schedule that is permanent or at least fixed for a period of time. Sometimes referred to as 'staggered hours', this fixed flexitime arrangement does not involve any carry-over of excess hours or shortfalls. Other managers are prepared to approve a truly variable flexitime arrangement whereby employees schedule their work hours on a daily basis, as their needs dictate (Gottlieb et al., 1998). However, some positions preclude such variability because employees must be on the job at the same time every day.

2.2.3.2 Compressed Workweek

- **Definition:** This is an arrangement whereby a standard work week is compacted into fewer than five days by extending the length of the work days. The most common patterns are four ten-hour days, three twelve-hour days (Sundo & Fujii, 2005). Although the four-day work week usually includes a predetermined day off, flexibility can be increased by enabling employees to choose their day off (Combs, 2010). According to Dessler (2008), compressed workweek is a work schedule in which employee works fewer but longer days each week.

- **Benefits:** From the employers' perspective, compressed work weeks allow manufacturing operations to be used for longer periods, with fewer startups and shutdowns. This may enhance productivity, with fewer interruptions during atypical work hours (Anderson & Ungemah, 1999).

From the employee's perspective, compressed work weeks are a mixed blessing. On one hand, they offer additional and longer periods of time away from work "blocks of time off work", with no reduction of pay. The compressed working week system has a big impact on the activity and travel patterns of the individuals concerned (Sundo & Fujii, 2005).

- **Challenges:** On the other hand, many employees, particularly older workers, complain about the fatigue that sets in toward the end of the longer work day, with a concomitant decline in productivity. In addition, compressed work may cause understaffing at times. There are employees who cannot follow a compressed work week schedule because of their job duties. These may include customer service representatives or computer operators who are required to maintain 24-hour coverage hours (Anderson & Ungemah, 1999).

2.2.3.3 Telecommuting

- **Definition:** Sometimes referred to as telework, sometimes as flexiplace, and sometimes simply as work-at-home, telecommuting is an arrangement in which employee works at home, in a satellite office, or at a customer's location for part or all of the work week (Blair-Loy & Wharton, 2002). When they are not in the central office, telecommuters communicate with their co-workers and managers by means of phone, e-mail, and fax. People who use more IT in their work are more productive, and by its very nature telecommuting requires more use of IT. Telecommuters in formalized programs usually receive extra training in using technologies and managing their work (Westfall, 1994).

- **Benefits:** Telecommuting helps commuters to reduce their commuting time and travel costs, and even diminish suburban crime by keeping more people in their home neighborhoods during the day (Major et al., 2008). One claim often made in citing the advantages of telecommuting is increased employee satisfaction. Studies have reported higher levels of job satisfaction with telecommuting and found that telecommuters derived relatively high work autonomy, commitment to the organization and feelings support by the organization (Coveyduck, 1997). It also offers increased flexibility for many types of sales and service activities, such as insurance, financial, and real estate sales. In addition, it affords opportunities for better coordination of employees work schedules with their personal and family needs (Pyöriä, 2009).

- **Appropriate jobs, and work setting:** Employees whose jobs involve a great deal of 'head down' work, such as planning, budgeting, computer programming, and writing, claim that they are more productive when they can work alone at home. More generally, because telework is performed independently, telecommuters must be engaged in work that involves at least some autonomous tasks. Employees who worked at home need a proper work setting for their comfort, safety, and productivity, including sufficient lighting, office furnishings and equipment (Sahay *et al.*, 2003).

- **Challenges:** One of the greatest telecommuting challenges is that employees may feel isolated (Madsen, 2011). In terms of employees' personal qualities, telecommuters need to have strong work habits on the one hand, and the ability to discern when to stop work and turn their attention to home and family. The teleworker must know how to set appropriate limits on the workday. Spending work time at the office seemed to improve organizational communication (Sturgill, 1998). Telework is particularly well suited to employees who are self-disciplined and self-directed. Clearly, they must also be employees who have earned their manager's trust through good performance. Finally many employees have reported concern that career development might be negatively effected with telecommuting (Khaifa & Davidson, 2000).

2.2.3.4 Part-time

- **Definition:** A work schedule that is less than full-time but is at least half of the regularly scheduled full time workweek. Part time arrangements involve a reduction in the employee's hours of work, ranging from modest reductions (e.g. 90% of full-time or seasonal arrangements such as four-day weeks during school holidays) to substantial work hour reductions (e.g. one or two days of work per week). Part-time work is the category of FWAs that has long been claimed to be the preferred arrangement of women with primary care responsibilities to enable them to manage such commitments while working (Tarrant, 2007).

- **Benefits:** The primary benefit of part-time arrangements is that they can reduce the time pressures and fatigue that full-time employees often experience. These arrangements are particularly helpful for employees with time-consuming responsibilities for family care giving and either a preference for direct involvement in care giving or lack of access to good-quality substitute care (e.g. due to cost or sheer lack of availability) (Schmidt, 2005). In addition, part-time arrangements can sometimes be implemented in ways that increase the employee's availability during peak work periods during the day or week (Gottlieb et al., 1998).

- **Challenges:** Employee loses income and possibly some benefits. Part time arrangement may create difficulty in scheduling meetings and coordinating projects. However, there are a number of ways in which part-time work may disadvantage all reduced hours workers. These include more restricted access to training and development. Part-timers may also be excluded from some or all of the fringe benefits enjoyed by full-time workers in many organizations (Stanworth, 1999).

2.2.3.5 Job-Sharing

- **Definition:** Job sharing is an arrangement in which two people voluntarily share the responsibilities, salary, and benefits of one full-time position, each working part-time on a conventional basis (Perrine, 2009). Job sharing creates normal part-time employment opportunities where there is a need for full-time position. It differs from other part-time work by virtue of the coordinated approach to job responsibilities that it requires. There is great variability in the ways the time and the demands of a job are shared. Time need not be shared on a 50:50 basis, but can vary in proportions usually depending on the needs of the job sharers (Branine, 2003).

- **Benefits:** Both job-share partners, if working at least 50% time receive health coverage and each employee gains a partner with whom to share ideas and responsibilities (Adamson, 1994). The job sharing schedule can also be highly variable because it is usually carefully tailored to the two parties' personal circumstances and lifestyles. The quality of the working relationship between the job sharers is a critical determinant of its success. Experience reveals that the optimal process for the development of a job sharing arrangement is when the two parties jointly apply to share a job after they have confirmed their compatibility and decided how to divide their work, and coordinate with one another and with their manager and co-workers (Gliss, 2000).

- **Challenges:** Finding a compatible partner and replacing a partner who leaves. The problems that can arise in job sharing arrangements include difficulties in communication and collaboration between the partners, which can not only make them less productive, but also create problems for managers and co-workers (Gottlieb et al., 1998). Managers may resist the idea as they see it as increasing their supervisory responsibilities. It has also been suggested that, because they are on a reduced hours schedule, job sharers are perceived to have less commitment to the job and may not be taken as seriously as full-time employees. For these reasons, job sharers sometimes find it difficult to get promoted or to advance as a team, and therefore they need to discuss with their managers how this arrangement might affect their career path (Finks & Rogers, 2008).

2.2.4 Historical Background of Flexible Work Arrangements

Initially, the concept of flexible work was synonymous with reduced or part-time workload (Collins, 1993), particularly for women with dependent children. Now

the concept of “flexible work arrangements” incorporates a broad range of both formal and informal workplace practices designed to meet the “life” needs of a greater diversity of employees (Di Cieri et al., 2005). Since 1973 when Hewlett-Packard became the first U.S. company to institute flex time, flexible work arrangements have grown in popularity and use. Data released by the Bureau of Labor Statistics in July of 2005 show that in 2004, 27.5 percent of all full-time workers in the U.S. had flexible work schedules (Schaefer, 2005).

Flexible works arrangements have been in use for a number of years. FWAs were first introduced at a German aerospace company in 1967 as a way to reduce employee absenteeism due to commuting issues (Avery & Zabel, 2001). Recent years have seen an increasing number of organizations in the UK offering a range of flexible working options to their employees (Kersley et al., 2006). For many employers this has been a response to increasing interest in work–life balance (Bailyn et al., 2001), the need to be competitive in the labor market (Rau & Hyland, 2002) and the introduction of legislation giving parents of young or disabled children and, more recently, careers, the right to request flexible working arrangements (Green, 2004).

The need for flexibility increased during the latter part of the 20th century. More women entered the workforce and continued working after having children. The need for employees to care for parents increased as people lived longer, and this prompted requests for flexible schedules. Older workers continued to work beyond the traditional retirement age, though many seniors prefer part-time employment, seasonal work or flexible daily scheduling. The importance of continuing education also impacts employee work schedules. Telecommuting lends itself to planning work hours around other life responsibilities (Baer, 2011).

One reason why many have advocated their use is because of the belief that they help employees manage better the conflict between work and family (Cohen, & Single, 2003). This conflict has received much attention in both popular press and the academic literature particularly over the last decade. One result of this is that organizations have sought to become more "family-friendly". Because flexible works arrangements are a common component of many family-responsive human resource policies, their popularity has increased (Glass & Finley, 2002).

One of the most important consequences of FWAs is their strong and positive contribution to the quality of work life. The understanding of managerial attitudes towards FWAs and the mechanisms managers use to select between them with respect to implementation still, however, remains in a relatively embryonic state (Pierce et al., 1989). There are several reasons for this. First, the conceptual statements, observations, and research that comprise the current literature on alternative work arrangements have not been based on well-grounded theoretical models defining variables, relationships, and processes. Second, most of the research on flexible working hours has concentrated on employee attitudes and behaviors rather than supervisory reactions and attitudes to these work arrangements (Duxbury & Haines, 1991).

2.2.5 Appropriate Jobs for Different Flexible Work Arrangements

Though flexible work arrangements do not work for all employees or all types of jobs, when used appropriately, flexible work arrangements can be a win-win situation for both departments and employees.

- **Telecommuting:** Any job that involves a person working alone and handling information is a candidate for telecommuting. In fact, any task that can be done using ‘remote control’ is a potential candidate for telecommuting. It can be the perfect arrangement for occupations such as computer programming, accounting, editing and some clerical work. The practice of telecommuting has had an impact in numerous industries such as banking, accounting, technical, libraries, insurance, healthcare, legal, and many more. It should come as no surprise that high-tech companies are the most likely to support telecommuting (Abdel-Wahab, 2007).
- **Part time** workers constitute a large portion of workers in education and health services industries. However, part-time workers constitute a very small percentage of workers in the following industries: construction, public administration, manufacturing and mining (Galinsky, 2004).
- **Job-Share:** Based on a national representative survey of employers, the percentage of companies allowing some employees to share jobs has risen from 38% in 1998 to 44 in 2005. However, highlighting differential access to flexible work arrangements within organizations only 13% of companies surveyed in 2005 allowed all or most employee to share jobs. Interestingly, small companies were nearly four times more likely to offer job sharing to all or most employees than large companies (Bond, 2005).
- **Flexitime:** In a study exploring the impact of occupational status on access to flexible schedules, one researcher found that managerial, administrative; engineers, and professionals have greatest access to flexibility than all other occupational types, often on the order of almost 20% to over 30% more (Golden, 2005).

2.2.6 Which Employees Prefer to Use Flexible Work Arrangements

Good candidates for telecommuting: are trustworthy, have a strong performance record, are able to manage their own time and workload well, are able to solve most of their work-related problems successfully, have strong communication skills, have a supportive family/home environment, have computer proficiency (hardware, software), have low social needs, are able to meet deadlines, have a desire to telecommute. Writers, managers, salespersons, accountants, programmers, graphic artists, researchers, engineers, architects, public relations professionals—all are prime candidates for telecommuting (Be’langer, 1999).

Job-sharing is good for women with small children who do not want full-time work, Job sharers may be people who want to travel more, take care of elderly or sick family members, or are reaching retirement age and don’t want to completely give up their career (Finks & Rogers, 2008).

Part-time work prompts conflicting reactions. It is frequently the route which women choose in order to combine continuing labor market involvement with household responsibilities, particularly during the childcare years. A natural view of part-time work is as a stepping stone into full-time work for women who have been out of the labor force, probably for family reasons, or in the reverse direction for older workers winding down to retirement (Connolly & Gregory , 2010).

Flexitime tends to be aimed at administrative and clerical workers, or other office based staff, although it has been extended successfully to junior managers, scientists, engineers, technicians and other laboratory workers (Ridgley et al., 2005).

2.2.7 Implementing Flexible Work Arrangements

The introduction of flexible work arrangements is one strategy that can assist in attracting and retaining staff. This section provides guidance on how to develop and implement a flexible work strategy in the organization, in seven steps. First, outlines the basics of introducing a flexible work strategy into an organization for the first time. It includes steps for assessing, developing and documenting flexible work arrangements that suit both employee and organizational needs, and establishing processes to measure the success of work life initiatives. Then, focuses on how to make flexible work initiatives a normal part of workplace culture.

2.2.7.1 Identify the Work Life Needs of Employees

According to an Australian Government Initiative AGI (2011), the understanding of which initiatives will be most beneficial in attracting and retaining staff is the key to developing an effective flexible work strategy. The types of flexibilities that will appeal to any organization's workforce will depend on where employees are at in their work life cycle. The first step in developing a flexible work strategy focuses on identifying the needs and desires of current employees, and determining which flexible work options would best assist them to balancing work and lifestyle commitments. The aim of this first step is to gather information about the specific flexible work needs of employees within the organization. Some strategies for identifying needs are:

- Asking employees individually (this may work best in small workplaces);
- Discussion with employees in staff meetings;
- Holding focus groups;
- Asking employees through general surveys, or via managers and supervisors;
- Undertaking a formal work life balance survey.

The arrangements wanted and needed by families changed as their families changed. Then, it is important to regularly check that flexible work initiatives are continuing to meet employee needs (Fursman & Zodgekar, 2009).

2.2.7.2 Assess What Will Work in the Organization

In contrast, Golden (2008) found that the decision for an organization to adopt an FWAs was due to a perceived cost-benefit or as a way to retain highly valued employees. Flexible work initiatives need to work for the organization as well as for employees. The second step in developing a flexible work strategy is to assess what flexibility initiatives will be feasible for the workplace. It is important to think broadly when examining the impact of flexible work arrangements. Labor Relations Division (2009) included the major issues to consider in relation to the feasibility of flexible work arrangements:

- Required client or customer contact hours / opening hours;
- Minimum staffing requirements in both busy and quiet times;
- Equipment operating needs;
- Workload peaks and troughs.

Associated issues such as insurance, workers' compensation, legal liability, security, taxation and superannuation implications, equity and supervision need to be considered carefully for some of the flexible work practice options. It is also important to consider the cost and level of administrative support required for any new initiatives. Some initiatives, such as establishing a workplace family room, may require initial expenditure but be very cost efficient in the long term.

Many do not fully appreciate the wide array organizational costs that can result from policies and practices that do not directly address the impact of personal life issues, especially family issues on the workplace (Gottlieb et al., 1998). As part of the decision making process, employers could conduct a cost benefit analysis of proposed flexible work arrangements to ensure there are real advantages to both the employer and employees, and that the advantages outweigh costs. As staff turnover has cost implications, employers could calculate the cost of staff turnover, i.e. the costs of:

- paying out accrued hours and leave entitlements;
- Temporary replacements or overtime until the job is filled;
- Advertising, selection and recruitment;
- Induction; and on and off the job training time for the new employee and supervisors.

Any additional costs of flexible work initiatives, such as the cost of additional equipment in setting up a workplace family room or working from home arrangements, should be calculated over the life of the equipment and be offset against savings associated with retaining skilled productive employees (Reilly, 1998).

2.2.7.3 Document the Arrangements (Writing Policies)

It is important to formalize any new work arrangements in writing. The third step in developing a flexible work strategy is documenting the arrangements (Hohl, 2006). As Mcnall and others (2010) mentioned, flexible work arrangements can be documented in any way that suits the organization. In larger workplaces, a formal human resource policy on flexible work practices may be appropriate. Alternatives include detailing flexible work arrangements:

- In staff manuals;
- In induction handbooks;
- On the work notice board;
- Business intranet.

Having a written version of all FWAs is essential so that employees can be made aware of policies and initiatives available, and so that employees can plan for current and future needs. Documentation can also assist both managers and employees by establishing a clear and transparent process for assessing any requests for flexible work arrangements (Ryan & Kossek, 2008).

Developing a flexible work policy

Flexible work policies do not need to be long and complex documents. They should clearly outline the provisions relating to each flexible work arrangement. Key information that could be included is:

- The aim or purpose of the policy and the flexible work initiative;
- The nature of the provision;
- Eligibility criteria if any;
- The application process including who has decision making ability;

- An appeal process if appropriate;
- The date when the policy is effective and when it will be reviewed.

A sample of flexible working hours policy is outlined see Appendix E (LRD, 2009).

2.2.7.4 Establish Processes to Measure and Evaluate the Success

The fourth step in developing a flexible work strategy is to establish processes that measure the success (or lack of success) of any initiatives. Ongoing assessment will help ensure that flexible work practices remain relevant to the needs of the organization and its workforce. What is practical to measure will depend on the size and nature of the organization. A range of suggested areas where it may be possible to measure the effects of work life balance initiatives were listed in table in Appendix F (LRD, 2009).

2.2.7.5 Support and Educate Managers and Supervisors

Duxbury & Haines (1991) mentioned that managers and supervisors play a key role in implementing a flexible work strategy. Individual managers are usually responsible for assessing requests for flexible work arrangements, and management attitudes is a driving force for workplace culture. This step focuses on strategies for providing managers and supervisors with the information and tools they need to effectively manage flexible work arrangements.

Managers need to be aware of the business imperative for flexibility, including the role of flexible work arrangements as an attraction and retention tool for valuable employees. Organizations can do the following:

- Providing training for managers, considering effectively managing employees on flexible work arrangements is a leadership skill;
- Providing simple processes and procedures;
- Encouraging managers to use flexible work options;
- Reward managers who actively encourage flexible work.

2.2.7.6 Communicate the Flexible Work Strategy

According to Schaefer (2005), communication is a key tool in integrating flexible work into organizational culture. Regular ongoing communication about flexible work is important to the success of any strategy. Employees should be regularly made aware that flexible work options are available, and that the organization supports these options being used.

Keep the lines of communication open with employees in terms of encouraging and listening to feedback. When initiating a new plan, pilot programs with a limited time frame can be useful. At the onset, advise employees that – if the plan proves unsuccessful – a return to prior traditional work arrangements may result. This step outlines a range of communication strategies that can raise awareness of flexible work initiatives according to Labor Relations Division (2009):

- Use flexible work as a recruitment tool, an organization's perceived support for flexible work and the availability of flexible work options can be a major attraction for potential employees;
- Acknowledge key life events, major events or changes in an employee's personal life often signal to need for a change in working arrangements;
- Communicate to new employees;
- Communicate by example is the best method of highlighting to employees that organization is serious about workplace flexibility;

- Celebrate flexible work arrangements.

2.2.7.7 Make Flexible Work Standard Practice

The integration of flexible work options into all workplace arrangements is a key element in fully implementing a flexible work strategy. The facilitation of flexible work needs to become a standard part of all human resources policies and workplace practices. This step suggests some strategies for integrating flexible work into organization's standard employment practices:

- Include a commitment to flexible work in job descriptions; that traditional job descriptions have been eroded and thus there is a need to reorganize work accordingly along more flexible lines (Humphreys et al., 2000).
- Incorporate work life balance into performance management, There can be a significant link between work performance and the state of an employee's work life balance. Employees who are not able to balance work and lifestyle commitments may be suffering stress, and work performance may decrease (LRD, 2009).

2.2.8 Flexible Work Arrangements Best Practices

2.2.8.1 Flexitime: Letting Employees Schedule their Work

The vast majority of flexitime users establishes their own daily or weekly routine, and consistently adheres to this idiosyncratic schedule because it meshes well with their routines and responsibilities outside work. In establishing their personal schedules they also take into regard deadlines, co-workers' schedules, and other workplace contingencies (Gottlieb et al., 1998).

Employees may need training in filling out timesheets and reminders to do so on a regular basis. An open electronic database using spreadsheets can allow staff to plan ahead. Remind staff that all employees working over 6 hours must record a 30 minute rest break during each day. Where employees have not experienced flexitime before they may need more guidance on what they can and cannot do (Ridgley et al., 2005).

Even when employees have FWAs, if they have not chosen these arrangements themselves because they were hired or transferred into the arrangement by management, they do not experience the psychological benefits enjoyed by those who chose the arrangement they desired. Equally important, even if they never opt for a flexible work arrangement, employees who know that they can do if they wish experience lower levels of stress than those whose employer has not made such an opportunity available (Canadian Aging Research Network CARNET, 1993).

2.2.8.2 Telecommuting: The Importance of Location

The key to the successful use of telecommuting is for both parties to think of the alternate worksite in much the same way as the regular worksite. The employer needs to take responsibility for ensuring the employee has the information, equipment, and skills that are needed to perform job tasks. The employee needs to ensure that non-job-related interruptions are minimal, that co-workers who need to receive or provide information can do so and that the amount of time spent working is adequately monitored so that it is neither greater nor less than the time that would be worked at the primary worksite (Gottlieb et al., 1998).

People who are physically separated from the workplace community are more than likely to be excluded from social relations, unless there is a conscious effort to

organize regular meetings and informal get-togethers. Separation and alienation from the workplace community may also be considered a threat to career advancement. For these reasons it is important that from the earliest planning stages, special attention is given to creating a systematic feedback system (Pyöriä, 2009).

Another point that is often overlooked is that telework does not fit all life situations. Some families have small children who are at home all day, for some people the workplace is like home. Others feel duty-bound to turn up at work each and every day (Devine et al., 1997). Indeed the key is to tailor telework arrangements to individual needs. Telework must always be the individual's own choice, and there must always be the opportunity to go back (Butler et al., 2007).

2.2.8.3 Part-Time: Choosing a Balance Point

One of the greatest drawbacks of part-time arrangements is that jobs in this category are usually not integrated with the system of full-time career positions. Part-time positions are typically far less attractive than full-time positions in terms of the type of work the employee is assigned, the opportunity for advancement, and the job security and other benefits the employee is granted. Cost-sharing between the employer and the worker for participation in health, life, and dental insurance plans can also provide a means of pro-rating costs for benefits that cannot be subdivided. However, it is also widely documented that many part-time jobs are 'bad' jobs in low-wage occupations offering little opportunity for career progression (Manning & Petrongolo 2008).

When part-time hours are worked on the basis of a job-share arrangement the organization often benefits from the greater range of skills that two employees can offer rather than one and from the help and support that these employees provide to one another when problems arise (Gottlieb et al., 1998).

In addition, training programs need to be re-designed so that part-time employees can be included. This is crucial in enabling part-time employees to keep their skills up to date and to complete training units that are pre-requisites for career advancement (Connolly & Gregory, 2010).

2.2.8.4 Compressed Workweek: Extended Hours of Supervision

Key consideration in implementing compressed workweek is a need to assess which departments/jobs in an organization are suitable to go on a compressed workweek arrangement. The arrangement may not be suited for some departments and some positions.

There is a need to design a staffing schedule that ensures that there is adequate staffing at all times, particularly during peak hours. Organizations have to providing supervision during the extended hours of operation (Perrin, 2001).

2.2.8.5 Job-Sharing: Similar Work Style

In sourcing for a suitable job sharing partner, the important consideration is whether the two individuals have similar work style and work ethics, and whether they are able to work together without competing.

Communication between the partners and with the rest of the organization and clients is extremely important to avoid confusion. It is important to establish an efficient system of information exchange. The job sharing arrangement should factor in a hand-over period or arrangement where both partners could meet to hand over outstanding

tasks and brief each other of the latest news and developments. Other employees and the relevant clients should be kept informed of the arrangement (Perrine, 2009).

Clear job and performance goals should be set for the job sharing partners, and a suitable appraisal system be devised so that each partner's contribution to the job can be objectively assessed (Perrin, 2001).

2.2.9 The Effects of Flexible Work Arrangements

It is difficult to imagine any organizational intervention that would have such a far-reaching impact. Most of the available research on flexible work arrangements has focused on four types of outcomes: effects on organizational productivity, effects on employees' ability to maintain balance between their work and family responsibilities, effects on employees' stress, and effects on employees' job attitudes and morale (Dunham et al., 1987).

2.2.9.1 Effects on Organizational Productivity

Researchers have examined the effects of flexible work arrangements on organizational productivity, using various indicators of job performance as well as records of absenteeism and tardiness. Once again, the available evidence regarding the effects of flexible work arrangements on productivity is quite mixed (Gottlieb et al., 1998).

Studies are different from reported negligible effects of flexitime on productivity to founded varied reports that organizations examined increased in productivity. Many studies have reported productivity and performance improvements with telecommuting (Bernardino, 1996). Pratt (1999) found that an employee's productivity was the same or higher when they teleworked. Several studies have also investigated the effects of compressed work weeks on organizational productivity. Whereas some studies have noted increases in performance, the more common observation has been no change in productivity (Barling, Gallagher, 1996).

In a 1996 study, Glass & Estes found that mothers who were allowed to work at home following childbirth displayed lower turnover and higher levels of productivity. Some studies have presented evidence for improved productivity directly relating to the existence of family-friendly policy (Shepard et al, 1996; Friedman, 1989), and others have found links between job satisfaction and satisfaction with work-family balance (Ezra & Deckman, 1996).

Findings from Shumate & Fulk (2004) suggest that there is a great risk for lowered productivity associated with work-at-home arrangements due to parents' difficulty in dividing their time between work and family when working from home. Research finds that employees in effective and flexible workplaces are more likely to be engaged in helping their organizations succeed, more likely to be satisfied with their jobs, more likely to stay with their employer and more likely to be in better mental health. Workplace flexibility is a way to define how, when and where work gets done, and how careers are organized (Galinsky, 2008).

2.2.9.2 Effects on Work-Family Balance

According to Gottlieb and others (1998), flexible work arrangements are frequently cited as a means of helping employees balance work and family responsibilities. In one of the few studies to examine this question directly, reported that employees who had a flexitime arrangements reported less work- family conflict than did employees who had conventional arrangements.

In a study funded by Hill, Ferris & Martinson (2003) examined whether and to what extent the different work venues of virtual offices, home offices or traditional offices impacted job performance; motivation; retention and career opportunity; and family life balance. Their findings suggested that virtual and home offices showed mostly positive effects on the job performance variables, while traditional office arrangements showed mostly negative effects. In contrast, arrangements that involve a reduced number of hours at work are associated with lower levels of work-family conflict. Thus individuals engaged in part-time work, job sharing, and to a lesser extent, compressed work weeks reported lower levels of work-family interference. Taken together, these observations suggest a limited effect of flexible work arrangements on work and family balance. By spending less time on running and maintaining their home and work, employees will have more fulfillment and satisfaction, such as our relationships with friends and family (Hinz, 2011).

Saltzstein, Ting & Saltzstein (2001) looked for correlations between perceptions of work-family balance and overall job satisfaction and found quite diverse effects and evidence of trade-offs being made by employees utilizing family-friendly policies. In this study, working at home “on the clock” was associated with a positive impact on job satisfaction but a significant negative influence on work-family balance. The findings also suggested that childcare options, compressed schedules and flexible scheduling did not affect work-family balance; however, childcare options and working from home were associated with positive effects on job satisfaction, while compressed schedules and part-time schedules had no effect on job satisfaction.

2.2.9.3 Effects on Employee's Stress

Flexible work arrangements have also been identified as a means of reducing employee stress although comparatively little research has addressed this outcome. Studies suggest a limited role of flexible work arrangements in reducing employee stress. Part-time workers and individuals engaged in job sharing reported greater life satisfaction, possibly as a result of lower levels of work-family conflict (Dunham et al., 1987).

Sweeney (2003) cited improved recruitment, retention and productivity along with lower costs, decreased stress and absenteeism and an improved ability in managing work-family demands as advantages of organizations offering flexible working hours. Halpern (2005) found similar evidence, stating that the greater the workplace flexibility, the less work employees miss.

2.2.9.4 Effects on Employee's Attitudes and Morale

Researchers have also addressed the effects of flexible work arrangements on employee morale and attitude toward the job and the organization. Attitudinal changes resulting from flexible work arrangements have been among the most frequently studied outcomes. Although the findings are variable, there is some evidence to suggest that the implementation of flexible work arrangements has some positive effects on employee attitudes (Gottlieb et al., 1998).

2.2.10 Benefit of Flexible Work Arrangements to Organizations

Most of the prior researches on flexible work schedules have taken an organizational perspective by focusing on the impact of these schedules on outcomes that primarily benefit organizations. The following points summarize these benefits:

- Increase employees job satisfaction (Baltes et al., 1999);
- Increase organizational commitment (Glass & Finley, 2002);
- Increased productivity (Pierce & Newstrom, 1980);
- Decreased absenteeism and turnover (Hyland, 2000);
- And increase applicant attraction to an organizations offering flexitime (Rau & Hyland, 2002).

2.2.11 Benefit of Flexible Work Arrangements to Employees

One of the main reasons why flexible work schedule have been recommended is to help employee reduce work–family conflict by allowing them more control over their work schedule. The following points summarize the benefit of FWAs to employees as result from deferent researches in FWAs field:

- Employees feel less stressed when they have more control over their schedule (Almer & Kaplan, 2002);
- Increased energy and creativity (Schaefer, 2005);
- Employees perceive that flexible working makes them “happy” and that there are attitudinal/behavioral links between this happiness, discretionary behavior and a number of performance outcomes (Atkinson & Hall, 2011);
- Achieving work/life balance for many office-based employees and less work-family conflict (Hayman, 2009).

2.2.12 The Attitudes of the Arabian Information Workers Towards the Concept of Telecommuting

There is a rare of studies in flexible work arrangements field in the Arabic region comparing by international studies especially the American once. Abdel-Wahab (2007) in his study that investigates employees’ attitudes towards telecommuting on Egypt information employees' sample; found that showed that more respondents are in favor of telecommuting (50% of the sample size) than those who are not (about 24.1% of the sample size). Those employees who have a positive attitude towards telecommuting may be encouraged by the pluses of telecommuting such as:

- Saving commute cost and time;
- Less travel-related stress, especially for elder employees;
- Better balance for the competing demands of work and family, especially for working women with young children.

In a similar study conducted in America by Joseph J. Grippaldi (2002) among American government finance professionals, more than 69% of the sample size (149 subjects) was in favor of telecommuting. According to Abdel-Wahab (2007), the variance in attitude towards telecommuting between Egyptian and American information workers may be due to:

- The IT infra structure gap between the two countries;
- The computer proficiency gap (hardware, software) between workers in the two countries;
- Limited living space (due to Egypt’s housing problem) makes it difficult for the telecommuters to set up boundaries for family members;
- The inability to own a personal computer at home; and

- In a country like Egypt of a male-dominated culture a man working at home may not be encouraged in such a culture.

2.2.13 Ethical Considerations in Flexible Work Arrangements

According to Robinson (2005), many of today's workers are seeking employment opportunities that allow them to maintain work-life balance while working toward organizational goals. Recognizing these employee motivations, proactive businesses have begun offering FWAs. When companies commit to FWAs, they develop a special kind of psychological contract with their FWA employees and have an ethical obligation to provide those employees with the support necessary to succeed.

Employers need to communicate with home workers that they are required to work in a healthy and safe home office environment. Advise home workers that they need to report any work-related injuries to their employer within 24 hours of occurrence. If an employee reports getting injured at home, and the employer have to get a detailed account of the particular work activities performed at the time of injury (Schaefer, 2005).

Simply offering FWAs as an option to employees does not allow a firm to fulfill its obligations under the psychological contract. Instead, truly ethical companies provide ongoing support to these employees and ensure that they are integrated into the workplace community. Employees are not the only beneficiaries of FWAs though. Employers can accrue benefits as well, which is why FWAs are an attractive option to many businesses. FWAs give businesses a competitive advantage in attracting staff because they provide employees an effective way to respond to evolving and diverse needs. During the recruiting process, FWAs can be construed as an additional benefit; In order to adopt FWAs program, companies have to install and provides employees with the flexibility and resources necessary to do their jobs (Robinson, 2005).

Often, FWA employees do receive the professional and technical support they need to succeed from their employers. Technical support can range from connectivity to updated software and hardware, while professional support can range from mentoring and training to challenging work assignments. When employees do not receive adequate support, they often are perceived as less valuable on collaborative efforts by their peers. In extreme cases, these employees become frustrated and leave the firm. However, when employees' roles change, it is imperative that the psychological contracts on which their FWAs are based should be modified as well to accommodate new employee and firm requirements and to ensure all ethical obligations are met (Jeffrey & Single, 2001).

2.2.14 Facts about Flexible Work Arrangements

- “Nearly three-quarters (73%) [of full-time workers] want to spend more time with their families and they are only half as likely as part-time workers to say they are very happy with their work-life balance” (Jones, 2006, p. 5).
- “Over two-fifths (41%) of the full-time workers agree that if they were given more control over their time they would be more productive—compared to one in five part-time workers, who may be working shorter hours but clearly don't feel this necessarily means that they're in control” (Jones, 2006, p. 10).
- “Although those in high-level professional work are three times as likely as those in manual work to employ someone to help with housework, there is much less

difference when it comes to employing someone to help with childcare. 22% of high-level professional workers in our sample employ someone to help with childcare, compared to 13% of those in manual work” (Jones, 2006, p. 9).

- Seventy-nine percent of organizations allow some employees to periodically change starting or quitting times. Thirty-seven percent allow all or most employees to do so (Galinsky, Bond, & Sakai, 2008, p. 12).
- “In May 2004, men continued to be somewhat more likely to have flexible schedules than women (28.1 and 26.7 percent, respectively)” (U.S. Department of Labor 2005, p. 2).
- "Women are somewhat more likely (79%) than men (68%) to use flextime when it is available” (Galinsky, Bond, & Hill, 2004, p. 6).
- Fifty percent of employees who have high access to flexible work arrangements on the job report high levels of life satisfaction (Bond, Thompson, Galinsky, & Prottas, 2002, p. 39).
- According to the National Study of the Changing Workforce, "employees who have more access to flexible work arrangements report fewer mental health problems" (Bond, Thompson, Galinsky, & Prottas, 2002, p. 39).
- According to the National Study of the Changing Workforce, in 2002, 73% of employees with high availability of flexible work arrangements reported that there was a high likelihood that they would stay with their current employer for the next year (Bond, Thompson, Galinsky, & Prottas, 2002, p. 34).
- Small organizations [50-99 employees] are slightly more likely than large organizations [1000+ employees] to allow all or most employees to periodically change starting or quitting times—40% and 37%, respectively (Galinsky, Bond, & Sakai, 2008, p. 13).
- In 2002, 39% of employees with high availability of flexible work arrangements reported "high levels of loyalty and willingness to work harder than required to help their employers succeed" (Bond, Thompson, Galinsky, & Prottas, 2002, p. 34).
- “According to one recent survey, alternative work arrangements rank at the top of work-life programs in effectiveness in reducing unplanned absences from work" (Bond, Galinsky, Kim, & Brownfield, 2005, p. 4).

2.2.15 Summary

This section presented theoretical framework of flexible work arrangements subject, and highlights the importance of implemented it by different sectors' employers. It mainly focused on the different type of FWAs, their benefits and challenges to implement it. The success of FWAs seems to be controlled by the actual arrangements used, the type of industry they are used in, the culture they are implemented in and the relative flexibility of the work practice itself. These variables can be used in the implementation of FWAs to achieve a more effective outcome. Also the effects of using such arrangements on employees' work-life balance, and the organizational concerns like employees' productivity were mentioned above. Some obstacles facing the adoption of FWAs program especially telecommuting in Arabic environment also mentioned. Finally, facts about flexible work arrangements introduced.

2.3 Productivity

2.3.1 Introduction

Productivity has received remarkable attention in the economic and administrative literature because of its importance in the social, economic and cultural aspects. It is considered as the basic indicator that shows progress in the national economy and the national income, which are the aims that both developed and underdeveloped countries are trying to achieve (Hania, 2005).

Productivity is defined as the amount of output produced with certain combinations of input resources (capital, labor, etc.). There is a lot of research already done on productivity. However, societies and organizations are all the time facing new challenges and opportunities because of the dynamic environment and constant change. Exploring the trends of development in society and working life offers a viewpoint to identify new productivity improvement opportunities and challenges towards the future (Kapyla et al., 2009).

This section is introducing the different definitions of the term productivity, types of productivity, importance of productivity in ICT industry, factors affecting worker productivity, Flextime and Productivity, and measurement of worker productivity.

2.3.2 Productivity Definitions

Productivity is not a measurement of production or output produced. It is a measurement of how well resources are combined and utilized to accomplish specific, desirable results. The concept of productivity recognizes the interplay between various factors in the workplace. The output or results achieved, related to many different inputs or resources, in the form of various productivity ratios. Each of separate productivity ratios is influenced by a combination of many relevant factors (Bain, 1982).

Gupta et al (2002, p385) defined productivity as "the output in any productive work in relation to inputs". Oglesby et al (1989) defined it as the ability to produce richness of output. The Organization for the European, Economic Cooperation (1995) defined productivity as a quotient obtained by dividing output by one of the factors of production. In this way it is possible to speak of the productivity of capital, investment, or raw materials according to whether output is being considered in relation to capital, investment or raw materials etc.

Oden (1988, p161) defined it "productivity is the relationship between the outputs generated by a company and the input provided to create those outputs. Inputs in the general form are labor, physical and financial assets, and material. Energy and data are brought into a company". These resources are transformed into outputs (goods & services). Productivity is the relationship between the output produced by a given company during a given period of time, and the quantity of resources consumed to create or produce those outputs over the same period of time. From the above definitions it is concluded that productivity is generally defined as the ratio of outputs to inputs defined simply:

$$\text{Productivity} = \text{Outputs/Inputs} \quad (1) \quad \text{Source (Oden, 1988, p161)}$$

International Labor Office (1996) described productivity as follows productivity is a comparison between how much you have put into the projects in terms of manpower, material, machinery or tools and the result you get out of the project.

2.3.3 Differences between Productivity and Production

Many people are confused between productivity and production terms. They think that the greater the production, the greater the productivity. This is not necessarily true. Production in any productive work denotes the outputs only without any reference to inputs. But productivity is concerned with the effective and efficient utilization of resources (inputs) in producing goods or services (outputs). If viewed in quantities terms, production is quantity of outputs produced, while productivity is the ratio of the outputs produced to the inputs used (Gupta et al, 2000).

2.3.4 Productivity Variables

Productivity increases exist because of the management of three variables. These productivity variables are labor, capital, and management. These three factors are critical to productivity improvement. They represent the broad areas in which managers can take action to obtain better productivity.

The quality of labor is very important to improve productivity. Three traditional variables for improved labor productivity; basic education appropriate for an effective labor force, diet of the labor force, and social overhead that makes labor available, such as transportation and sanitation. In developing countries these three variables are very important however, in developed nation; the critical variable is maintaining and enhancing the skill of labor (Abo Mostafa, 2003).

Human being is a tool using animals. Capital investment provides those tools. These tools can range from desk computers to complex machinery and new airports. Production can often be accomplished with some trade-off between labor and capital. That is, if we want to build a road we can do so with crews of thousands using shovels or we can invest in earth moving equipment. The trade-off between capital and labor is continually in flux (Heizer et al, 1990).

Management is a factor of production and an economic resource. It is responsible for insuring that labor and capital are effectively used to increase productivity. The arts and sciences of management include improvements made by technology and knowledge. Such improvement requires training and education as well as dynamic organization (Heizer et al, 1990).

2.3.5 Productivity Cycle

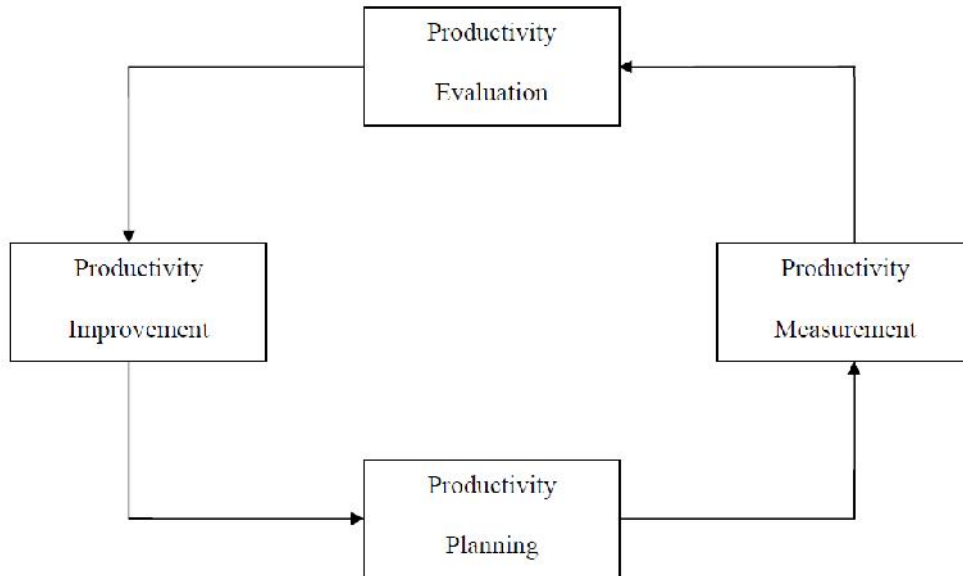
Productivity cycle has four stages: productivity measurement, productivity evolution, productivity planning, and productivity improvement as shown in figure.2.1 [cited in Sisalem et al, 2000].

An organization that begins a formal productivity program for the first time can begin with productivity measurement. When productivity levels are measured, they have to be evaluated or compared against planned values. Based on this evaluation target, levels of productivity are planned on short and long terms bases. To achieve the planned targets, productivity improvement will take place next period; productivity level must be measured again. This cycle thus continues for as long as the productivity program operates in the organization (Armstrong, 1988).

The productivity cycle concept shows us that productivity improvement must be preceded by measurement, evolution, and planning. All four phases are important not just productivity measurement or just productivity improvement. Also this cycle

emphasizes the process nature of the productivity issue. A productivity program is not one time project but rather a continuous ongoing process.

Figure.2.1: Productivity Cycle



Source: Sisalem and others (2000)

2.3.6 Worker Productivity

The relationship between labor productivity growth and overall economic growth would seem to be obvious. Output growth is, by definition, the sum of the growth of labor hours plus labor productivity growth (Blinder, 1997).

According Bureau of Labor Statistics BLS (2010) productivity measurement describe the relationship between real output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Labor productivity is the most widely used yardstick of operational efficiency. This does not imply that labor is the best input element for productivity measurement but simply reflects the difficulty or impossibility of obtaining numerical values for the other determinants of productivity. Thus many of the essays on productivity seem to assume that labor productivity is the only suitable measure (Lowe, 1987). One common measure of average labor productivity is a ratio of output per labor.

$$\text{Average labor productivity} = Q / L \quad (2)$$

Where: Q = outputs, L = Labor employed.

Source (Lowe, 1987, p105)

2.3.7 Productivity Measurement

Measuring productivity is easier said than done. For that reason many organizations do not have such measures, while some that do, unfortunately, do not have meaningful or complete measures (Bain, 1982). While it is widely recognized that productivity is conceptually important, measuring productivity is quite difficult. One challenge in measuring productivity is that productivity measured in real time will be revised due to revisions to its source data (Hara & Ichiue, 2011). Productivity measurement is the quantification of both the output and input resources of a productive system. The intent is to come up with a quantified monitoring index.

The goal of productivity measurement is productivity improvement, which involves a combination of increased effectiveness and a better use of available resources. There is a say "*if you cannot measure productivity, you cannot manage it.*" In practice, however, both measurement of outputs and inputs involves aggregation problem, and this problem alone has situated productivity measurement in the realm of complexity. To solve output and input aggregation problem, particularly when heterogeneous inputs and outputs are combined, some authors have suggested that inputs should be added up in 'constant price' money values. The same thing should be done for output (Iyaniwura & Osoba, 1983, David, 1972).

2.3.8 Productivity Measurements in Services Sectors

The productivity of an operation is related to how effectively input resources in a process (manufacturing process, service process) are transformed into economic results for the service provider and value for its customers. As a consequence of high productivity, a favorable profit impact should be achieved for the service provider and good value created for the customers (Brown, 2000).

This productivity concept is normally stated in a simplified form as the effective transformation of input resources into outputs, the quality of which is unchanged (a constant quality assumption). In services, especially for two reasons, it has turned out to be difficult to use such a productivity concept (Nachum, 1999).

First of all, it is seldom possible to clearly define "one unit of a service." Because of this, productivity measurements in services are normally only partial measurements, such as how many customers are served per period by one waiter in a restaurant or how many phone calls are dispatched by one employee in a call centre. These may be interesting pieces of efficiency information but they give no information about how effectively the service operation as a whole transforms all used input resources into customer value.

Secondly, in a service operation a changed set of inputs easily alters the perceived quality of the output including both its outcome or technical quality and its process or functional quality dimensions. Hence, in spite of a seemingly more efficient use of resources, the perceived quality and customer value that is created may be changed, often reduced, and the ability of the firm to make profits is not the same as earlier. In other words, the input resources are not used in a more effective way (Gronroos & Ojasalo, 2004).

2.3.9 Flextime and Productivity

An important workplace restructuring has been going on in the domain of working time, as American employers strive to accommodate increasingly diversified workforce, particularly women employees (Epstein & Kalleberg, 2006). Flextime, also dubbed as flexible work hours or flexible scheduling, provides employees with some discretion over the specific hours of the day or week when the work is to be performed (Golden, 2001). A study shows that workers in general would prefer having more control over the time spent at work to shorter working hours that are rigidly scheduled (Fenwick & Tausig, 2001).

According to Bureau of Labor Statistics (BLS), about 27.5% of American workers have been on flextime by 2004, and it is most widely used in financial services and professional and business services (BLS, 2005). Proponents of flextime argued that the program can be beneficial to both employers and employees, creating a win-win

situation (McGuire & Liro, 1986). For one thing, since not everybody is most productive from eight to five, flextime allows workers to adjust their working schedules to their bio-clock to work the hours they prefer and feel most productive. As individual workers make more efficient use of their own circadian rhythm, their job performances improve (Caldwell & O'Reilly, 1990).

Studies also report that flextime can increase worker productivity through intermediate and indirect effects, such as increase in workers' job satisfaction and job autonomy (deCarufel & Schaan, 1990), and decrease in their absenteeism and work-related stress (Baltes et al., 1999). Granted, flextime does not come without costs. Like any other new programs in workplace, executing flextime incurs costs associated with learning and training, extra overhead expenditures, and managerial monitoring due to varied and spread working hours of workers (Schein et al., 1977; Shepard et al., 1996).

Others found no correlation between flextime and productivity increase (Kim & Campagna, 1981; Narayanan & Nath, 1982), probably because that although flextime improves performance, administrative cost ensues from the implementation of the program, which may offset the benefits. In any case, employees on flextime are, at least, at the same productive level, if not greater than are those on traditional fixed-work schedules (Hammer & Barbara, 1997; Kossek et al., 1999).

2.3.10 Summary

Productivity concept was fully investigated in different literature. In the previous section, the researcher introduced the different definitions of productivity and its difficult mechanism of measurement especially in the services sectors. There are a lot of factors that can improve organizations productivity, but here the researcher concentrated on the effect of different flexible programs on worker productivity especially because this is what the research concerns about.

2.4 Palestinian ICT Context

2.4.1 Introduction

The information and communication technology (ICT) has a critical role to play in development efforts around the world. In recent years, there were many tries tended to set a specific definition for ICT. One very basic analytical problem is the assumption that there are good concepts and definitions of ICT, both as a technology and as an economic activity, but this is not necessarily a general case. Unfortunately, there exists no clear or explicit agreement on the definition of ICT, or what sectors should be termed ICT sectors. In addition, ICT is a collection of technologies and applications that include a wide range of product and service technologies including computer hardware, software products and services and a host of telecommunications functions that include wire and wireless, satellite products and services (Karlsson & others, 2008).

Flexible workplace organization in the computer software industry exists within conditions of a mobile labor force, international networks and competition, and fast-paced product turnaround. A cross-national comparison of information technology firms finds that this sector is at the forefront of industrial globalization because of the prevalence of trade affiliates and the international migration of workers in this field (Comeau, 2004).

The ICT sector is a fast emerging industry in Palestinian that demonstrates strategic potential and economic promise. The population demography, with a relatively high percentage of IT literary in comparison to the region, the relatively young population, especially with significant percentage of university educated young men and women, the proximity of Israel's advanced IT capabilities, are all examples of characteristics that give the Palestinian ICT sector competitive edge over other its peers in other countries. Furthermore, restrictions on movement of Palestinian inside Palestine, as well as to and from Palestinian have turned ICT-based services into prerequisites for survival for Palestinian businesses and institutions (PITA, 2007).

2.4.2 The Palestinian ICT context

For the Palestinian context, ICT touches every individual and every industry, and still there is a wide series of what business can provide to help Palestinian society to develop healthy, ethically, and legally economy, which aids interests of all stakeholder groups; not only investors but also employees, customers, local community, and the Palestinian society in large.

As mentioned in PITA the deployment of ICT in Palestine started relatively late in comparison with developed countries and some countries in the Third World. Palestinian companies began their work in providing ICT in the West Bank and Gaza only in the early 1980's with services that were mostly focused on retail and some wholesale of computers and electronics. All of the Palestinian companies were mostly sub-agents to the Israeli dealers and had limited experience in after-sale services and programming software.

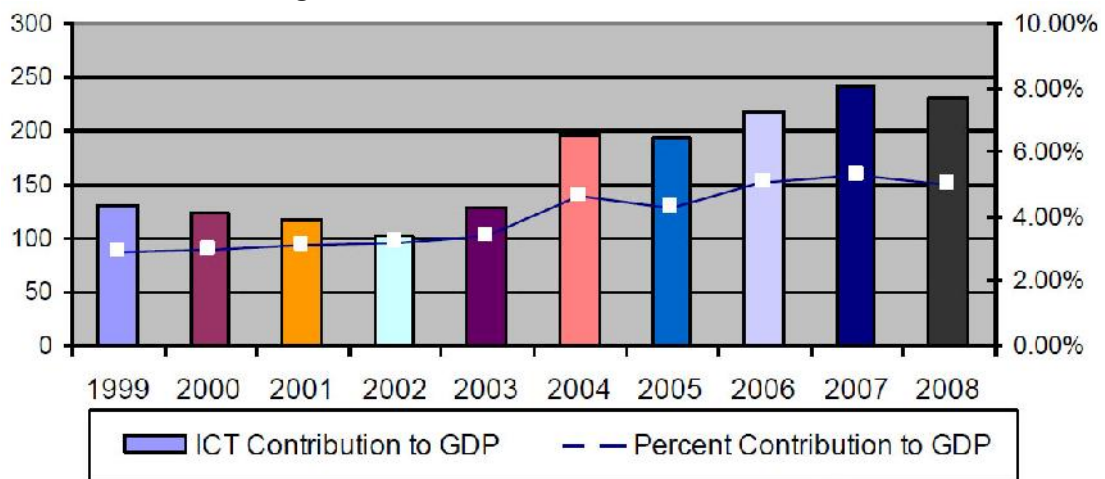
The technology sector contribution must be a driving force for the Palestinian economic growth (PITA, 2008). At present, the IT sector is a playing a vital role in the Palestinian economy. It was characterized by its fast development and growth, where it witnessed growth rates ranged between 25 - 30 % until year 2000 (PITA, 2000).

2.4.3 ICT Characteristics in Palestine

There are around 40-50 professional IT firms in the Gaza strip employing around 200 IT specialists, in addition to the Palestinian Telecom and Cellular Company “PalTel Group” which employs around 700 people in Gaza. Graduates of ICT related majors from Gaza Universities are estimated at about 400 annually (PITA, 2008).

According to Wihaidi (2009), the sector is characterized by low capital-labor ratio with high wages concentrated in Ramallah in West Bank. The sector contribution to the Gross Domestic Product (GDP) has increased over the 1999-2008 period. The sector has been able to adapt and show impeccable resilience to many of these challenges. Its value added - ICT share of GDP - has been significantly growing for the past 10 years. Figure (2.2) shows the ICT contribution to GDP. The average annual ICT value added has been around (8%) with some years showing a growth of over (50%). Moreover, its contribution to GDP has been growing from about (3%) in 1999 to reach (5%) in 2008. This growing performance of the sector has been achieved under very sever political and economic conditions.

Figure 2.2: ICT Contribution to GDP 1999-2008.



Source: PITA (2009), "The Palestinian ICT Sector ... A Three-Year Outlook...Based on Economic Indicators", available at <http://www.pita.ps/newweb/pdfs/PITA-ICT%20Study.pdf>, revisited in: 12/11/2011

According to Omar (2008), statistics about ICT environment states an insightful vision of the Palestinian market:

- 46% growth in the number of ICT firms in last 3 years.
- 25% annual growth in local IT market, estimated in 2008 at US\$ 200 million.
- 15% of National GDP comes from ICT sector.

According to PITA ICT Professionals Survey (2008), 94.3% of PITA ICT professionals are full time professionals. 85.1% of PITA ICT professionals are males while 14.9% are females. 74.5% of PITA ICT professionals aged 20-30, 20.6% aged 30-40, 4.4% aged 41-50 and 0.5% are older than 50. 80.7% of PITA ICT professionals have bachelor as the highest degree, 11.1% have diploma as the highest degree, 6.3% have master as the highest degree, 1.4% have high diploma as the highest degree and 0.5% have PHD as the highest degree. This study was concern just about PITA ICT employees.

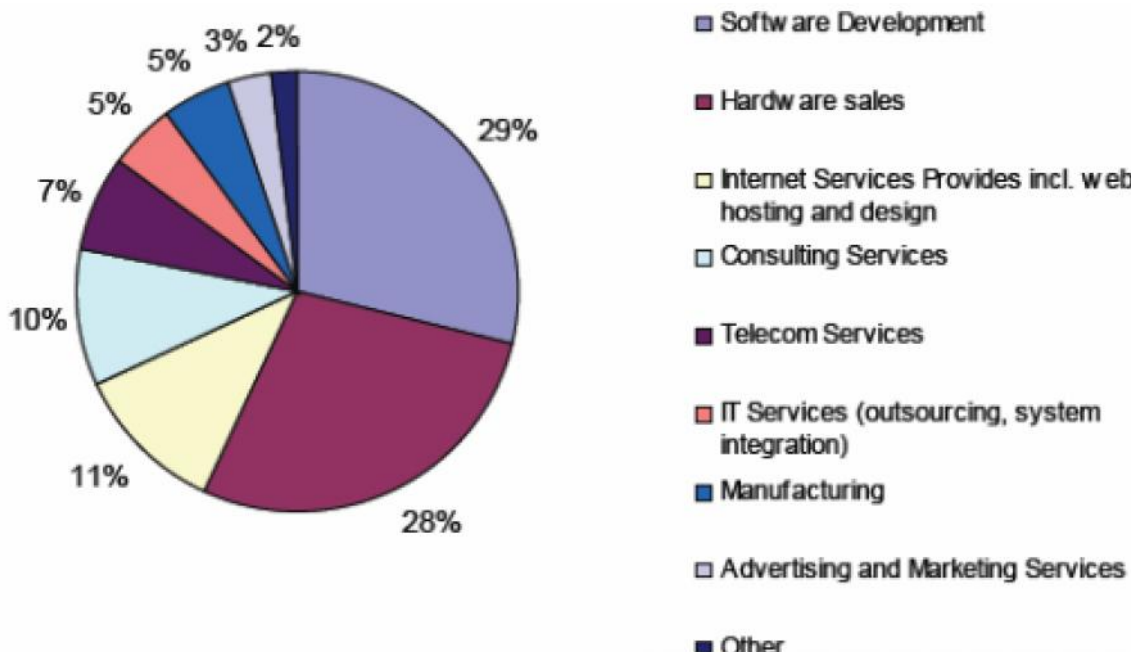
According to Palestinian ICT Professionals Survey (2008), 91% of ICT professionals are full time professionals. 86% of ICT professionals are males while 14% are females. 63% of ICT professionals aged 20-30, 26.6% aged 30-40, 9.2% aged 41-

50 and 1.1% are older than 50. 70.4% of ICT professionals have bachelor as the highest degree, 12.7% have diploma as the highest degree, 12.7% have master as the highest degree, 1.5% have high diploma as the highest degree and 2.8% have PHD as the highest degree. 34% of ICT professionals are specialized in engineering, 33.6% in computer science, 15% in MBA, 15% in IT and 2.3% are specialized in other fields.

2.4.4 Composition of the Palestinian ICT Sector

ICT in Palestine include firms providing many kinds of products in both branches: information software and communication. As figure (2.3) shows the sector provides multiple products, where the major proportion is 29% for software development products, 28% for hardware sales, 11% for Internet services, 10% for consulting services, and 7% for communication services.

Figure 2.3: ICT Products Categories in Palestine 2007.



Source: PITA (2007), "The Need for a Modern and Robust Legal and Regulatory Corporate Development of an Emerging and Innovative ICT Sector", available at <http://www.picti.ps/defaultPortal/Company%20Registration%20Position%20Paper.pdf>, revisited in: 17/8/2011 10:30pm

2.4.5 Employees Performance in the ICT Sector Compared to other Service Sub-Sector and the Industrial Sector

The computer and related activities value added per paid employee ranks second in the services sub-sectors after the real estate activities at US\$ 31,770 which is almost triple the service sector average. This is considered high by comparison to other countries such as the UK where the value added per paid employee in the software and computers services sub-sector is estimated at about US\$ 17,570.

Output measures the value of the final product or service. The computer and related activities ranks second in terms of output per paid employee at US\$ 40,380 which is more than triple the service sector average. Again, this ICT sector proves to be yet more efficient and productive than the remaining sub-sectors. This does not in any way suggest that other sectors are less important, it simply states that this is a high value

added industry with a greater return on investment, thus contributing to higher living standards for Palestinians (Wihaidi, 2009).

2.4.6 Impact of Investment in ICT at Other Sectors

According to PITA (2009), many studies in different countries attempted to estimate the impact of investment in ICT on growth in other sectors of the economy as a spillover effect due to reduced time in doing business transactions and increased labor productivity but did not succeed in providing a systematic process of estimating nor to find a proxy for such impact. In a study on the economic impact of liberalizing the Palestinian telecom market, it was estimated that the Palestinian ICT sector will contribute at least (1%) of the GDP growth for the coming years.¹⁵ The spillover effect of ICT to other sectors will come from the following factors:

1. Investment in this sector helps to begin to transform [or at least diversify] the Palestinian Economy towards technology and knowledge based economy and thus increase the focus on high value-added products. In fact, these are key conditions for enhancing the competitiveness of the WBG Economy, establishing a base on which Palestine can develop a long term economic strategy to develop a significant information based economy.
2. As direct investment, ICT inherently is “sticky”, with less reversal risk and more sustainable than investment in other sectors.

2.4.6 Summary

This section presented theoretical basis of ICT sector in general and in the Palestinian context especially. It's included definition of ICT as business activity and illustrated the Palestinian ICT sector historically and economically with statistics in addition to the characteristics of ICT sector. As clear in this chapter, statistics presented continues growth of the ICT business over the past ten years, and assured that this sector has great potentials to strongly contribute to the Palestinian economy, which assures the importance for this sector's employee to be more productive; this is what this study is trying to locate by showing the impact of FWAs on ICT's employees.

Chapter 3

Previous Studies

3.1 Introduction

In this chapter, the previous studies (International and Arabic studies) done in the fields of human resource practices of flexible working, flexitime programs, and workers' productivity in different work environments will be viewed first and then discussed. This is very important step to assure understanding of the whole concept.

Twenty six studies will be viewed in this chapter; which covered the subjects of flexible work arrangements and the impact of adopting these types of programs on organizational aspect as productivity, job satisfaction, and turnover intentions; and on employees' work/life balance. The studies were arranged in descending way from 2011 year to 2000 year.

In terms of Arabic studies in the research subject, the researcher found a rare number of Arabic studies related to flexibility in work environments.

3.2 Previous Studies

Here was the only Arabic study found by the researcher and the international studies were explained.

1. (Abdel-Wahab, 2007)

"Employees' Attitudes towards Telecommuting: An empirical Investigation in the Egyptian Governorate of Dakahlia"

The main purpose of this paper is to explore the attitude of the Egyptian information workers towards the concept of telecommuting, and to examine the relationships between such an attitude and workers' expectation of their productivity and job satisfaction if participating in a telecommuting program.

Original data were collected using a self-administered questionnaire. A national sample of 228 Egyptian information workers in Dakahlia Governorate in Egypt completed the questionnaires with usable data.

The researcher found that the attitude of respondents toward telecommuting: 50% agreeing that they are in favor of telecommuting, 25.9% are neutral, and 24.1% are not in favor of telecommuting. The results revealed that more respondents are in favor of telecommuting, and that the increase in the attitude score towards telecommuting tends to be paired with higher expectations about telecommuting productivity and satisfaction.

2. (Atkinson and Hall, 2011)

"Flexible Working and Happiness in the National Health Service"

This paper aims to explore the influence of flexible working on employee happiness and attitude, and how happiness then influences discretionary behavior and a range of performance outcomes, and the role of this within a high performance work system (HPWS). A case study of flexible working within an National Health Service (NHS) Acute Trust is presented and the study was conducted a much-needed qualitative, in-depth evaluation of an HR practice from an employee perspective. A qualitative study was undertaken based on 43 employee interviews across five directorates and include a range of staff levels and job types (for example, maintenance and catering staff, nurses, physiotherapists, finance and administrative staff) and the interviews adopted a semi-structured approach. The study found that the employees perceive that flexible working makes them "happy" and that there are

attitudinal/behavioral links between this happiness, discretionary behavior and a number of performance outcomes.

The most important limitation for the study was the dependence on one single case study with small sample. Further, focusing on flexible working, as the researcher explored one element of a HPWS rather than an entire employment system and the inductive approach used based on emergent data has not gathered comprehensive data on all elements of HPWS models.

3. (Eldridge and Nisar, 2011) "Employee and Organizational Impacts of Flexitime Work Arrangements"

The paper investigates the impact of flexitime programs in Britain using a linked dataset of employers and employees. Organizations adopt this practice for a variety of reasons, ranging from the concern for widening the scope for employee choice to the need to comply with public regulations. Recent public regulations are based on the premise that a rigid working hours culture exists in society that results in low levels of job satisfaction and ill and stressed employees.

The aim of the present study is to evaluate the personal and organizational impact of flexitime using data from the 2004 Workplace Employment Relations Survey (WERS). And face-to-face interviews for WERS were conducted with a manager (with day-to-day responsibility for employee relations) at 2,295 workplaces.

The results from the British Workplace Employment Relations Survey data show a weak relationship between flexitime and measures of job control used and more importantly the relationship is negative between flexitime and job security. There is also no evidence of the establishments with flexitime arrangements having less stressed employees. The results shown that, firstly, those employees within flexitime workplaces report a high degree of stress. Secondly, they are less likely to have felt secure in their establishments. Thirdly, they experience a high degree of job demand in their workplaces.

4. (Fisher, 2010) "Flexible Work Arrangements in Context: How Identity, Place & Process Shape Approaches to Flexibility"

This study examines how flexible work arrangements are designed and implemented, how work processes and job responsibilities are affected, and how workplace culture and structure shape these activities. The researcher uses a qualitative, grounded theory approach to conduct a case study of a large Midwestern U.S. workplace with a diverse hierarchy of jobs. Spatial analysis and semi-structured face-to-face interviews with both managers and non-managers in salary and hourly positions were used to gather data.

Findings provide that organizational approaches to flexibility must consider the overall approach to and system of organizing work. Again semantics are relevant here. Rather than talking about flexibility as something that can be "accommodated," organizations may have more success with flexibility and less evidence of internal tensions if flexibility is discussed and approached as something that is "incorporated" into the structure and culture of the workplace.

5. (Kelliher and Anderson, 2010)

"Doing More with Less? Flexible Working Practices and the Intensification of Work"

Kelliher's and Anderson's study are drawn from a wider study designed to examine the implementation of flexible working practices and in particular the impact on employee behavior, in a number of organizations in the UK private sector. Findings presented from three of the organizations involved in the study were all large, multinational companies drawn from the information technology, pharmaceutical and consulting sectors. Data collection involved the use of focus groups, interviews and a questionnaire distributed to both flexible and non-flexible workers. In total, 37 interviews were conducted with flexible workers who worked remotely and/or reduced hours. Fifteen were employed by the technology company nine by the pharmaceuticals company and 13 by the consulting firm.

The study presented evidence showing that flexible workers record higher levels of job satisfaction and organizational commitment than their nonflexible counterparts. However, study reported evidence of work intensification being experienced by both those who work reduced hours and those who work remotely. Researchers argue that the apparent paradox of high job satisfaction and organizational commitment, alongside work intensification can be explained by employees trading flexibility for effort.

The results in this study cannot be generalized and applied in other circumstances and it needs to be seen in the context of the study undertaken. First, the study confined itself to examining professional employees who had a degree of control over their jobs and therefore may have been able to organize their work more easily to accommodate flexibility. Second, study had only examined flexible workers who work reduced hours or who work at home for part of the working week. It may be that other forms of flexible working will yield different results.

6. (McNall, Masuda and Nicklin, 2010)

"Flexible Work Arrangements, Job Satisfaction, and Turnover Intentions: The Mediating Role of Work-to-Family Enrichment"

This study examined the relation between the availability of two popular types of flexible work arrangements: flextime and compressed workweek and work to- family enrichment and, in turn, the relation between work-to-family enrichment and job satisfaction and turnover intentions. Researchers recruited participants from an Internet database called Study Response which is composed of individuals who expressed interest in participating in academic research studies. The final sample included 220 working adults (96 men, 107 women, 17 unreported).

Hierarchical regression analyses showed that work-to-family enrichment mediated the relation between flexible work arrangements and both job satisfaction and turnover intentions, even after controlling for gender, age, marital status, education, number of children, and hours worked. Thus, the availability of flexible work arrangements such as flextime and compressed workweek seems to help employees experience greater enrichment from work to home which, in turn, is associated with higher job satisfaction

The study has limitations; the data were correlated in nature and based on a single source, possibly inflating common method bias. And the study only measured employee perceptions at one point in time. Thus, future researchers may benefit from more

longitudinal data that examine the antecedents and consequences of enrichment over time, which would assist in pinpointing the direction of causality.

7. (Wendt, 2010)

"Reason for Requesting a Flexible Work Arrangement: The Perceptions of Managers' on Employee Commitment"

The primary focus of the present study is to improve understanding of managerial perceptions of employees who request workplace flexibility such as flextime and flexplace; specifically, perceptions related to career commitment. Commitment has been shown to affect a manager's treatment of the employee and could influence employee career outcomes.

About research design a regression-based means of analysis was used to analyze individual manager's allowance decision for FWAs and their perceptions of employees' organizational commitment. A combination of convenience and snowball sampling methods were utilized for this study. Five managers who worked in organizations located in the Midwest and New England area were initially contacted about participating. After their participation, they were asked to contact other managers who would qualify for the study; together, they sent email invitations to an additional 61 individuals.

The results indicated that FWAs requests for a family-related reason are more likely to receive manager approval than requests made for non-family reasons, especially if the employee making the request is female.

8. (Yang and Zheng, 2010)

"The Paradox of De-Coupling: A Study of Flexible Work Program and Workers' Productivity"

This paper investigated the consequences of organizational de-coupling from an inward-looking within organizational perspective specifically; the paper study how the de-coupling of flexible work program affects workers' actualization of productivity.

The sample they used to test the study hypotheses is a combined dataset of two national representative datasets: the 2002 General Social Survey (GSS) and the 2002 National Organization Survey (NOS). Thus, the unit of analysis is worker-organization as each case has both workers' attributes and their workplace characteristics. The total number of cases included in the data analyses is 415 cases. The researchers found that the highest level of productivity actualization is associated with workers who enjoy a factual flexible work schedule which is nevertheless not formally adopted by the employer.

The cross-sectional dataset that is used in this study prevents researchers from pinpointing the exact cause of the productivity gap between the high group (those who have flexible work schedule while their employers do not adopt the program officially) and the low group (those who cannot have the flexible schedule despite the programmatic adoption by their employers). They cannot determine whether the gap comes from the decline in productivity of the low group, from the increase in the high group, or both processes occurring simultaneously.

9. (Russell, Connell, and McGinnity, 2009)
"The Impact of Flexible Working Arrangements on Work–life Conflict and Work Pressure in Ireland"

Recent rapid economic growth in Ireland has been accompanied by a strong surge in the number of women in employment, and this has led to a significant increase in the proportion of dual-earner families. These changes have brought the issue of reconciliation between work and care commitments to the fore. Flexible working arrangements in firms have been identified as one important means of balancing work and other commitments.

In this article the researchers investigate the relationship between four flexible working arrangements; flexitime, part-time hours, working from home and job sharing, and two key employee outcomes; work pressure and work–life conflict, using data from the first national survey of employees in Ireland in 2003. The survey consists of a nationally representative sample of over 5000 employees and therefore offers a unique and comprehensive picture of the experiences of Irish workers.

The study results show that while part-time work and flexitime tend to reduce work pressure and work–life conflict, working from home is associated with greater levels of both work pressure and work–life conflict. The researchers concluded that it is important to distinguish between flexible work arrangements to discover their potential for reducing work pressure and work–life conflict.

10.(Hayman, 2009)
"Flexible Work Arrangements: Exploring the Linkages between Perceived Usability of Flexible Work Schedules and Work/Life Balance"

In this research, the relationship between the perceived usability of flexible work schedules and work/life balance was explored with 710 office-based employees. Data were collected from administrative employees in a large university in Western Australia, as part of a wider study exploring work and non-work integration. Questionnaires were placed in the internal mailbox of each of the respondents.

Direct linkages were founded between perceived usability of flexible work schedules and the three dimensions of work/life balance (work interference with personal life, personal life interference with work, and work/personal life enhancement). In addition, employees operating under flexitime work schedules displayed significantly higher levels of work/life balance than their counterparts utilizing traditional fixed-hour schedules.

The findings and conclusions drawn from the research results should be interpreted with the following caveats. First, the study sample was limited to 710 administrative employees (56%) within one university. The second feature of the study is that a cross-sectional research design was employed.

11. (Salmieri, 2009)
"Job Insecurity, Flexibility and Home–Work Balance for Italian Couples in Non-standard Work: The Effect of Social Class"

This article examines differences of non-standard employment among parenting couples on the basis of qualitative research carried out in Rome and Naples. And shows how social and economic differences within the group of non-standard workers affect family life. This article aims to highlight that even if non-standard contracts may affect all social classes, social differences regarding the types of flexibility still persist. Relying upon two studies carried out in different periods and different cities, the qualitative analysis drawn upon interviews with 84 households of non-standard workers – 35 in Rome, and 49 in Naples – aged from 25 up to 45 years.

The research offers evidence about three types of social differences among Italian couples of non-standard workers: job insecurity, the impact of various types of work-flexibility, and the organization of home–work boundaries. These vary widely depending upon the content, technological organization and prestige of professional positions that non-standard workers hold.

In brief, couples from higher social classes and ICT jobs are less affected by unstable employment conditions, and they subscribe to the mainstreaming competitiveness typical of present-day society. Still, they pay a high price in terms of work spilling over into family times. Conversely, couples from lower social origins register not only a greater anxiety about the future of their employment, but also face more difficult conditions in life when it comes to dealing with time-flexibility and home–work boundaries.

12. (Shockley and Allen, 2009)
"Investigating the Missing in Link in Flexible Work Arrangement Utilization: An Individual Difference Perspective"

The present study investigates the relationship between individual differences and flexible work arrangement use. Three need-based motivational factors (need for affiliation at work, need for segmentation of work from other life roles, need for occupational achievement) were examined in relation to extent of flextime and flexiplace use. Additionally, the moderating roles of an organizational variable (face-time orientation) and family variable (family responsibility) were tested. The sample consisted of 238 faculty members (43% male) from a large southeastern university

Results suggest that the need for segmentation of work from other life roles is particularly relevant in understanding why some individuals use FWA more than others. The need for segmentation negatively related to both flextime and flexiplace use as predicted. Some evidence for the moderating role of family responsibility was also found. The findings underscore the importance of considering both the individual and the environment as drivers of flexible policy use.

In the above study like Kelliher and Anderson (2010) study were the sample was composed of employees in the same occupation; thus, the generality of the findings is unknown. Nonetheless, as with any research based on a single occupation or organization, additional research based on a wide array of occupations and organizational contexts is needed to address the generality of the findings.

13. (Lambert, Marler, and Gueutal, 2008)

"Individual Differences: Factors Affecting Employee Utilization of Flexible Work Arrangements"

This study investigated individual and organizational factors that predict an individual's choice to use flexible work arrangements (FWAs) that increase the likelihood of using flextime and compressed workweeks, two of the most popular forms of FWAs. The sample consisted of 211 employees from two separate organizations: a financial institution and an insurance company.

The results revealed several significant predictors of FWAs: tenure, hours worked per week, supervisory responsibilities, perceptions of workgroup use and personal lifestyle. Individuals with longer tenure in the organization, who had supervisory responsibilities, had coworkers in their immediate workgroup who used FWAs or had personal lifestyle preferences were more likely to use the programs than those with less tenure, who did not have supervisory responsibilities, did not perceive their workgroup used FWAs or did not have personal lifestyle preferences.

There were limitations to this study. The first was the use of a self-reported survey data, which may contribute to inflation of relationships between variables. Another limitation was the used population. Even though the participants were from two organizations, they all worked in service oriented jobs in a bank and an insurance company, and the majority of the sample was Caucasian and female. So, it is plausible that cultural norms in the sample of service organizations affected the likelihood of FWA use.

14. (Cebulla, Butt, and Lyon, 2007)

"Working Beyond the State Pension Age in the United Kingdom: The Role of Working Time Flexibility and the Effects on the Home"

The present and future security of employee-pension funding remains at the forefront of public debate across Europe and beyond. In the United Kingdom, to finance future pension entitlements it has been suggested that the State Pension Age (SPA) be increased.

This paper presents the results of analyses of four major national social surveys that have explored the working and living conditions of workers in paid employment after the SPA. Comparing the circumstances of these workers with workers just below that age illustrates the extent to which it constitutes a break in the working and domestic lives of older people. The article also defined older workers and personal characteristics of pre and post SPA workers.

The findings suggest that, in order to accommodate older workers in the workplace, more attention may need to be placed on an informal as well as contractual arrangements of flexible working. Beyond part-time working, older workers rarely take up additional or alternative flexible working arrangements. At the same time, older workers continue to experience housework as burdensome.

15. (Eldridge & Pabilonia, 2007)
"Are Those Who Bring Work Home Really Working Longer Hours?"

This paper uses both the American Time Use Survey (ATUS) and Current Population Survey (CPS) work schedules and work at home supplements to determine whether the numbers of hours worked by nonfarm business employees are underestimated and increasing over time due to unmeasured hours worked at home.

Eldridge & Pabilonia find that 8 - 9 percent of nonfarm business employees bring some work home from the workplace. In addition, those who bring work home report working longer hours than those who work exclusively in a workplace, resulting in a 0.8 – 1.1 percent understatement of measured hours worked. However, they also find that daily hours worked at the workplace by those who bring work home on a weekday are less than the daily hours worked at the workplace for those who work exclusively at a workplace on their weekday diary day. Thus, those who bring work home on a weekday are shifting some hours of work from their workplace to their home, but they work more hours in total on their diary day. However, they found that no conclusive evidence that productivity trends were biased over the 1997-2005 period due to work brought home from the workplace.

This paper focuses on nonfarm business employees, defined as household survey respondents who are fifteen-years-old and older, work outside of the farm sector, and are classified as employees of private for-profit entities. Although the self employed and unpaid family workers are in the nonfarm business sector, the researchers exclude them because they may have the ability to shift freely between work and non-work activities and may lack a clear definition of the principal workplace; therefore, for this group, the concept of bringing work home is not well defined and beyond the scope of this study.

16. (Shockley & Allen, 2007)
"When Flexibility Helps: Another Look at the Availability of Flexible Work Arrangements and Work–Family Conflict"

The purpose of this study is to identify several factors that may help explain the inconsistent results across existing research. The most importance is that few studies have examined flexibility in terms of both time and place and both directions of work family conflict WFC within the same study. This is important in that some forms of flexibility may be more beneficial in terms of reducing or preventing WFC than others.

This empirical research investigating the link between the availability of FWAs policies and work–family conflict is largely equivocal. The study used a sample of 230 employed women who worked a minimum of 20 h per week; they found that FWAs relate more highly to work interference with family (WIF) than to family interference with work (FIW) and that temporal flexibility (flextime) has a stronger relationship with WIF than does spatial flexibility (flexplace). Additionally, researchers found family responsibility significantly moderated these relationships, such that the relationship was stronger for those with greater family responsibility.

This study focuses only on one gender when the researchers chose the sample which may lack the study comprehensiveness; which has been justified by the researcher who suggests that women continue to maintain greater responsibility for the majority of domestic tasks.

17. (Cole, 2006)

"Flexibility and the Workplace: The Battle to Control Working Time"

Study seeks to review the latest management developments across the globe and pinpoints practical implications from cutting-edge research and case studies.

Cole finds that success in business involves to some extent having a workforce flexible enough to meet changeable demands. But flexibility has become a two way process and employees, particularly mothers of young children are increasingly requesting work arrangements that allow them to better balance work and home life. One survey revealed several reasons for employees wanting to reduce their working hours but “spending time with family” was the most popular.

The difficult challenge, therefore, was to develop workplace policies that serve the interest of both employer and employee alike. These arrangements vary across different countries and reflect the amount of control over working time that employer or employee enjoys in relation to when the work is done and the number of hours worked during a specific period.

18.(Henly, Shaefer, and Waxman, 2006)

"Nonstandard Work Schedules: Employer- and Employee-Driven Flexibility in Retail Jobs"

This study demonstrates how employer practices introduce variability and unpredictability into the schedules of female workers who have young children. The study was drawn from interviews with 54 low-income mothers employed in six retail workplaces in the Chicago area, were sites of recruitment: four stores and two distribution centers. Female employees with young children were recruited throughout daytime, evening, and overnight shifts in order to ensure a sampling frame that includes employees with a range of work hours. Also, interviews were conducting with representative human resource managers in each workplace. Particular focus is on the ways in which employers and employees exercise control over scheduling processes.

It also suggests that employee driven control over scheduling, made available through informal workplace practices, can temper the instability of nonstandard schedules more than formal flexibility delivered through employer policies. The lack of worker control over schedules is posited to lead to various work-family challenges.

This study is not designed to assess the macroeconomic forces that contribute to the scheduling practices described by employers and employees. The interview data comes primarily from employees. There is only one HR representative interviewed in each workplace. No data are collected on firm performance or external economic trends affecting participating businesses. This analysis thus cannot ascertain whether employer-driven flexibility is an efficient business practice or rather one that costs employers in terms of increased employee turnover and absenteeism, as well as in diminished productivity.

19. (Emmerik and Sanders, 2005)

"Mismatch in Working Hours and Affective Commitment: Differential Relationships for Distinct Employee Groups"

This study examined the relationship between two types of mismatch (i.e. non-correspondence between preferred and actual number of hours), and affective commitment. It was argued that specific groups of employees, i.e. women and part-time

working employees, attach more importance to their working hours and, therefore, are less likely to show affective commitment when they experience a mismatch. The study used data from 222 employees of a Dutch Ministry; and hypotheses were tested using regression analyses.

Research was shown that a mismatch of working more hours was differentially related to the affective commitment of employees who wanted to work more and who wanted to work fewer hours. The researchers advice to assisting employees with a mismatch wanting to work fewer hours can be achieved by allowing them more flexibility in their working schedules. Employees with a mismatch of wanting to work more hours can be assisted with additional support, e.g. shopping services.

Research limitations are represented in the cross-sectional design which precludes causal relationships. Further, the data were collected using self-report measures, and common method variance can easily become a problem within such designs.

20. (Sundo and Fujii, 2005) "The Effects of a Compressed Working Week on Commuters_ Daily Activity Patterns"

The study aimed to examine compressed working week-related lifestyle pattern changes, especially changes in activity–time patterns. The study was based on 220 randomly selected government employees of the University of the Philippines in Los Baños, and was carried out after the Philippine government implemented an experimental two month compressed working week scheme. And the moderating effects of compressed working week to the commuters were also explored.

Survey results indicated that the compressed working week had significant effects on activity–travel patterns. The data showed that commuters reduced the duration of discretionary household activities to accommodate a two hour work-time increase. Commuters largely reduced their pre-sleep household activities by about one hour and reduced their sleep time by about 20 minutes; pre-work preparation times decreased by about 30 minutes. Commuting times also significantly declined during the compressed working week. Importantly, the study also found that commuting travel times were significantly reduced during the compressed working week. This indicates that the compressed working week has the potential to reduce travel times for each commuter.

A number of studies have examined the compressed working week. Some researchers have focused on benefits and problems created by the compressed working week; while others have examined the compressed working weeks impact on transportation, particularly on increases in weekend commuting. This study examined how the compressed working week changed individual employees' lifestyle patterns. Transportation planners and policy makers can use these findings to effectively plan and formulate travel demand management measures, such as the compressed working week system, before fully implementing the measures.

21.(Charron and Lowe, 2004) "Factors that Affect Accountant's Perceptions of Alternative Work Arrangements"

This article addresses the effects of flexible work-time designs on employee and company-related aims. Using objective and self-reported quantitative and qualitative data the study examines the effects of a flexible work-time design that was introduced in a service company in Germany. The study have to answer three questions: Will

public accounting have different perceptions of alternative work arrangements than accountants working in management accounting settings? Will male accountants have different perceptions of alternative work arrangements than female accountants? Does participation in an alternative work arrangement affect perceptions of these arrangements? A total of 350 accounting professionals were elicited for the study; 190 worked in public accounting and 160 worked in management accounting settings

Rogier and Padgett predicted that a highly flexible work-time design that provides employees with high demands but at the same time also with a high degree of autonomy, and self determination over their working time leads to positive effects on employee's personal development and learning opportunities. The results supported this hypothesis. However, in addition to employee-related benefits the results also suggested benefits for the company, such as an increase in adherence to company goals. Moreover, the objective data showed a lower degree of absenteeism and higher work quality compared to the control group working with the traditional work-time design.

22. (Rogier and Padgett, 2004)

"The Impact of Utilizing a Flexible Work Schedule on the Perceived Career Advancement Potential of Women"

The purpose of this study is to explore the potential career consequences when women use an alternative work arrangement, specifically a flexible work schedule; and to examine whether a woman working a flexible schedule would be perceived as having less career advancement potential than a women working on regular schedule.

Researchers were conducting an experiment using hypothetical scenarios approach which is common in the human resource management literature. A convenience sample of MBA students was judged to be a suitable sample for this research. Participant reviewed a packet of materials simulating the personal life of a female employee in an accounting firm who was seeking promotion from manager to senior manager.

Results indicated that participants perceived the female employee on the flexible schedule as having less job-career dedication and less advancement motivation; there was no difference in perceived capability. The study suggested that working in flexible schedule may have negative career consequences for the employee in the question.

23. (Kauffeld, Jonas, and Frey, 2004)

"Effects of a Flexible Work-Time Design on Employee- and Company-Related Aims"

This article addresses the effects of flexible work-time designs on employee and company-related aims. Using objective and self-reported quantitative and qualitative data the study examines the effects of a flexible work-time design that was introduced in two main branches of a service company in Germany, which was comparable to a bank or a department store.

Charron and Lowe predicted that a highly flexible work-time design that provides employees with high demands but at the same time also with a high degree of autonomy, and self determination over their working time leads to positive effects on employee's personal development and learning opportunities.

The results supported this hypothesis. However, in addition to employee-related benefits the results also suggested benefits for the company, such as an increase in adherence to company goals and therefore foster employees' learning opportunities in

the job, improves communication as well as cooperation with colleagues and supervisors, and increases employees' motivation and involvement. Moreover, the objective data showed a lower degree of absenteeism and higher work quality compared to the control group working with the traditional work-time design.

The study finds that previous experiences of employees with the new work-time design have more positive attitude towards the design than employees who have never experienced it which indicates that acceptance of the new design rose with the amount of experience, whereas reservations and fears might have declined with experience.

24. (Rodriguez, 2003) "Flexible Working Patterns Using Annualized Hours"

The purpose of this study is to examine the advantages of adopting employee working patterns under a system of annualized hours to offer greater flexibility and to give a broad framework to support its effective introduction. Paper result to a group of potential advantages for staff; the most important points are the ability to modify working patterns to suit personal circumstances, level salary payments each month even though hours worked may vary, increase the opportunity to have blocks of time off in the quieter period of the year. And potential advantages for the organization are described as staffing level can be more easily matched with fluctuations in workload over the course of each year; there is more flexibility in provision for extended shifts and 24 hour services; absenteeism can be reduced because staff take more responsibility for their own working hours.

The study shows that using annualized hours will enhance work-life balance for staff in hospitals who adopt a greater scope and flexibility in organizing working time as demand fluctuates across the year and improve staff retention and recruitment, and provide better patient care.

25. (Clifton & Shepard, 2000) "Are Longer Hours Reducing Productivity in Manufacturing?"

This paper provides statistical evidence of the effects of overtime hours on worker productivity using aggregate panel data from 18 manufacturing industries covering the 36-year period, 1956 to 1991 within the US economy. The dependent variable is value-added per total hours worked. Standard approaches are applied to specify and estimate a factor-augmented production function model, with possible effects of overtime on productivity incorporated through the specification of factor effort functions.

The empirical results suggest that use of overtime hours lowers average productivity, measured as output per worker hour, for almost all of the industries included in the sample. Other factors may include in the estimated effects of overtime on productivity across industries; the difference between mandatory and voluntary overtime, worker demographics and additional overtime incentives beyond time-and-half pay. Unfortunately, the potential effects of these factors on productivity could not be assessed with the industry-level data used in this analysis.

This paper should not be viewed as an argument against the use of overtime. Rather, it seeks to document the effect of the use of overtime on productivity and to suggest that the increasing use of overtime leads to lower levels of productivity. While the cost of investing in new employees outweighs the cost of reduced productivity in the short run, the increased hours of work and overtime may have a cumulative effect, eventually becoming more expensive than the alternative in the long run.

26.(Konrad and Mangel,2000)

"The Impact of Work-Life Programs on Firm Productivity"

This research examined the adoption of work-life programs and the impact of work-life programs on firm productivity. Human resource executives in a national sample of 658 organizations provided survey data on firm characteristics and work-life programs. In these 658 organizations, the percentage of professionals and the percentage of women employed were positively related to the development of more extensive work-life programs. Productivity data were obtained from CD Disclosure for 195 public, for-profit firms.

Research suggested a significant interaction effects indicated that in these 195 firms work-life programs had a stronger positive impact on productivity when women comprised a larger percentage of the workforce and when a higher percentage of professionals were employed. Firms employing larger percentages of women appear to achieve more productivity gains from work-life programs, possibly due to the fact that work-family conflicts cause greater interference in women's than in men's working lives.

Like other studies, this study is not without its limitations; one of the most important limitations is the failure to directly measure the underlying mechanisms through which work-life programs increased productivity. Specifically, the researcher argued that work-life programs enhance productivity by attracting and retaining high-quality employees, by reducing the extent to which work-life conflicts interfere with work.

3.3 Comment

All the previous studies highlighted topics relevant to FWAs and productivity; with one way or another. Most of them revealed important facts and results of FWAs perception on the productivity of workers.

Some of them explained the relationship between FWAs programs offered by the organizations and employees' happiness, attitude, and work-family conflict or balance (Atkinson and Hall, 2011; Russell, Connell, and McGinnity, 2009; and Sundo and Fujii, 2005) which is an important relation to be researched and discussed; because most firms seek to hire professional employees that are scarce, and hence expensive and difficult to buy in the external work market. Currently, the firms become dependent upon them and must find ways to induce them to exert discretionary effort and helping them to manage work-family conflict which is important for reducing lost productivity due to distraction and absenteeism. This gives such researches the feasibility and the value.

Moreover, Lambert, Marler, and Gueutal, (2008) explained the factors and individual differences that affect employee utilization of FWA. They found that perceived workgroup use was the strongest predictor of employees' use of FWAs. Because seeing one's peers successfully engaging in a certain behavior encourages and inspires people to actively engage in the same or similar behavior.

One issue that should be mentioned is the fact that most of the above studies combined all types of FWAs (flextime, compressed workweeks, job sharing, telecommuting, and part time) into one variable. Then they measured the effect of applying it on employee's productivity for example. They suggested that there are no significant differences among type of FWAs applied. This study differ from the rest studies, where is the different types of flexible working arrangements applied

considered as an important factor that effect significantly on the amount of flexibility available for the employees.

The reason for requesting FWAs and the perceptions of managers' on employee commitment was investigated by many researchers. Wendt (2010) found that FWAs requests for a family-related reason are more likely to receive manager's approval than requests made for non-family reasons; unlike other research result to employees who requested FWA for family-related reasons were not perceived as significantly less committed than other employees.

A number of researchers have investigated the impact of work-life programs (FWAs) on firms' productivity, job satisfaction, and turnover intentions (McNall and Masuda, 2010; Konrad and Mangel, 2000). They suggested significant interaction effects indicating that work-life programs had a stronger positive impact on productivity. Thus, the availability of FWAs seems to help employees experience greater enrichment from work to home which, in turn, is associated with higher job satisfaction.

Furthermore, Kelliher and Anderson (2010) had studied the flexible working practices and the intensification of work and they reported evidence of work intensification being experienced by both those who work reduced hours and those who work remotely. An existence of large and diverse number of studies related to the research subject may be considered as an indication of the subject importance and the importance results arising from the existence of flexibility on the interests of businesses and individuals alike.

Not only social class, but also gender is a key factor when it comes to dealing with time-flexibility and home-work boundaries; this is what Salmieri (2009) explained in his study. Experiences of 'work flexibility' and 'work instability' change gradually when moving down from the top-ranked jobs to the less prestigious ones. He found both women and men from the high professional and ICT jobs experience more 'work flexibility' and less 'work instability.' This result supports the researcher decision to choose the staff of the ICT sector as a place for studying the impact of flexibility on workers' productivity.

Many organizations have begun to offer flexible work arrangements to help employees balance work and family demands. Research of Eldridge and Nisar (2011) found that employee's reports and attitudes toward stress and job insecurity are significantly more prevalent in flexitime workplaces than in non-flexitime workplaces and they experience a high degree of job demand in their workplaces. The results of this research contradicted with all other researches that record high or at least positive effects of FWAs programs on employee or on companies' related aims.

In conclusion, large amount of previous literature indicated increase importance on FWAs and its impact on employees' work-life balance or on organizational related aims in almost all business sectors. However, the effect of FWAs on worker's productivity has not been fully investigated in Palestinian sectors. It was found how rare the recent studies in FWAs with an effect on employee's productivity that has been published on ICT sector especially in Palestine.

The researcher hopes that the present study will fill the gap in FWAs literature in the Palestinian context especially by examining the impact of FWAs on workers' productivity in the ICT sector. Improving the productivity of ICT sector by enhancing the employees' work conditions and giving them more work-life balance are of the

objectives of present researches like this. Finally, the research was conducted only in the Gaza Strip, which neglects the ICT companies in the West Bank due to the siege on Gaza and the political division since June 2006; which led to difficult access to the West Bank companies.

Chapter 4

Research Methodology

4.1 Introduction

This chapter addresses the methodology used in the research and deals with data collection, population and sampling, questionnaire design and content, questionnaire distribution, response rate, pilot study, and the validity and reliability of the questionnaire, data gathering procedures, and the procedure of statistical analysis. The research used the analytical descriptive method which describes the impact of FWA on the workers' productivity in the ICT companies in the Gaza Strip. The descriptive method is used to compare, explain and evaluate in order to organize meaningful results.

4.2 Research Methodology

This study follows the analytical descriptive approach, as it is considered the most used in business and social studies. This section presents the methods used to carry out the study and answer the research question.

4.2.1 Duration of the Study

The study was conducted from August 2011 to December 2011, but the questionnaire was distributed in a period of two weeks from (24 November to 8 December) 2011.

4.2.2 Place of the Study

The study was applied on the ICT companies - PITA members in the Gaza Strip (see Appendix D).

4.2.3 Secondary Data

Any data resource other than the survey is considered as a secondary resource, which may include:

- Scientific journals and academic magazines such as the Knowledge Management, the Intellectual.
- Capital and others through the electronic data bases such as Emerald and Science Direct.
- Thesis and dissertations accessed through the universities' libraries.
- Text books and research papers.

This data is essential to gain an understanding of the research area and what has already been done. A point to be mentioned is that the researcher needed to register into many academic web sites to be able to access recent studies.

4.2.4 Primary Data

The primary data are information collected through questionnaire survey especially for the study and not documented before; questionnaire has been developed based on the literature and has been modified regarding the supervisor's recommendations and the experts and academic judgments.

4.3 Research Population and Sample

The research population covers all the Gaza Strip ICT companies, which count to around thirty seven companies according to PITA (2011). This study is considered a comprehensive study, with sample of all the employees in each of the thirty seven companies in the Gaza Strip. Since the target population of this study is the employees at ICT companies and members in PITA in the Gaza Strip, while excluding employees at ICT companies in the Gaza Strip that are not registered as a member in PITA.

4.4 Questionnaire Design and Content

After reviewing the literature and interviewing experts, the study tool was developed; a questionnaire was designed in the Arabic language (see Appendix B), and then translated into English (see Appendix C). The questionnaire was provided with a cover letter which explained the purpose of the study, the way of responding, the aim of the research and the privacy of the information in order to encourage high response. The questionnaire is composed of two parts, as follows:

1. The first part contained general information about the FWAs system in the companies and the employees' personal information.
2. The second part consists of five sections about the evaluation the impact of FWAs on workers' productivity in the ICT companies in the Gaza Strip as the following:
 - a. The first section is about the impact of the applicable FWAs upon workers' productivity.
 - b. The second section is about the impact of company's policies and laws which support FWAs upon workers' productivity.
 - c. The third section is about the impact of employees' support for FWAs upon workers' productivity.
 - d. The fourth section is about the impact of management support for FWAs on workers' productivity.
 - e. The fifth section is about the effect of work type upon the possibility of adopting FWAs and therefore the productivity of workers.

4.5 Questionnaire Distribution

In order to reach the companies in the Gaza Strip, the researcher first sent the questionnaire via an e-mail to the managers of companies to take a look at it and to tell them that the hard copies of the questionnaire will reach in the next two days, followed by a telephone call to make sure that the managers have got the e-mail. The researcher distributed and then collected the questionnaires during two weeks in the period of 24 Nov. to 8 Dec. 2011.

4.6 Response Rate

The questionnaire was distributed to all the thirty seven ICT companies the Gaza Strip according to PITA (2011). A total of 196 questionnaires were distributed while 182 filled and returned within two weeks which formed a response rate (92.8%). Only 178 questionnaires were considered valid.

4.7 Test of Data validity and Reliability

The questionnaire validity has been examined and measured by two methods:

1- Experts Validation

The questionnaire was evaluated by a number of experts in the field from different universities (Islamic University, Al-Azhar University, Al Quds Abu Dis University). The final copy of the questionnaire was modified according to the experts' recommendations (see Appendix A).

2- Pilot Study

A pilot study was conducted to assess reliability and validity of the questionnaire by distributing the questionnaire on a random sample that consists of 30 respondents from

the study population. It provides a trial run for the questionnaire, which involves testing the wordings of questions, identifying ambiguous questions, and testing the techniques that used to collect data. At the end of this process, some minor modifications were introduced to the questions and the final questionnaire.

4.7.1 Data Measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the important (1, 2, 3, 4, 5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. Based on Likert Scale we have the following table (4.1).

Table (4.1): Likert Scale

| Item | <i>Strongly agree</i> | <i>Agree</i> | <i>Neutral</i> | <i>Disagree</i> | <i>Strongly Disagree</i> |
|-------|-----------------------|--------------|----------------|-----------------|--------------------------|
| Scale | 5 | 4 | 3 | 2 | 1 |

4.7.2 Test of Normality for each field

Table (4.2) shows the results for Kolmogorov-Smirnov test of normality. From Table (4.2), the p-value for each field is greater than 0.05 level of significance, *then the distribution for each field is normally distributed. Consequently, parametric tests will be used to perform the statistical data analysis.*

Table (4.2): Kolmogorov-Smirnov test

| Field | Kolmogorov-Smirnov | |
|--|--------------------|---------|
| | Statistic | P-value |
| Types of FWAs. | 0.553 | 0.919 |
| Supported regulations of the organization. | 0.960 | 0.315 |
| Employees' support. | 0.523 | 0.947 |
| Management support. | 0.716 | 0.684 |
| Type of work. | 0.950 | 0.327 |
| All paragraphs of the questionnaire | 0.450 | 0.988 |

4.7.3 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which include internal validity and structure validity.

A- Internal Validity

Internal validity of the questionnaire is the first statistical test that used to test the validity of the questionnaire. It is measured by a scouting sample, which consisted of 30 questionnaires through measuring the correlation coefficients between each paragraph in one field and the whole field.

Table (4.3) clarifies the correlation coefficient for each paragraph of the "Types of FWAs" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so *it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.*

Table (4.3): Correlation coefficient of each paragraph of "Types of FWAs" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | FWAs affect workers' productivity positively by reducing the conflict between life and work conditions. | .589 | 0.000* |
| 2. | A workers' possibility to choose the start and end of working hours which affect their productivity positively. | .283 | 0.045* |
| 3. | The possibility to work overtime during the week and save an extra day as a holiday affects their productivity positively . | .660 | 0.000* |
| 4. | The ability to work remotely (outside the organization) affects workers' productivity positively. | .336 | 0.035* |
| 5. | The possibility of working part-time affects workers' productivity positively. | .321 | 0.042* |
| 6. | Adopting Job-Sharing as a FWAs affects workers' productivity positively. | .355 | 0.030* |
| 7. | Allowing workers to choose between different types of FWAs affect their productivity positively. | .552 | 0.001* |
| 8. | Working remotely with companies outside the Gaza Strip contributes to the acquisition of new experiences, which increase workers' productivity. | .535 | 0.001* |
| 9. | Some types of FWAs contribute to the provision of services for long and varied times, which affect workers' productivity positively. | .561 | 0.001* |

* Correlation is significant at the 0.05 level

Table (4.4) clarifies the correlation coefficient for each paragraph of the "Supported regulations of the organization" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, so *it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.*

Table (4.4) Correlation coefficient of each paragraph of "Supported regulations of the organization" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|---|---------------------------------|----------------|
| 1. | The existence of policies and laws that lay down the applicability of various FWAs has positive effects on workers' productivity. | .546 | 0.001* |
| 2. | When a company follows the principles of sound science in developing policies for FWAs, it affects workers' productivity positively. | .578 | 0.000* |
| 3. | The existence of written policies governing the selection processes among the various FWAs has a positive effect on workers' productivity. | .244 | 0.047* |
| 4. | The company's policies for FWAs affect the loyalty of workers which positively affect their productivity. | .323 | 0.041* |
| 5. | The company's policies and laws which support FWAs influence the competitive advantage of the company, thus, having a positive effect on workers' productivity. | .376 | 0.020* |
| 6. | The suitability of policies and laws of FWAs for the type, level and degree of the job affects workers' productivity positively. | .625 | 0.000* |
| 7. | The company's policies of FWAs affect the rates of retention which reflects positively upon the level of productivity. | .565 | 0.001* |
| 8. | The company's policies of flexible working arrangements motivate employees to develop their skills which affect worker's productivity positively. | .674 | 0.000* |
| 9. | The company's policies which support the ability to switch between different programs of FWAs affect worker's productivity. | .620 | 0.000* |

* Correlation is significant at the 0.05 level

Table (4.5) clarifies the correlation coefficient for each paragraph of the "Employees' support" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, ***so it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.***

Table (4.5): Correlation coefficient of each paragraph of "Employees' support" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|------------|--|--|-----------------------|
| 1. | Workers enrolled in one of the FWAs programs expect a reduction in their wages which negatively affect their productivity. | .541 | 0.000* |
| 2. | Workers enrolled in one of the FWAs' programs expect a delay in their promotions which negatively affect their productivity. | .715 | 0.000* |
| 3. | Workers feel that their colleagues or team members' (who are not enrolled in those programs) hold dissatisfaction towards them, which negatively affects their productivity. | .698 | 0.000* |
| 4. | Workers enrolled in one of the FWAs programs believe that it affects their career path, which affects their productivity negatively. | .696 | 0.000* |
| 5. | Workers not understanding or accepting various FWAs programs affect the level of flexibility and thus have a negative impact on the level of productivity. | .579 | 0.000* |
| 6. | Workers feel that the unfairness of FWAs programs due to the lack of availability to all employees equally negatively affects workers' productivity. | .577 | 0.000* |
| 7. | Non-flexibility in the workplace in regards to leave-requests affects workers' productivity negatively. | .513 | 0.000* |
| 8. | The non-contribution of employees to the scheduling of their work hours affects their productivity negatively. | .383 | 0.041* |
| 9. | The increasing pressures of the workplace and increase in hours affects workers' productivity negatively. | .471 | 0.000* |
| 10. | Workers feel that they are socially isolated in the case of telecommuting, which affects their productivity negatively. | .537 | 0.000* |
| 11. | Telecommuting affects employees' follow up to technological development within the company, which reduces their productivity. | .579 | 0.000* |
| 12. | The presence of employees among their families while telecommuting during working time affects workflow and therefore affects the level of productivity negatively. | .630 | 0.000* |

* Correlation is significant at the 0.05 level

Table (4.6) clarifies the correlation coefficient for each paragraph of the "Management support" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, *so it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.*

Table (4.6): Correlation coefficient of each paragraph of "Management support" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|--|---------------------------------|----------------|
| 1. | Managers believe that employees who are not inclined to support FWAs programs are more committed to their jobs than the beneficiaries of these programs. | .666 | 0.000* |
| 2. | Managers tend to grant employees, who do not support FWAs higher rates of pay than the employees who take advantage of these programs. | .734 | 0.000* |
| 3. | Managers tend to grant employees, who do not support FWAs, more promotions than the employees who take advantage of these programs. | .786 | 0.000* |
| 4. | Female managers are more supportive of FWAs programs than male managers. | .604 | 0.000* |
| 5. | Managers see that supporting FWAs affects workers' productivity negatively. | .738 | 0.000* |
| 6. | Managers see ease in the evaluation of employees who are not associated with FWAs as compared to employees who benefit from these programs. | .662 | 0.000* |
| 7. | Managers believe that some FWAs programs reduce the exchange of experiences among workers which affects their productivity negatively. | .736 | 0.000* |
| 8. | Managers believe that the adoption of FWAs is not suitable for senior positions with a high degree of responsibility in the company. | .570 | 0.000* |
| 9. | Managers believe that FWAs reduce the level of control and supervision over the workers who participate in these programs which negatively affects their productivity. | .731 | 0.000* |

* Correlation is significant at the 0.05 level

Table (4.7) clarifies the correlation coefficient for each paragraph of the "Type of work" and the total of the field. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this field are significant at $\alpha = 0.05$, *so it can be said that the paragraphs of this field are consistent and valid to measure what it was set for.*

Table (4.7) Correlation coefficient of each paragraph of "Type of work" and the total of this field

| No. | Paragraph | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|--|---------------------------------|----------------|
| 1. | The type of work affects the choice of FWAs type and therefore affects workers' productivity. | .777 | 0.000* |
| 2. | In cases where the work task necessitates only one person; this supports FWAs. | .398 | 0.015* |
| 3. | In case of the work that does not need to contact with the customers; it is easy to adopt FWAs program for workers. | .534 | 0.001* |
| 4. | The fact that the nature of the work (Software) affects the possibility of adopting FWAs. | .732 | 0.000* |
| 5. | The fact that the nature of the work (Hardware) affects the possibility of adopting FWAs. | .389 | 0.017* |
| 6. | Work that needs continuous communication among team members reduces the possibility of adopting FWAs for workers. | .599 | 0.000* |
| 7. | Work that needs a long and continuous time commitment to be realised increases the need for FWAs programs for workers. | .330 | 0.028* |
| 8. | The fact that the job is in the senior level of management affects the type of FWAs and thus the level of workers' productivity. | .599 | 0.000* |

* Correlation is significant at the 0.05 level

B- Structure Validity of the Questionnaire

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of Likert Scale.

Table (4.8): Correlation coefficient of each field and the whole of questionnaire

| No. | Field | Pearson Correlation Coefficient | P-Value (Sig.) |
|-----|--|---------------------------------|----------------|
| 1. | Types of FWAs. | .464 | 0.005* |
| 2. | Supported regulations of the organization. | .388 | 0.017* |
| 3. | Employees' support. | .499 | 0.000* |
| 4. | Management support. | .479 | 0.000* |
| 5. | Type of work. | .658 | 0.000* |

* Correlation is significant at the 0.05 level

Table (4.8) clarifies the correlation coefficient for each field and the whole questionnaire. The p-values (Sig.) are less than 0.05, so the correlation coefficients of

all the fields are significant at $\alpha = 0.05$. *So it can be said that the fields are valid to measure what it was set for to achieve the main aim of the study.*

4.7.4 Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring (Polit & Hunger, 1985). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (Polit & Hunger, 1985).

A- Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. The Cronbach's coefficient alpha was calculated for each field of the questionnaire.

Table (4.9) shows the values of Cronbach's Alpha for each field of the questionnaire and the entire questionnaire. For the fields, values of Cronbach's Alpha were in the range from 0.560 and 0.741. This range is considered high; the result ensures the reliability of each field of the questionnaire. *Cronbach's Alpha equals 0.714 for the entire questionnaire which indicates very good reliability of the entire questionnaire.*

Table (4.9): Cronbach's Alpha for each field of the questionnaire and the entire questionnaire

| No. | Field | Cronbach's Alpha |
|-----|--|------------------|
| 1. | Types of FWAs. | 0.560 |
| 2. | Supported regulations of the organization. | 0.625 |
| 3. | Employees' support. | 0.807 |
| 4. | Management support. | 0.862 |
| 5. | Type of work. | 0.650 |
| | All paragraphs of the questionnaire | 0.714 |

B- Split Half Method

This method depends on finding Pearson correlation coefficient between the means of odd questions and even questions of each field of the questionnaire. Then, correcting the Pearson correlation coefficients can be done by using Spearman Brown correlation coefficient of correction. As shown in Table (4.10), all the corrected correlation coefficients values are between 0.0 and +1.0 and the significant (α) is less than 0.05 so all the corrected correlation coefficients are significance at $\alpha = 0.05$. *So it can be said that the fields are consistent and valid to measure what it was set for.*

Table (4.10): Split Half Method for each filed of the questionnaire and the entire questionnaire

| No. | Field | Correlation Coefficient | Pearson –Brown Correlation Coefficient |
|-----|--|-------------------------|--|
| 1. | Types of FWAs. | 0.432 | 0.603 |
| 2. | Supported regulations of the organization. | 0.540 | 0.702 |
| 3. | Employees' support. | 0.792 | 0.884 |
| 4. | Management support. | 0.751 | 0.859 |
| 5. | Type of work. | 0.475 | 0.644 |
| | All paragraphs of the questionnaire | 0.719 | 0.837 |

Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable, and ready for distribution for the population sample.

4.8 Statistical Analysis Tools

The researcher would use data analysis both qualitative and quantitative data analysis methods with the significant level set to 0.05. The Data analysis will be made utilizing (SPSS 19). The researcher would utilize the following statistical tools:

- 1) Kolmogorov-Smirnov Test of Normality.
 - 2) Pearson Correlation Ccoefficient for Validity.
 - 3) Cronbach's Alpha and Split Half Method for Reliability Statistics.
 - 4) Frequency and Descriptive analysis.
 - 5) Parametric Tests (One-sample T test, Independent Samples T-test, Analysis of Variance).
- ***T-test*** is used to determine if the mean of a paragraph is significantly different from a hypothesized value 3 (Middle value of Likert Scale). If the P-value (Sig.) is smaller than or equal to the level of significance $\alpha = 0.05$, then the mean of a paragraph is significantly different from a hypothesized value 3. The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 3. On the other hand, if the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the mean of a paragraph is insignificantly different from a hypothesized value 3.
 - ***The Independent Samples T-test*** is used to examine if there is a statistical significant difference between two means among the respondents toward the level of worker's productivity in the ICT sector due to (Gender, Marital Status and Children).
 - ***The One- Way Analysis of Variance (ANOVA)*** is used to examine if there is a statistical significant difference between several means among the respondents toward the level of worker's productivity in the ICT sector due to (Age, Education and Years of Experience).

4.9 Summary

This chapter presented the methodology of the research, the research population and sample, the questionnaire design and distribution, response rate, and pilot study. In this chapter, the content validity and the statistical validity of the questionnaire were verified. Two tests were also applied to the sample in order to measure the consistency of the questionnaire. The first test was the Half Split Method and the second was Cronbach's Coefficient Alpha.

Chapter 5

Data Analysis and Discussion

5.1 Introduction

This study was designed to respond to the objectives, and to test hypotheses stated in chapter one. This chapter presents the personal and company information regarding FWAs, the discussion and interpretation and at the end the hypothesis testing. The findings that respond to these objectives were be discussed and compared to the findings in the previous studies.

5.2 Personal and Company Information

Here, in this section the personal and company information are characterized.

5.2.1 Gender

Table (5.1) shows the gender distribution among the sample.

Table (5.1): Illustrates sample distribution according to gender

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male | 138 | 77.5 |
| Female | 40 | 22.50 |
| Total | 178 | 100.0 |

The statistics show that the majority of responders are males with 77.5% of the sample and 22.5% of the sample is females. According to Palestinian central bureau of statistics PCBS 2010, indicators of the labor force in the Palestinian Territory shows that female participation rate in the Palestinian economy is 14.7% for females in 2010 compared with 15.5% in 2009 which is considered very low. While there is 66.8% for males in 2010 compared with 67.0% in 2009, and that might be justified that males seek jobs more than females. According to PCBS (2009), the number of male IT specialists per 100 employees is 4 and the number of female IT specialists per 100 employees is 2. This supports the research result about the male majority.

5.2.2 Age

Table (5.2) shows the age distribution among the sample.

Table (5.2): Illustrates sample distribution according to age

| Age | Frequency | Percent |
|-------------------------|-----------|---------|
| Less than 30 years | 132 | 74.2 |
| 30 – less than 40 years | 36 | 20.2 |
| 40 years and Older | 10 | 5.6 |
| Total | 178 | 100.0 |

The statistics show that 74.2% of the sample are less than 30 years old, 20.2% of the sample are between 30 – 40 years and 5.6% of the sample are 40 years and older. As shown, around two third of the ICT employees in the Gaza were young (less than 30); this reflects to what extent this sector attracts highly skilled, professionals and may be newly graduate workers, regardless of the year of experience.

5.2.3 Education

Table (5.3) shows education distribution among the sample.

Table (5.3): Illustrates sample distribution according to education

| Education | Frequency | Percent |
|-------------------------------|-----------|---------|
| Secondary certificate or less | 5 | 2.8 |
| Diploma | 46 | 25.8 |
| Bachelor | 119 | 66.9 |
| Master | 8 | 4.5 |
| Total | 178 | 100.0 |

The statistics show that 25.8% of the sample obtains a diploma degree, while 66.9% are with bachelor degree, and this high education level is due to the nature of the ICT sectors jobs and their requirements, from the researcher point of view.

5.2.4 Years of Experience

Table (5.4) is showing years of experience distribution among the sample.

Table (5.4): Illustrates sample distribution according to years of experience

| Years of Experience | Frequency | Percent |
|-----------------------|-----------|---------|
| Less than 3 year | 64 | 36.0 |
| 3 – Less than 7 year | 74 | 41.6 |
| 7 – Less than 10 year | 18 | 10.1 |
| 10 years and higher | 22 | 12.4 |
| Total | 178 | 100.0 |

The statistics shows that 36.0% from the sample have less than 3 years of experience, 41.6% of the sample have experience between 3 – 7 years, 10.1% of the sample have experience between 7 – 10 years and 12.4% of the sample have an experience of 10 years and higher. The majority of sample has experience between 3 and 7 years, these results agree with the majority of age statistics that had less than 30 years.

5.2.5 Marital Status

Table (5.5) shows the distribution of marital status among the sample.

Table (5.5): Illustrates sample distribution according to marital status

| Marital Status | Frequency | Percent |
|----------------|-----------|---------|
| Single | 83 | 46.6 |
| Married | 94 | 52.8 |
| Divorced | 1 | 0.6 |
| Total | 178 | 100.0 |

The statistics shows that 52.8% of the sample are married and 46.6% are single. These results indicate that the vast majority of the sample is males with age average less than 30 year. In addition, the difficult economic conditions of the Gaza Strip contribute in reducing the rates of marriage.

5.2.6 Children

Table (5.5) shows the existence of a child under the age of one among the sample respondents.

Table (5.6): Is there a child under the age of one in the house?

| Is there a child under the age of one in the house? | Frequency | Percent |
|---|-----------|---------|
| Yes | 42 | 47.2 |
| No | 47 | 52.8 |
| Total | 89 | 100.0 |

The statistics shows that 47.2% from sample has infant baby under the age of one year. And 52.8 % of the sample hasn't. This is an expected result in the Palestinian society since the fertility rate in the Palestinian Territory is high compared to prevailing levels in other countries, this high levels of fertility can be justified by many reasons like early marriage (especially for females), and the desire to having children, as well as prevailing customs and traditions in the Palestinian society.

5.2.7 Companies Support to FWAs?

Table (5.7) shows the companies' support of FWAs among the sample companies.

Table (5.7): Does the company support flexible work arrangements?

| Does the company support FWAs? | Frequency | Percent |
|--------------------------------|-----------|---------|
| Yes | 142 | 79.8 |
| No | 36 | 20.2 |
| Total | 178 | 100.0 |

The statistics show that 20.2 of sample companies' do not support FWAs whereas 79.8% of sample companies support FWAs. This result is a good and a positive point for the research, because it is easier and more accurate for employees to know the impact of FWAs on their productivity when the companies already support it. However, *the research also deals with the employees work in non supported FWAs companies as what they think if they benefit from these programs.*

5.2.8 Type of FWAs applied in the Companies

Table (5.8) shows the types of flexible work arrangements applied among the sample companies.

Table (5.8): Type of FWAs applied in the company

| Type of FWAs applied in the company? | Frequency | Percent |
|--------------------------------------|-----------|---------|
| Flextime | 96 | 31.8 |
| Telecommuting | 51 | 16.9 |
| Job-Sharing. | 90 | 29.8 |
| Part-time. | 40 | 13.2 |
| Compressed Workweek | 25 | 8.3 |

The statistics show that 8% of sample companies' has compressed workweek arrangement, 14.1% has part-time arrangement, 17.2% of the sample has telecommuting arrangement, 29.3% has job-sharing arrangement, and 31.3% of the sample has flexitime arrangement.

The low proportion of compressed workweek arrangement is justified by the researcher that may be because this arrangement requires a special type of work conditions that need to extend the hours of work on certain days and the elimination of one working day, which may be contrary to the opening and closing time of the company.

5.3 Analyzing the Dimensions of the Questionnaire

The main hypothesis stated that there is a significant relationship between independent variables and the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$), where it was divided into the following sub hypotheses (dimensions):

5.3.1 Analyzing the First Dimension: Types of FWAs Impact on Workers' Productivity

"Types of flexible work arrangements have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$)"

Table (5.9) shows the following results:

- The mean of paragraph # 1 "Flexible work arrangements affect workers' productivity positively by reducing the conflict between life and work conditions" equals 4.37 (87.39%), Test-value = 26.38, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed on this paragraph.
- The mean of paragraph #5 "The possibility of working part-time affects workers' productivity positively" equals 3.53 (70.57%), Test-value = 6.50, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed on this paragraph.
- The mean of the field "**Types of flexible work arrangements**" equals 4 (79.91%), Test-value = 28.65, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. ***We conclude that the respondents agreed to field of types of flexible work arrangements.***

The analysis result shows (79.91%) of the ICT companies' employees agreed with the presence of the positive impact of the types of FWAs applied on their productivity; this reveals that using different types of FWAs can be an effective tool to improve employees' productivity.

Moreover, the results agree with the study conducted by Russell and others (2009) which found the importance of distinguishing between FWAs types to discover their potential for reducing work pressure and work-life conflict and increase productivity. In addition, the study result also agrees with the Hayman (2009) study where different types of FWAs have different impact on the workers' productivity.

Researcher found that (72.43%) of the employees view that work remotely (telecommuting) affect their productivity positively, which agree with the results of Abdel-Wahab (2007) study.

However, this wasn't the case with Eldridge & Pabilonia, (2007), who found that there is no conclusive evidence that productivity increased due to work brought home from the workplace. The researcher justified this difference by the different in type of sample, were Eldridge and Pabilonia study conducted on nonfarm business employees.

Table (5.9): Means and Test values for “Types of flexible work arrangements”

| No. | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|---|------|-----------------------|------------|----------------|------|
| 1. | FWAs affect workers' productivity positively by reducing the conflict between life and work conditions. | 4.37 | 87.39 | 26.38 | 0.000* | 1 |
| 2. | A workers' possibility to choose the start and end of working hours which affect their productivity positively. | 4.16 | 83.16 | 15.89 | 0.000* | 3 |
| 3. | The possibility to work overtime during the week and save an extra day as a holiday affects their productivity positively. | 3.95 | 79.08 | 11.53 | 0.000* | 6 |
| 4. | The ability to work remotely (outside the organization) affects workers' productivity positively. | 3.62 | 72.43 | 7.65 | 0.000* | 8 |
| 5. | The possibility of working part-time affects workers' productivity positively. | 3.53 | 70.57 | 6.50 | 0.000* | 9 |
| 6. | Adopting Job-Sharing as a flexible work arrangement affects workers' productivity positively. | 3.93 | 78.51 | 13.28 | 0.000* | 7 |
| 7. | Allowing workers to choose between different types of FWAs affect their productivity positively. | 4.00 | 80.00 | 14.44 | 0.000* | 5 |
| 8. | Working remotely with companies outside the Gaza Strip contributes to the acquisition of new experiences, which increase workers' productivity. | 4.32 | 86.44 | 21.07 | 0.000* | 2 |
| 9. | Some types of FWAs contribute to the provision of services for long and varied times, which affect workers' productivity positively. | 4.08 | 81.58 | 17.18 | 0.000* | 4 |

| | | | | | | |
|--|------------------------------------|------|-------|-------|--------|--|
| | All paragraphs of the filed | 4.00 | 79.91 | 28.65 | 0.000* | |
|--|------------------------------------|------|-------|-------|--------|--|

* The mean is significantly different from 3

5.3.2 Analyzing the Second Dimension: Supported Regulations of the FWAs Impact on Workers' Productivity

"Supported regulations of the organization have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$)"

Table (5.10) shows the following results:

- The mean of paragraph #2 “When a company follows the principles of sound science in developing policies for flexible work arrangements, it affects workers' productivity positively” equals 4.31 (86.10%), Test-value = 22.64 and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed with this paragraph.
- The mean of paragraph #9 “The company's policies which support the ability to switch between different programs of flexible work arrangements affect workers' productivity” equals 3.97 (79.43%), Test-value = 13.37, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed with this paragraph.
- The mean of the filed “**Supported regulations of the organization**” equals 4.10 (81.95%), Test-value = 24.84, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. ***We conclude that the respondents agreed to field of “Supported Regulations of the Organization”.***

The analysis result shows that (81.95%) of the ICT companies' employees agreed with the presence of impact of supported regulations of the organization to FWAs programs on their productivity positively; this reveals the important of the existence of policies and laws that lay down the applicability of various FWAs in order to develop workplace policies that serve the interest of both employer and employee alike; which agree with Cole (2006) results about the organization's policies supported FWAs.

Moreover, (81.38%) of respondents agrees with that company's policies of FWAs affect the rates of retention which reflects positively upon the level of productivity. This result is consistent with Mcnall and others study (2010). The analysis also shows that (81.04%) of the employees agrees with the company's policies of FWAs impact to motivate and develop employees' skills which affect productivity positively. The findings are consistent with study of Kauffeld and others (2004) which concluded that supported policies for FWAs lead to positive effects on employee’s personal development and learning opportunities.

Table (5.10): Means and Test values for “Supported Regulations of the Organization”

| No. | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|---|------|-----------------------|------------|----------------|------|
| 1. | The existence of policies and laws that lay down the applicability of various FWAs has positive effects on workers' productivity. | 4.08 | 81.69 | 16.08 | 0.000* | 5 |
| 2. | When a company follows the principles of sound science in developing policies for FWAs, it affects workers' productivity positively. | 4.31 | 86.10 | 22.64 | 0.000* | 1 |
| 3. | The existence of written policies governing the selection processes among the various FWAs has a positive effect on workers' productivity. | 4.13 | 82.60 | 19.19 | 0.000* | 3 |
| 4. | The company's policies for FWAs affect the loyalty of workers which positively affect their productivity. | 4.17 | 83.37 | 18.60 | 0.000* | 2 |
| 5. | The company's policies and laws which support FWAs influence the competitive advantage of the company, thus, having a positive effect on workers' productivity. | 4.11 | 82.27 | 16.78 | 0.000* | 4 |
| 6. | The suitability of policies and laws of FWAs for the type, level and degree of the job affects workers' productivity positively. | 4.03 | 80.57 | 16.60 | 0.000* | 8 |
| 7. | The company's policies of FWAs affect the rates of retention which reflects positively upon the level of productivity. | 4.07 | 81.38 | 16.45 | 0.000* | 6 |
| 8. | The company's policies of flexible working arrangements motivate employees to develop their skills which affect worker's productivity positively. | 4.05 | 81.04 | 14.69 | 0.000* | 7 |
| 9. | The company's policies which support the ability to switch between different programs of FWAs affect worker's productivity. | 3.97 | 79.43 | 13.37 | 0.000* | 9 |
| | All paragraphs of the filed | 4.10 | 81.95 | 24.84 | 0.000* | |

* The mean is significantly different from 3

5.3.3 Analyzing the Third Dimension: Employees' Support of the FWAs Impact on Workers' Productivity

"Employees' support have significance effect on the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$)"

Table (5.11) shows the following results:

- The mean of paragraph #4 “Workers enrolled in one of the FWAs programs believe that it affects their career path, which affects their productivity negatively” equals 2.68 (53.56%), Test-value = -3.99, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly less than the hypothesized value 3. We conclude that the respondents disagreed to this paragraph.
- The mean of paragraph #9 “The increasing pressures of the workplace and increase in hours affects workers' productivity negatively” equals 1.77 (35.49%), Test-value = -17.60, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly less than the hypothesized value 3. We conclude that the respondents disagreed to this paragraph.
- The mean of the field “**Employees' Support**” equals 2.33 (46.68%), Test-value = -14.35, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this field is significantly less than the hypothesized value 3. *We conclude that the respondents disagreed to field of “Employees' Support ”.*

The analysis result shows that 46.68% of the respondents disagreed with the presence of employees' support to FWAs; therefore, it's a good idea to increase the employees' awareness about the various programs of FWAs in order to increase their support for these programs.

Employees are often hesitant to utilize or request FWAs because of the negative impact it may have on their career. In Wendt (2010) study, 80% of the employees that did not have FWAs wanted more flexible options, but were concerned about whether it would create problems for them at work. The research result shows that 53.56% of workers enrolled in one of the FWAs programs do not believe that it affects their career path, which affects their productivity negatively; that result disagrees with study of Rogier and Padgett (2004) which concluded that working flexible schedule may have negative career consequences for the employees from their point of view.

The non-contribution of employees in the scheduling of their work hours affects their productivity negatively as disagreed by 40.0% of research sample. This result was expected due to stress increase and conflict between the life-work conditions in the case of non-contribution of the employees in scheduling their work. The study of Henly and others (2006) agreed with the research results which concluded that the lack of worker's control over schedules is posited to lead to various work-family challenges.

In addition, 47.93% of the sample disagrees with that the presence of employees among their families while telecommuting during working time affects workflow and therefore affects the level of productivity negatively. We can say how the limited living space makes it difficult for the telecommuters to set up boundaries for family members; that lead to lack of existence of comfortable working environment at home and this

leads those employees within flexitime workplaces to report a high degree of stress. This agrees with the study of employee and organizational impacts of flexitime work arrangements for Eldridge and Nisar (2011).

49.55% of respondents disagrees that workers feel that their colleagues or team members (who are not enrolled in those programs) are dissatisfied towards them which negatively affects their productivity. An explanation of this result is that some employers and coworkers may perceive that telecommuting days are really days off, and that employees who choose to telecommute are not committed to company's goals. This result agreed with Abdel-Wahab study (2007).

The results show the respondents disagree of that workers not understanding or accepting various FWAs programs affect the level of flexibility and thus have a negative impact on the level of productivity by 46.86%; this misunderstanding or refusal for such programs, may be interpreted that in a country like Palestine which is a male-dominated culture 'a man working at home' may not be encouraged in such a culture.

47.54% of respondents disagrees that workers feel that the unfairness of FWAs programs due to the lack of availability to all employees equally negatively affects workers' productivity. This result was agreed with Wendt study (2010).

Table (5.11): Means and Test values for "Employees' Support"

| No. | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|--|------|-----------------------|------------|----------------|------|
| 1. | Workers enrolled in one of the FWAs programs expect a reduction in their wages which negatively affect their productivity. | 2.29 | 45.80 | -8.11 | 0.000* | 9 |
| 2. | Workers enrolled in one of the FWAs' programs expect a delay in their promotions which negatively affect their productivity. | 2.44 | 48.86 | -6.82 | 0.000* | 5 |
| 3. | Workers feel that their colleagues or team members' (who are not enrolled in those programs) hold dissatisfaction towards them, which negatively affects their productivity. | 2.48 | 49.55 | -6.66 | 0.000* | 4 |
| 4. | Workers enrolled in one of the FWAs programs believe that it affects their career path, which affects their productivity negatively. | 2.68 | 53.56 | -3.99 | 0.000* | 1 |
| 5. | Workers not understanding or accepting various FWAs programs affect the level of flexibility and thus have a negative impact on the level of productivity. | 2.34 | 46.86 | -8.29 | 0.000* | 8 |

| | | | | | | |
|-----|---|------|-------|--------|--------|----|
| 6. | Workers feel that the unfairness of FWAs programs due to the lack of availability to all employees equally negatively affects workers' productivity. | 2.38 | 47.54 | -7.99 | 0.000* | 7 |
| 7. | Non-flexibility in the workplace in regards to leave-requests affects workers' productivity negatively. | 2.06 | 41.25 | -11.86 | 0.000* | 10 |
| 8. | The non-contribution of employees to the scheduling of their work hours affects their productivity negatively. | 2.00 | 40.00 | -12.92 | 0.000* | 11 |
| 9. | The increasing pressures of the workplace and increase in hours affects workers' productivity negatively. | 1.77 | 35.49 | -17.60 | 0.000* | 12 |
| 10. | Workers feel that they are socially isolated in the case of telecommuting, which affects their productivity negatively. | 2.52 | 50.46 | -5.89 | 0.000* | 3 |
| 11. | Telecommuting affects employees' follow up to technological development within the company, which reduces their productivity. | 2.58 | 51.56 | -5.00 | 0.000* | 2 |
| 12. | The presence of employees among their families while telecommuting during working time affects workflow and therefore affects the level of productivity negatively. | 2.40 | 47.93 | -7.20 | 0.000* | 6 |
| | All paragraphs of the filed | 2.33 | 46.68 | -14.35 | 0.000* | |

* The mean is significantly different from 3

5.3.4 Analyzing the Fourth Dimension: Management Support of the FWAs Impact on Worker's Productivity

"Management support have significance effect on the level of worker's productivity in the ICT sector (at the level of significance $\alpha = 0.05$)"

Table (5.12) shows the following results:

- The mean of paragraph #7 “Managers believe that some FWAs programs reduce the exchange of experiences among workers which affects their productivity negatively” equals 2.68 (53.64%), Test-value = -3.79, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly less than the hypothesized value 3. We conclude that the respondents disagreed to this paragraph.
- The mean of paragraph #8 “Managers believe that the adoption of FWAs is not suitable for senior positions with a high degree of responsibility in the company” equals 2.30 (45.93%), Test-value = -8.33, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly less than the hypothesized value 3. We conclude that the respondents disagreed to this paragraph.

- The mean of the field “**Management Support**” equals 2.54 (50.81%), Test-value = -7.96, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this field is significantly less than the hypothesized value 3. *We conclude that the respondents disagreed to field of “Management Support”.*

The result of the analysis shows that 50.81% of the respondents disagreed with the presence management support to FWAs. This negative respondents of managers' support for FWAs may be because managers are more likely to procrastinate FWAs requests if they prefer a higher level of control over managing employees; and believe that the use of FWAs makes managing more difficult; they fear a loss of control. Also this finding is consistent with Fisher (2010).

The analysis shows that 45.93% of sample disagrees with that managers believe that the adoption of FWAs is not suitable for senior positions with a high degree of responsibility in the company; which disagrees with study of Lambert and others (2008) that concluded that individuals with longer tenure in the organization, who had supervisory responsibilities or had personal lifestyle preferences, were more likely to use FWAs programs than those who did not have supervisory responsibilities.

The researcher justified this lack of support to FWAs by managers in terms of senior positions that managers actually believe that adopting FWAs programs may reduce their presence and thus reduce their control over their subordinates. This is consistent with Eldridge and Nisar (2011) study of employee and organizational impacts of FWAs.

Research founded that 50.52% of the employees' sample disagreed with this paragraph: "managers believe that employees who are not inclined to support FWAs programs are more committed to their jobs than the beneficiaries of these programs". An explanation of that may be because managers seen asking for FWAs as a weakness and it means that employee can't fully meet the job requirements. This is not the case with study of Charron and Lowe (2004) which shows that adopting FWAs programs increases employees' commitment as an increase in adherence to company goals and lower degree of absenteeism.

Results show that female managers are more supportive of FWAs programs than male managers by 50.58%; which has been justified by researcher through suggesting that women continue to maintain greater responsibility for the majority of domestic tasks. In addition, this also agrees with the study of Shockley & Allen (2007) that target a sample of 230 employed women.

Table (5.12): Means and Test values for “Management support”

| No. | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|--|------|-----------------------|------------|----------------|------|
| 1. | Managers believe that employees who are not inclined to support FWAs programs are more committed to their jobs than the beneficiaries of these programs. | 2.53 | 50.52 | -5.74 | 0.000* | 6 |
| 2. | Managers tend to grant employees, who do not support FWAs higher rates of pay than the employees who take advantage of these programs. | 2.58 | 51.56 | -5.45 | 0.000* | 4 |
| 3. | Managers tend to grant employees, who do not support FWAs, more promotions than the employees who take advantage of these programs. | 2.65 | 53.06 | -4.22 | 0.000* | 2 |
| 4. | Female managers are more supportive of FWAs programs than male managers. | 2.53 | 50.58 | -5.39 | 0.000* | 5 |
| 5. | Managers see that supporting FWAs affects workers' productivity negatively. | 2.63 | 52.66 | -4.21 | 0.000* | 3 |
| 6. | Managers see ease in the evaluation of employees who are not associated with FWAs as compared to employees who benefit from these programs. | 2.50 | 50.06 | -6.33 | 0.000* | 7 |
| 7. | Managers believe that some FWAs programs reduce the exchange of experiences among workers which affects their productivity negatively. | 2.68 | 53.64 | -3.79 | 0.000* | 1 |
| 8. | Managers believe that the adoption of FWAs is not suitable for senior positions with a high degree of responsibility in the company. | 2.30 | 45.93 | -8.33 | 0.000* | 9 |
| 9. | Managers believe that FWAs reduce the level of control and supervision over the workers who participate in these programs which negatively affects their productivity. | 2.47 | 49.30 | -6.01 | 0.000* | 8 |
| | All paragraphs of the filed | 2.54 | 50.81 | -7.96 | 0.000* | |

* The mean is significantly different from 3

5.3.5 Analyzing the Fifth Dimension: Impact of Types of work on Workers' Productivity

"Types of work affect the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$)".

Table (5.13) shows the following results:

- The mean of paragraph #7 "Work that needs a long and continuous time to be realized, increases the need for FWAs programs for workers." equals 4.05 (81.00%), Test-value = 18.3, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed with this paragraph.
- The mean of paragraph #5 "The fact that the nature of the work (Hardware) affects the possibility of adopting FWAs" equals 3.61 (72.18%), Test-value = 8.6, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 3. We conclude that the respondents agreed with this paragraph.
- The mean of the field "**Type of work**" equals 3.79 (75.79%), Test-value = 19.01, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. *We conclude that the respondents agreed to field of "Type of work".*

The result of analysis shows that (75.79%) of the respondents agreed with the presence of impact for type of work on the applied type of FWAs and then on workers' productivity. This is a high ratio comparing to employees' support and management support; factors affecting the level of flexibility and then workers' productivity in the ICT sector. This result leads to the important of choosing the appropriate FWAs program to be fit with the nature of employee's type of work.

Research found that work which needs a long and continuous time to be realized increases the need for FWAs programs for workers by (81.04%). The explanation of this is that some FWAs programs like telecommuting and compressed hours can give workers enough time (long and continuous period) to accomplish their work. Our search respondents' records (74.30%) agree with fact that the job in the senior level of management affects the chosen type of FWAs and thus the level of worker's productivity. This result is consistent with Salmieri study (2009).

The research respondents' records (75.23%) agree with that in case of the work that does not need to contact with the customers; it is easy to adopt FWAs program for workers. This result consistent with Fisher study (2010).

Table (5.13): Means and Test values for “Type of work”

| No. | Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) | Rank |
|-----|--|------|-----------------------|------------|----------------|------|
| 1. | The type of work affects the choice of FWAs type and therefore affects workers' productivity. | 4.02 | 80.35 | 15.91 | 0.000* | 2 |
| 2. | In cases where the work task necessitates only one person; this supports FWAs. | 3.66 | 73.14 | 8.72 | 0.000* | 7 |
| 3. | In case of the work that does not need to contact with the customers; it is easy to adopt FWAs program for workers. | 3.76 | 75.23 | 10.42 | 0.000* | 4 |
| 4. | The fact that the nature of the work (Software) affects the possibility of adopting FWAs. | 3.87 | 77.44 | 12.96 | 0.000* | 3 |
| 5. | The fact that the nature of the work (Hardware) affects the possibility of adopting FWAs. | 3.58 | 71.56 | 7.35 | 0.000* | 8 |
| 6. | Work that needs continuous communication among team members reduces the possibility of adopting FWAs for workers. | 3.66 | 73.29 | 8.26 | 0.000* | 6 |
| 7. | Work that needs a long and continuous time to be realised increases the need for FWAs programs for workers. | 4.05 | 81.04 | 17.26 | 0.000* | 1 |
| 8. | The fact that the job is in the senior level of management affects the type of FWAs and thus the level of workers' productivity. | 3.72 | 74.30 | 10.11 | 0.000* | 5 |
| | All paragraphs of the filed | 3.79 | 75.79 | 19.01 | 0.000* | |

* The mean is significantly different from 3

5.3.6 Analyzing the General Hypothesis

The main hypothesis stated that there is a significant effect between flexible work arrangements and the level of workers' productivity in the ICT sector (at the level of significance $\alpha = 0.05$). Table (5.14) shows the following result. The mean of all paragraphs of the questionnaire equals 3.28 (65.68%), Test-value =14.26, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of all paragraphs of the questionnaire is significantly greater

than the hypothesized value 3. **We conclude that the respondents agreed to all paragraphs of the questionnaire.**

The results show that (65.68%) of respondent agrees with the existent of positive impact for FWAs on workers' productivity. The finding is consistent with the study of Mcnall and others (2010) where the availability of FWAs such as flexitime and compressed workweek seems to help employees to experience greater enrichment from work to home which, in turn, is associated with higher productivity and job satisfaction. The finding is consistent also with the findings of Yang and Zheng (2010) since they found that the highest level of productivity actualization is associated with workers who enjoy flexible work schedule. Moreover, findings of Konrad and Mangel (2000) suggested a significant interaction effects indicating that work-life programs had a strong positive impact on productivity.

Table (5.14): Means and Test values for “the level of worker's productivity in the ICT sector”

| Item | Mean | Proportional mean (%) | Test value | P-value (Sig.) |
|-------------------------------------|------|-----------------------|------------|----------------|
| All paragraphs of the questionnaire | 3.28 | 65.68 | 14.26 | 0.000* |

*The mean is significantly different from 3

5.3.7 Analyzing the Sixth Dimension: Effects of Individual Characteristics

The sixth hypothesis stated that *there are no significant statistical differences among respondents' answers regarding the impact of FWAs on the level of workers' productivity in the ICT sector, due to personal characteristics (Gender, Age, Education, Experience, Marital Status and Children) (at the level of significance $\alpha = 0.05$).* This hypothesis was tested through its main six demographic characteristics as the following:

6.1 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the respondents (Gender)

Table (5.15) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the field “Type of work”, then there is significant differences in respondents' answers toward these fields due to gender. We conclude that the characteristic of the gender *has an effect* on this field.

Table (5.15) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there is an insignificant difference in respondents' answers toward these fields due to gender. We conclude that the characteristic of the gender has *no effect* on these fields.

The results indicate the absence of the effect of gender on the research’s hypotheses; which have been justified by the research sample with male majority with only (22.50%) females. On the other hand, this is not the case for many results of researches in this field like Salmieri study (2009) which concluded that gender is a key factor when it comes to dealing with time-flexibility and home–work boundaries.

Table (5.15): Independent Samples T-Test of the fields and their p-values for Gender

| No | Field | Test value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | -0.915 | 0.362 |
| 2. | Supported regulations of the organization. | -0.644 | 0.520 |
| 3. | Employees' support. | -0.324 | 0.746 |
| 4. | Management support. | -1.487 | 0.139 |
| 5. | Type of work. | -2.264 | 0.025* |
| | All fields together | -1.529 | 0.128 |

* The mean difference is significant a 0.05 level

Table (5.16) shows the mean for each field for gender.

Table (5.16): Mean for each field of Gender

| No | Field | Means | |
|----|--|--------|--------|
| | | male | female |
| 1. | Types of flexible work arrangements. | 3.9782 | 4.0542 |
| 2. | Supported regulations of the organization. | 4.0822 | 4.1503 |
| 3. | Employees' support. | 3.6581 | 3.6944 |
| 4. | Management support. | 3.4131 | 3.6179 |
| 5. | Type of work. | 3.7396 | 3.9620 |
| 6. | All fields together | 3.7688 | 3.8860 |

For the field “Type of work”, the mean for respondents with gender of female is higher than male. Which means that females are more agree with the effect of type of work on flexibility than men. The researcher justification of that may be because lacks of women's experience in all ICT work types. Women may perceive that some ICT business do not suitable for all FWAs (for example, hardware work), while men may see flexitime suitable for such works.

6.2 There are no significant statistical differences (at the level of significance $\alpha = 0.05$) in the level of workers' productivity in the ICT sector, due to the characteristics of the respondents (Age)

Table (5.17) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there is an insignificant difference in respondents' answers toward each field due to age. We conclude that the age of respondents has *no effect* on each field.

Table (5.17): ANOVA test of the fields and their p-values for Age

| No | Field | Test Value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | 1.965 | 0.143 |
| 2. | Supported regulations of the organization. | 1.047 | 0.353 |
| 3. | Employees' support. | 2.809 | 0.063 |
| 4. | Management support. | 2.475 | 0.087 |
| 5. | Type of work. | 2.059 | 0.131 |
| | All fields together | 2.256 | 0.108 |

The results indicate the absence of the effect of age on the research's hypotheses; which has been justified by the researcher and found convergent in the ages of the study sample with 74.2% less than 30 year. On the other hand, this is not the case in the study of Cebulla and others (2007), which concluded that older workers rarely take up additional or alternative FWAs.

6.3 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the respondents (Education).

Table (5.18) shows that the p-value (Sig.) is greater than the level of significance ($\alpha = 0.05$) for each field, then there is insignificant difference in respondents' answers toward each field due to education. We conclude that the education characteristic of the respondents' has *no effect* on each field.

Table (5.18): ANOVA test of the fields and their p-values for education

| No | Field | Test Value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | 0.853 | 0.467 |
| 2. | Supported regulations of the organization. | 1.246 | 0.295 |
| 3. | Employees' support. | 0.202 | 0.895 |
| 4. | Management support. | 1.292 | 0.279 |
| 5. | Type of work. | 1.110 | 0.347 |
| | All fields together | 0.991 | 0.398 |

The results indicate the absence of the effect of level of education on the research's hypotheses; which has been justified by research and found convergent in the education level of respondents with 67.3% who have bachelor degree. It seems logical from the researcher's point of view that the level of education does not affect work flexibility and then the level of workers' productivity. Moreover, most of the researches in this field did not include that the level of education as a significant individual difference like the study of Lambert and others (2008).

6.4 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the respondents (Experience)

Table (5.19) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the field "Types of flexible work arrangements", then there are significant differences in respondents' answers toward these fields due to experience. We conclude that the experience characteristic *has an effect* on this field.

Table (5.19) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there are insignificant differences in respondents' answers toward these fields due to experience. We conclude that the experience characteristic has *no effect* on these fields.

An explanation for this may be that employees with longer experience (in the same company) feel more comfortable within their environment and probably have more seniority and therefore, can ask for greater flexibility (different types of FWAs). On other hand, the results show that employees with long experience in the ICT field are representing a small ratio comparing with others with less than 7 years experience. So experience was not being a significant predictor in this study.

Table (5.19): ANOVA test of the fields and their p-values for experience

| No | Field | Test Value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | 2.911 | 0.036* |
| 2. | Supported regulations of the organization. | 1.337 | 0.264 |
| 3. | Employees' support. | 1.203 | 0.310 |
| 4. | Management support. | 1.005 | 0.392 |
| 5. | Type of work. | 0.481 | 0.696 |
| | All fields together | 0.791 | 0.500 |

* The mean difference is significant a 0.05 level

Table (5.20) shows the mean for each field for experience. For the field of “Types of flexible work arrangements”, the mean for respondents with experience between 7 and 10 year is higher than other experience groups.

Table (5.20): Mean for each field of experience

| No | Field | Means | | | |
|----|--|-------------|----------|-----------|---------------|
| | | Less than 3 | 3-7 year | 7-10 year | 10 and higher |
| 1. | Types of flexible work arrangements. | 3.952 | 4.065 | 4.123 | 3.774 |
| 2. | Supported regulations of the organization. | 4.008 | 4.178 | 4.198 | 4.001 |
| 3. | Employees' support. | 3.740 | 3.581 | 3.817 | 3.608 |
| 4. | Management support. | 3.588 | 3.381 | 3.451 | 3.348 |
| 5. | Type of work. | 3.784 | 3.824 | 3.819 | 3.664 |
| | All fields together | 3.809 | 3.797 | 3.879 | 3.676 |

6.5 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the respondents (Marital Status)

Table (5.21) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there are insignificant differences in respondents' answers toward each field due to marital status. We conclude that the characteristics of the respondents' marital status have *no effect* on each field.

Table (5.21): Independent Samples T-Test of the fields and their p-values for marital status

| No | Field | Test value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | -0.183 | 0.855 |
| 2. | Supported regulations of the organization. | -0.624 | 0.534 |
| 3. | Employees' support. | 1.382 | 0.169 |
| 4. | Management support. | 1.481 | 0.141 |
| 5. | Type of work. | 0.514 | 0.608 |
| | All fields together | 0.904 | 0.367 |

Most studies indicate that there are significant differences in the responding to the flexibility level due to the marital status of the respondents; especially for married worker with family responsibilities. On the contrary of the results of this study; an explanation of this may be because men having family-responsibilities they do not want to disclose family reasons for requesting FWAs to avoid the perception of being uncommitted to their careers by their boss and peers.

6.6 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the respondents (Children)

Table (5.22) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each field, then there are insignificant differences in respondents' answers toward each field due to children. We conclude that the characteristic of the respondents' children has *no effect* on each field.

Table (5.22): Independent Samples T-Test of the fields and their p-values for children

| No | Field | Test value | P-value(Sig.) |
|----|--|------------|---------------|
| 1. | Types of FWAs. | 0.206 | 0.837 |
| 2. | Supported regulations of the organization. | 1.426 | 0.157 |
| 3. | Employees' support. | -0.809 | 0.421 |
| 4. | Management support. | -1.331 | 0.187 |
| 5. | Type of work. | 0.289 | 0.773 |
| | All fields together | -0.231 | 0.818 |

The answers of the respondents about the impact of FWAs on workers' productivity are not affected by the employees' children; this is not the case in most of previous studies as was shown in chapter three that most researchers had found significant differences among respondents' answers regarding the impact of FWAs on the level of worker's productivity. This result may be because the number of married women with small children (5.05%) that were very small comparing by total number of research sample; and women often tend to spend more time with children and family or create work- family balance than men.

6.7 There is no significant statistical difference (at the level of significance $\alpha = 0.05$) in the level of worker's productivity in the ICT sector, due to the characteristics of the company (Dose the company support FWAs)

Table (5.23) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the field “Types of FWAs and Management support”, then there is significant differences in respondents' answers toward these fields due to support flexible work arrangements. We conclude that the company characteristic of the support to FWAs *has an effect* on these fields.

Table (5.23) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there is an insignificant difference in respondents' answers toward these fields due to support flexible work arrangements. We conclude that the characteristic of the support flexible work arrangements has *no effect* on these fields.

Table (5.23): Independent Samples T-Test of the fields and their p-values for the company support to FWAs

| No | Field | Test value | P-value(Sig.) |
|----|--|------------|---------------|
| | Types of FWAs. | -2.389 | 0.018* |
| 2. | Supported regulations of the organization. | -0.137 | 0.891 |
| 3. | Employees' support. | 0.329 | 0.743 |
| 4. | Management support. | 2.337 | 0.021* |
| 5. | Type of work. | -1.443 | 0.151 |
| | All fields together | 0.294 | 0.769 |

* The mean difference is significant a 0.05 level

The answers of the respondents about the impact of FWAs on workers' productivity are not affected by the companies support to FWAs; except the two fields: types of FWAs and management support.

Table (5.20) shows the mean for each field for the company support to FWAs. For the field of “Types of flexible work arrangements”, the mean for respondents in companies does not support FWAs is higher than the mean for respondents in companies support FWAs. The researcher justified that because the non beneficiaries' employees from such programs may be are in dire need to experience such flexibility more than the beneficiaries of these programs.

For the field of “Management support”, the mean for respondents in companies support FWAs is higher than the mean for respondents in companies does not support FWAs. The researcher justified that because the employees who worked in companies support FWAs programs were more informed and experience to the management support of those programs than employees worked in company did not support FWAs programs.

Table (5.24): Mean for each field of support flexible work arrangements

| No | Field | Means | |
|----|--|-------|------|
| | | Yes | No |
| 1. | Types of flexible work arrangements. | 3.95 | 4.16 |
| 2. | Supported regulations of the organization. | 4.09 | 4.11 |
| 3. | Employees' support. | 2.34 | 2.30 |
| 4. | Management support. | 2.61 | 2.28 |
| 5. | Type of work. | 3.76 | 3.91 |
| | All fields together | 3.29 | 3.27 |

5.4 Study Limitations

As with all researches there were limitations to this study. The first was the population used. The participants were from single industry (ICT sector), it is plausible that the jobs nature in ICT sector affect their perception to FWAs use. This makes the generalization of results difficult.

Another limitation was due to time constraints, there are some variables such as job title has not been added within the demographic variables. It was more feasible to differentiate between the responses of the respondents according to their jobs title whether they are managers or employees.

5.5 Summary

This chapter presented data analysis and discussion of the research. Research results were discussed and linked to the results of similar studies. The results show that (65.68%) of respondents agree with the existence of the positive impact for FWAs on workers' productivity in ICT sector. Also statistics show that respondents' answers are not mostly affected by the most of personal characteristic deferences.

Chapter 6

Conclusions & Recommendations

6.1 Introduction

This chapter lists the conclusions of findings. The recommendations of the present study and future researches are stated in order to improve the way of how FWAs is adopted and practiced in the Palestinian ICT companies.

6.2 Conclusions

This research investigates the impact of FWAs on workers' productivity through an empirical study of the employees at ICT companies in the Gaza Strip. Five factors (Types of FWAs, Supported Regulations of the Organization, Employees' Support, Management Support, and Types of Work) effect the level of flexibility applied in the companies under consideration. As the results show, 79.8% of the ICT companies are in support of FWAs programs which reflect the high level of companies' awareness about such programs.

Concerning sample characteristics, the statistics show that the majority of responders are males with 77.5%; and 74.2% of ICT employees in the Gaza Strip are less than 30 years old, 66.9% are with bachelor's degree, and 77.6% of the sample have an experience of 7 year or less, about half of the respondents 52.8% are married with 47.2% who have small children. In light of the findings that were presented in the previous chapter, the most notable conclusions are:

1. 65.68% of ICT companies' respondents agreed that, there is a positive statistical significant effect of FWAs on workers' productivity. This finding shows the importance of adopting FWAs programs in order to increase workers' productivity. This finding reveals that both employers and employees can benefit from effective and flexible workplaces. Employees benefit from having higher quality jobs and more supportive workplaces that are less likely to negatively affect their personal and family lives, while employers benefit from having more engaged employees and higher retention.
2. 79.91% of ICT companies' employees agreed with the presence of impact of the types of FWAs applied on their productivity; this reveals that using different types of FWAs can be an effective tool to improve employees' productivity; and companies should take into account the type of FWAs that matches with each worker needs and also job requirements.
3. The results revealed that most respondents are in favor of telecommuting 72.43% of the employees viewed that work remotely (telecommuting) affect their productivity positively. Those who have a positive attitude towards telecommuting may be encouraged by the pluses of telecommuting like saving their commute cost and time.
4. 31.8% of ICT companies adopted flextime for their employees, 29.8% job-sharing, 16.9% telecommuting, 13.2% part-time, and 8.3% compressed workweek. The low adopting of compressed workweek may be because companies use it in cases of emergency, for a limited period and for specific projects which have a close deadline compared with a large number of tasks need to be accomplished.

5. 81.95% of the ICT companies' employees agreed with the positive impact of supported regulations of the organization to FWAs programs on their productivity. This represents the highest ratio among the other four dimensions that affect the level of flexibility. Which can be considered as an indication of workers' need to the existence of policies and laws supported these arrangements.
6. 50.81% of the respondents disagreed with the presence of management support to FWAs which affects their productivity negatively. The researcher can consider that supervisory support was related to individual perceptions of FWAs success in balancing work and family. Managers and supervisors need to be active supporters of the company's FWAs. They need to be aware of the business imperative for flexibility, including the role of flexible work arrangements as an attraction and retention tool for valuable employees.
7. 46.68% of the respondents disagreed with the presence of employees' support to different FWAs programs. In addition to supervisory support, support may also come from coworkers. Employees who had strong supportive ties with coworkers may had higher positive affect and job satisfaction Therefore, employees who perceive their coworkers as supportive of the use of FWAs will be more likely to use them than employees who do not perceive their coworkers as supportive.
8. 75.79% of the respondents agreed with that type of work affect the applied type of FWAs and then on worker's productivity. For example, the different types of work such as software, hardware, work that need contact with customers or the work that needs a team to accomplish it and others lead to choose a specific type of FWAs. For example, an employee with hardware work cannot chose or use telecommuting.
9. The study ranks the factors that affect flexibility and then worker productivity in the ICT sector from the most effect to the less as the following: first, supported regulations of the organization. Second, Type of FWA. Third, type of work. Fourth, management support. Fifth, employees' support.
10. There were no significant statistical differences at significant level ($\alpha=0.05$) among the respondents' answers regarding the impact of FWAs on workers' productivity due to the individual characteristics (gender, age, education, years of experience, marital status, and children). That result excluded the effect of the fender on the respondents' answers on the field (type of work). Also the result excluded the effect of the years of experience on the respondents' answers on the field (types of flexible work arrangements).

6.3 Recommendations

The recommendations are basically directed to information and communication technology sector managers and employees. In order to enhance the concepts of FWAs in companies of information and communication technology in Palestine and in the light of the aforementioned results, the following recommendations are formulated to encourage the ICT companies to do the following:

1. To evaluate its long-term business goals. If it is determined that FWAs programs can serve as a tool in meeting those goals, and there are attitudinal/behavioral links between those programs and a number of performance outcomes then FWAs programs should be implemented.
2. To support family-friendly organizational culture; the researcher suggests to increase the attention of family-supportive work environments programs, in order to minimize the conflict between work and family roles, especially for working women who have young children. There can be a significant link between employee's performance and the state of an employee's work life balance. Employees who are not able to balance work and lifestyle commitments may be suffering stress, and work performance may decrease.
3. To enhance an organizational environment with friendly culture through reducing congestion and transportation for the commute; in case of telecommuting and compressed workweek arrangements. This also reduces company's overhead costs.
4. To care more about designing and writing policies and laws that lay down the applicability of various FWAs that governs the selection processes among this various FWAs which have positive effect on workers' productivity especially when a company follows the principles of sound science in developing these policies.
5. To increase the awareness of management and staff in the ICT companies about FWAs programs and its importance and its great effects on employees' productivity. And to consider FWAs as one strategy that can assist in attracting and retaining staff.
6. To contribute in reducing the technological gap between Palestine and the developed countries, by working remotely with companies outside the Gaza Strip and this contributes to the acquisition of new experiences especially in case of shortages in highly skilled worker. When a company would like to hire a person with high skills and lives far away; then telecommuting makes it possible to hire that person.
7. To increase the company's competitive advantages by adopting FWAs programs; which attract and retain high-quality employees who seek for more flexibility in their work schedules. The availability of FWAs is considered as signal or indicator that the company cares about the well-being of its employees.
8. To consider FWAs as a work-life need and not something that a company could offer it to some and deny it to other employees. For more, FWA employees need to receive the professional and technical support they need to succeed from their employers. Technical support can range from connectivity to updated software and hardware, while professional support can range from mentoring and training to challenging work assignments.
9. To allow workers choose among the different types of FWAs, which is appropriate to their job requirements and family circumstances; in order to achieve the highest level of job satisfactions which reflects directly on their

productivity. Occupation type can also determine the availability of FWA. Flextime and flexiplace are more likely to be offered in jobs that require limited or no direct supervision of tasks or face-to-face interaction with clients and coworkers.

10. To train telecommuters and their managers before the program begins (in case the company is new in this field). Employees must learn to apply the same professional ethical rules when they telecommute as they do in the work place. Managers may worry about losing visible, day-to-day control over telecommuting employees. A remedy for this and a more effective management procedure is to evaluate performance by measuring the quantity and quality of the work outcome against the stated goals and objectives, scheduled deadlines and final products of the employees.
11. To enhance company's property with providing their employees (in case of telecommuting), with the needed equipments depending on the type of job, like phone, paper, computer modem, data line, printer and fax machines.
12. To trialing flexible work arrangements for those companies that does not support such programs. This is a good way to see if it suits both employees and companies. A short term trial could be agreed with a fixed end date, and a review undertaken at the end of the trial to determine its effectiveness.

6.4 Future Researches

Flexible Work Arrangements and its interaction with technology sectors are not highly researched areas, and the door is still open for more academic research. The researcher felt that limited research efforts has been done on this topic in the Arab world in general and Palestine in particular and hence suggested that the following topics may provide good research ideas:

- Conduct a study to measure productivity level for the employees in companies that adopting FWAs programs.
- Conduct a comparative study according to gender for the impact of FWAs on workers' productivity.
- Conduct a study measuring the impact of FWAs program on various organizational outcomes, like employees' satisfaction, turnover, and happiness.
- Conduct a comparative study on FWAs practice between different Palestinian private sectors and the governmental ones to clearly image how to achieve the greatest benefit from these programs.

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- United States Department of Labor: Bureau of Labor Statistics:
<http://www.bls.gov/lpc/>

Appendices

Appendix A – Questionnaire Judgment Committee

| | |
|---------------------|-------------------------------|
| Dr. Bassam Hamad | Al- Quds – Abu Dis University |
| Dr. Majed ElFarra | Islamic University of Gaza |
| Dr. Mohammed Fares | Al- Azhar University |
| Dr. Samir Safi | Islamic University of Gaza |
| Dr. Sami Abu AlRoss | Islamic University of Gaza |
| Dr. Ramiz Budair | Al- Azhar University |
| Dr. Yousef Bahar | Islamic University of Gaza |
| Dr. Yousef Ashour | Islamic University of Gaza |
| Dr. Wael Thabet | Al- Azhar University |
| Dr. Wafiq ElAgha | Al- Azhar University |

Appendix B – Questionnaire (Arabic Version)



الجامعة الإسلامية - غزة
عمادة الدراسات العليا
كلية التجارة
قسم إدارة الأعمال

بسم الله الرحمن الرحيم

الأخ/الأخت الفاضل/ة

السلام عليكم ورحمة الله وبركاته،

يهدف إعداد دراسة ميدانية حول: "أثر ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بقطاع غزة"، وبغرض نيل درجة الماجستير في إدارة الأعمال من الجامعة الإسلامية بغزة، تم إعداد هذه الاستبانة، وعليه فإنني أرجو منكم التكرم بتعبئة هذه الاستبانة بدقة وموضوعية قدر الإمكان لما في ذلك من مساهمة في الارتقاء بالبحث العلمي وما يعود به ذلك من نفع على المؤسسة والمجتمع، مؤكدة أن البيانات الواردة في هذه الاستبانة لن تستخدم إلا لأغراض البحث العلمي فقط.

شاكرين لكم حسن تعاونكم،،،

وتفضلوا بقبول فائق الاحترام والتقدير،،،

الباحثة

م. كفاح عليان الراجودي

مقدمة

تعتبر اقتصاديات المعلومات المرتكزة على أنشطة تكنولوجيا المعلومات والاتصالات الملاذ الأمثل للحالة الفلسطينية؛ لاعتماد هذه التكنولوجيا على توفر الطاقة البشرية المدربة مهنيًا، بغض النظر عن موقعها الجغرافي والعوائق التي تواجهها وبخاصة القيود السياسية. وبسبب ارتكاز هذا القطاع على العنصر البشري بشكل كبير يأتي الاهتمام بكل مامن شأنه رفع كفاءة وإنتاجية العاملين. ومن بين هذه الطرق اتباع ترتيبات العمل المرنة (Flexible Work Arrangements)، حيث يسمح للموظفين الاختيار ما بين عدة أنواع من هذه الترتيبات والتي تشمل:

- اختيار أوقات بدء ونهاية العمل، مع الالتزام بنفس عدد ساعات العمل المعتمدة (مثلاً 8 ساعات).
- العمل عن بعد، أي خارج إطار الشركة.
- مشاركة المهام الوظيفية مع موظف آخر لنفس الوظيفة.
- العمل بنظام الدوام الجزئي.
- العمل لعدد ساعات إضافية في اليوم، وبالتالي توفير يوم آخر كإجازة مثال (العمل 10 ساعات لمدة أربعة أيام والحصول على اليوم الخامس إجازة).

وللأهمية الكبيرة لهذا القطاع في زيادة الناتج القومي يبرز مدى الاهتمام بإنتاجية العاملين فيه وطرق تحسينها، من هنا تهدف هذه الدراسة التي صممت من أجلها هذه الاستبانة إلى معرفة أثر ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات، وذلك بتطبيق الدراسة على جميع شركات تكنولوجيا المعلومات والاتصالات بقطاع غزة والمسجلة رسمياً لدى اتحاد شركات أنظمة المعلومات الفلسطينية (PITA).

المجموعة الأولى: البيانات الفردية:

الرجاء اختيار البديل المناسب لكل من الفقرات التالية:

| البيانات الشخصية | |
|------------------|---|
| 1 | الجنس <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى |
| 2 | العمر <input type="checkbox"/> أقل من 30 سنة <input type="checkbox"/> 30 - أقل من 40 سنة <input type="checkbox"/> 40 - أقل من 50 سنة <input type="checkbox"/> 50 سنة فأكثر |
| 3 | المؤهل العلمي <input type="checkbox"/> ثانوية أو أقل <input type="checkbox"/> دبلوم <input type="checkbox"/> بكالوريوس <input type="checkbox"/> ماجستير <input type="checkbox"/> دكتوراه |
| 4 | عدد سنوات الخبرة <input type="checkbox"/> أقل من 3 سنوات <input type="checkbox"/> 3 - أقل من 7 سنوات <input type="checkbox"/> 7 - أقل من 10 سنوات <input type="checkbox"/> 10 - أقل من 15 سنة <input type="checkbox"/> 15 سنة فأكثر |
| 5 | الحالة الاجتماعية <input type="checkbox"/> أعزب/عزباء <input type="checkbox"/> متزوج/ة <input type="checkbox"/> مطلق/ة <input type="checkbox"/> أرمل/ة |
| | في حال وجود أطفال هل يوجد أطفال بعمر أقل من سنة؟ <input type="checkbox"/> نعم <input type="checkbox"/> لا |

| بيانات خاصة بالشركة | |
|---------------------|---|
| 6 | هل تدعم الشركة ترتيبات العمل المرنة؟ <input type="checkbox"/> نعم <input type="checkbox"/> لا |
| 7 | في حال كانت إجابة السؤال السابق نعم الرجاء تحديد نوع ترتيبات العمل المرنة المطبقة في الشركة؟ (يمكنك اختيار أكثر من خيار) <input type="checkbox"/> اختيار أوقات بدء ونهاية العمل, مع الالتزام بنفس عدد ساعات العمل المعتمدة (مثلاً 8 ساعات). <input type="checkbox"/> العمل عن بعد, أي خارج إطار الشركة. <input type="checkbox"/> مشاركة المهام الوظيفية مع موظف آخر لنفس الوظيفة. <input type="checkbox"/> العمل بنظام الدوام الجزئي. <input type="checkbox"/> العمل لعدد ساعات إضافية في اليوم, وبالتالي توفير يوم آخر كإجازة مثال (العمل 10 ساعات لمدة أربعة أيام والحصول على اليوم الخامس إجازة). |

المجموعة الثانية: أثر ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة:

الرجاء تقييم مستوى تأثير ترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة, وذلك بتحديد مدى موافقتك/عدم موافقتك على العبارات التالية:

| م | أولاً: تأثير نوع ترتيبات العمل المرنة المطبقة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة: | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|--|------------|-------|-------|-----------|----------------|
| 1 | تؤثر ترتيبات العمل المرنة على إنتاجية العاملين بشكل إيجابي عن طريق تقليل التعارض بين ظروف الحياه والعمل. | | | | | |
| 2 | تؤثر إمكانية اختيار العاملين لساعات بدء ونهاية العمل على إنتاجيتهم بشكل إيجابي. | | | | | |
| 3 | تؤثر إمكانية العمل لساعات إضافية خلال أيام الأسبوع وبالتالي توفير يوم إضافي كإجازة على إنتاجية العاملين بشكل إيجابي. | | | | | |
| 4 | تؤثر إمكانية العمل عن بعد (خارج المؤسسة) على إنتاجية العاملين إيجاباً. | | | | | |
| 5 | تؤثر إمكانية العمل بنظام الدوام الجزئي على إنتاجية العاملين بشكل إيجابي. | | | | | |
| 6 | تؤثر مشاركة نفس الوظيفة مع شخص آخر كنوع من ترتيبات العمل المرنة على إنتاجية العاملين إيجاباً. | | | | | |
| 7 | يؤثر السماح للعاملين بالاختيار بين أنواع ترتيبات العمل المرنة المختلفه على إنتاجيتهم بشكل إيجابي. | | | | | |
| 8 | يساهم العمل عن بعد مع شركات خارج قطاع غزة في اكتساب خبرات وتجارب جديدة، ممايزيد من إنتاجية العاملين. | | | | | |
| 9 | تساهم بعض ترتيبات العمل المرنة في توفير الخدمات لأوقات طويلة ومتنوعه ممايؤثر إيجاباً على إنتاجية العاملين. | | | | | |

| م | ثانياً: تأثير سياسات وقوانين المؤسسة الداعمة لترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|---|------------|-------|-------|-----------|----------------|
| 1 | يؤثر وجود سياسات وقوانين تنص على إمكانية تطبيق ترتيبات العمل المرنة المختلفة إيجاباً على إنتاجية العاملين. | | | | | |
| 2 | يؤثر اتباع المؤسسة لأسس علمية سليمة عند وضع سياسات اجراءت العمل المرنة إيجاباً على إنتاجية العاملين. | | | | | |
| 3 | يؤثر وجود سياسات مكتوبة تنظم عملية الاختيار بين مختلف ترتيبات العمل المرنة إيجاباً على إنتاجية العاملين. | | | | | |
| 4 | تؤثر سياسات المؤسسة المتعلقة بترتيبات العمل المرنة على ولاء العاملين ممايؤثر إيجاباً على إنتاجيتهم. | | | | | |

| م | ثانياً: تأثير سياسات وقوانين المؤسسة الداعمة لترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|---|------------|-------|-------|-----------|----------------|
| 5 | تؤثر سياسات وقوانين المؤسسة الداعمة لترتيبات العمل المرنة على الميزة التنافسية للمؤسسة وبالتالي إيجاباً على إنتاجية العاملين. | | | | | |
| 6 | يؤثر مدى مناسبة السياسات والقوانين الخاصة بترتيبات العمل المرنة لنوع ومستوى ودرجة الوظيفة إيجاباً على إنتاجية العاملين. | | | | | |
| 7 | تؤثر سياسات المؤسسة المتعلقة بترتيبات العمل المرنة على معدلات الاحتفاظ بالعاملين وذلك ينعكس إيجاباً على مستوى إنتاجيتهم. | | | | | |
| 8 | تؤثر سياسات المؤسسة الخاصة بترتيبات العمل المرنة على تحفيز العاملين لتطوير قدراتهم ومهاراتهم مما يؤثر إيجاباً على إنتاجيتهم. | | | | | |
| 9 | تؤثر سياسات المؤسسة الداعمة لإمكانية التبديل بين مختلف برامج العمل المرنة إيجاباً على إنتاجية العاملين. | | | | | |

| م | ثالثاً: تأثير دعم العاملين في قطاع تكنولوجيا المعلومات والاتصالات لترتيبات العمل المرنة على إنتاجيتهم | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|---|------------|-------|-------|-----------|----------------|
| 1 | يتوقع العاملون الملتحقون بأحد برامج ترتيبات العمل المرنة تخفيضاً في أجورهم مما يؤثر سلباً على مقدار إنتاجيتهم. | | | | | |
| 2 | يتوقع العاملون الملتحقون بأحد برامج ترتيبات العمل المرنة تأخراً في ترقيةهم مما يؤثر سلباً على مقدار إنتاجيتهم. | | | | | |
| 3 | يشعر العاملون باستياء زملائهم أو أعضاء الفريق الآخرين (غير الملحقين بتلك البرامج) منهم مما يؤثر سلباً على إنتاجيتهم. | | | | | |
| 4 | يعتقد العاملون الملتحقون بأحد برامج ترتيبات العمل المرنة بأن ذلك يؤثر على مسارهم الوظيفي، مما يؤثر سلباً على إنتاجيتهم. | | | | | |
| 5 | يؤثر عدم فهم وتقبل العاملين لمختلف ترتيبات العمل المرنة على مقدار المرونة وبالتالي سلباً على مستوى إنتاجيتهم. | | | | | |
| 6 | يشعر العاملون بعدم عدالة ترتيبات العمل المرنة نظراً لعدم إتاحتها لجميع العاملين بنفس الدرجة مما يؤثر سلباً على مستوى الإنتاجية. | | | | | |
| 7 | يؤثر عدم المرونة في أنونات الخروج من العمل على إنتاجية العاملين سلباً. | | | | | |
| 8 | يؤثر عدم مساهمة العاملين في جدولة أوقات العمل سلباً على إنتاجيتهم. | | | | | |

| م | ثالثاً: تأثير دعم العاملين في قطاع تكنولوجيا المعلومات والاتصالات لترتيبات العمل المرنة على إنتاجيتهم | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|----|---|------------|-------|-------|-----------|----------------|
| 9 | تؤثر زيادة ضغوطات مكان ووقت العمل سلباً على إنتاجية العاملين. | | | | | |
| 10 | يشعر العاملون أنهم منعزلون إجتماعياً في حال العمل عن بعد، مما يؤثر سلباً على إنتاجيتهم. | | | | | |
| 11 | يؤثر العمل عن بعد للعاملين على متابعه التطور التكنولوجي داخل المؤسسة مما يقلل من إنتاجيتهم. | | | | | |
| 12 | يؤثر تواجد العاملين بين أفراد العائلة خلال وقت العمل على سير العمل وبالتالي مستوى الإنتاجية سلباً. | | | | | |

| م | رابعاً: تأثير دعم الإدارة لترتيبات العمل المرنة على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|---|------------|-------|-------|-----------|----------------|
| 1 | يرى المدراء أن العاملين غير المنتسبين لبرامج ترتيبات العمل المرنة هم أكثر التزاماً في وظائفهم من نظرائهم المستفيدين من هذه البرامج. | | | | | |
| 2 | يميل المدراء لمنح العاملين غير المنتسبين لبرامج ترتيبات العمل المرنة تقيماً أعلى من نظرائهم المستفيدين من هذه البرامج. | | | | | |
| 3 | يميل المدراء لمنح العاملين غير المنتسبين لبرامج ترتيبات العمل المرنة ترقية أكثر من نظرائهم المستفيدين من هذه البرامج. | | | | | |
| 4 | المدريات هن أكثر دعماً لبرامج ترتيبات العمل المرنة لموظفيهن من المديرين. | | | | | |
| 5 | يرى المدراء أن دعم ترتيبات العمل المرنة يؤثر سلباً على إنتاجية العاملين. | | | | | |
| 6 | يرى المدراء سهولة تقييم العاملين غير المنتسبين لبرامج ترتيبات العمل المرنة مقارنة مع زملائهم المستفيدين من هذه البرامج. | | | | | |
| 7 | يرى المدراء أن بعض برامج العمل المرنة تقلل من تبادل الخبرات بين العاملين مما يؤثر سلباً على إنتاجيتهم. | | | | | |
| 8 | يرى المدراء أن اعتماد ترتيبات العمل المرنة لايناسب الوظائف العليا والتي تتمتع بدرجة مسؤولية كبيرة في المؤسسة. | | | | | |
| 9 | يرى المدراء أن ترتيبات العمل المرنة تقلل من سيطرتهم وإمكانية الرقابة على العاملين المستفيدين من تلك البرامج ما يقلل من إنتاجيتهم. | | | | | |

| م | خامساً: تأثير نوع العمل على إمكانية اعتماد ترتيبات العمل المرنة وبالتالي على إنتاجية العاملين في قطاع تكنولوجيا المعلومات والاتصالات بغزة | موافق بشدة | موافق | محايد | غير موافق | غير موافق بشدة |
|---|---|------------|-------|-------|-----------|----------------|
| 1 | يؤثر نوع العمل على اختيار نوع ترتيبات العمل المرنة وبالتالي على إنتاجية العامل. | | | | | |
| 2 | كون العمل يحتاج فقط شخصاً واحد لانجازه ذلك يُدعم ترتيبات العمل المرنة. | | | | | |
| 3 | في حال كون العمل لا يحتاج توصلاً مع العملاء يكون من السهل اعتماد أحد برامج ترتيبات العمل المرنة للعاملين. | | | | | |
| 4 | يؤثر كون طبيعة العمل (Software) على إمكانية اعتماد ترتيبات العمل المرنة. | | | | | |
| 5 | يؤثر كون طبيعة العمل (Hardware) على إمكانية اعتماد ترتيبات العمل المرنة. | | | | | |
| 6 | في الأعمال التي تحتاج توصلاً بشكل مستمر بين أعضاء الفريق تقل إمكانية اعتماد ترتيبات العمل المرنة للعاملين. | | | | | |
| 7 | في الأعمال التي تحتاج وقت طويلاً و متواصلًا لإنجازها تزيد الحاجة لبرامج ترتيبات العمل المرنة للعاملين. | | | | | |
| 8 | يؤثر كون العمل ينتمي للإدارة العليا على نوع ترتيبات العمل المرنة المتبعة وبالتالي على مستوى إنتاجية العاملين. | | | | | |

انتهت الاستبانة - شكراً لكم

Appendix C – Questionnaire (English Version)

Group 1 – Demographic Data

Please select one of the following alternatives

| Demographic Data | | |
|------------------|----------------------------|---|
| 1 | Gender | <input type="checkbox"/> Male <input type="checkbox"/> Female |
| 2 | Age | <input type="checkbox"/> Less than 30 <input type="checkbox"/> 30 – 39 <input type="checkbox"/> 40 – 50 <input type="checkbox"/> 50+ |
| 3 | Education | <input type="checkbox"/> Secondary certificate or less <input type="checkbox"/> Diploma <input type="checkbox"/> Bachelor <input type="checkbox"/> Master's <input type="checkbox"/> Doctorate |
| 4 | Years of Experience | <input type="checkbox"/> Less than 3 <input type="checkbox"/> 3 -6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10-15 <input type="checkbox"/> 15+ |
| 5 | Marital Status | <input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed |
| | Children | Is there a child under the age of one in the house? <input type="checkbox"/> Yes <input type="checkbox"/> No |

| Company Data | | |
|--------------|--|---|
| 6 | Does the company support FWAs? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7 | If the answer to the previous question is Yes Please select the type of FWAs applied in the company? (You can choose more than one option) | <input type="checkbox"/> Flexitime <input type="checkbox"/> Telecommuting <input type="checkbox"/> Job-Sharing. <input type="checkbox"/> Part-time. <input type="checkbox"/> Compressed hours |

Second Group: The Impact of FWAs on Workers' Productivity in the ICT Sector in the Gaza Strip

Please, evaluate the impact of FWAs on workers' productivity in the ICT sector in the Gaza strip, by identifying how much you agree / disagree with the following statements:

| No. | First: The impact of applicable FWAs upon workers' productivity in the ICT sector in the Gaza Strip allows for the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|---|----------------|-------|---------|----------|-------------------|
| 1 | FWAs affect workers' productivity positively by reducing the conflict between life and work conditions. | | | | | |
| 2 | A workers' possibility to choose the start and end of working hours which affect their productivity positively. | | | | | |
| 3 | The possibility to work overtime during the week and save an extra day as a holiday affects their productivity positively. | | | | | |
| 4 | The ability to work remotely (outside the organization) affects workers' productivity positively. | | | | | |
| 5 | The possibility of working part-time affects workers' productivity positively. | | | | | |
| 6 | Adopting Job-Sharing as a flexible work arrangement affects workers' productivity positively. | | | | | |
| 7 | Allowing workers to choose between different types of FWAs affect their productivity positively. | | | | | |
| 8 | Working remotely with companies outside the Gaza Strip contributes to the acquisition of new experiences, which increase workers' productivity. | | | | | |
| 9 | Some types of FWAs contribute to the provision of services for long and varied times, which affect workers' productivity positively. | | | | | |

| No. | Second: The impact of a company's policies and laws which support FWAs upon workers' productivity in the ICT sector in the Gaza strip allows for the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|--|----------------|-------|---------|----------|-------------------|
| 1 | The existence of policies and laws that lay down the applicability of various FWAs has positive effects on workers' productivity. | | | | | |
| 2 | When a company follows the principles of sound science in developing policies for FWAs, it affects workers' productivity positively. | | | | | |
| 3 | The existence of written policies governing the selection processes among the various FWAs has a positive effect on workers' productivity. | | | | | |

| No. | Second: The impact of a company's policies and laws which support FWAs on workers' productivity in ICT sector in Gaza strip allows for the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|---|----------------|-------|---------|----------|-------------------|
| 4 | The company's policies for FWAs affect the loyalty of workers which positively affect their productivity. | | | | | |
| 5 | The company's policies and laws which support FWAs influence the competitive advantage of the company, thus, having a positive effect on workers' productivity. | | | | | |
| 6 | The suitability of policies and laws of FWAs for the type, level and degree of the job affects workers' productivity positively. | | | | | |
| 7 | The company's policies of FWAs affect the rates of retention which reflects positively upon the level of productivity. | | | | | |
| 8 | The company's policies of flexible working arrangements motivate employees to develop their skills which affect worker's productivity positively. | | | | | |
| 9 | The company's policies which support the ability to switch between different programs of FWAs affect worker's productivity. | | | | | |

| No. | Third: The impact of an employees' support for FWAs upon workers' productivity in the ICT sector in the Gaza Strip allows for the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|--|----------------|-------|---------|----------|-------------------|
| 1 | Workers enrolled in one of the FWAs programs expect a reduction in their wages which negatively affect their productivity. | | | | | |
| 2 | Workers enrolled in one of the FWAs' programs expect a delay in their promotions which negatively affect their productivity. | | | | | |
| 3 | Workers feel that their colleagues or team members' (who are not enrolled in those programs) hold dissatisfaction towards them, which negatively affects their productivity. | | | | | |
| 4 | Workers enrolled in one of the FWAs programs believe that it affects their career path, which affects their productivity negatively. | | | | | |
| 5 | Workers not understanding or accepting various FWAs programs affect the level of flexibility and thus have a negative impact on the level of productivity. | | | | | |
| 6 | Workers feel that the unfairness of FWAs programs due to the lack of availability to all employees equally negatively affects workers' productivity. | | | | | |

| No. | Third: The impact of an employee's support for FWAs upon workers' productivity in the ICT sector in the Gaza strip allows for the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|---|----------------|-------|---------|----------|-------------------|
| 7 | Non-flexibility in the workplace in regards to leave-requests affects workers' productivity negatively. | | | | | |
| 8 | The non-contribution of employees to the scheduling of their work hours affects their productivity negatively. | | | | | |
| 9 | The increasing pressures of the workplace and increase in hours affects workers' productivity negatively. | | | | | |
| 10 | Workers feel that they are socially isolated in the case of telecommuting, which affects their productivity negatively. | | | | | |
| 11 | Telecommuting affects employees' follow up to technological development within the company, which reduces their productivity. | | | | | |
| 12 | The presence of employees among their families while telecommuting during working time affects workflow and therefore affects the level of productivity negatively. | | | | | |

| No. | Fourth: The impact of management support for FWAs on workers' productivity in the ICT sector in the Gaza Strip corresponds to the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|--|----------------|-------|---------|----------|-------------------|
| 1 | Managers believe that employees who are not inclined to support FWAs programs are more committed to their jobs than the beneficiaries of these programs. | | | | | |
| 2 | Managers tend to grant employees, who do not support FWAs higher rates of pay than the employees who take advantage of these programs. | | | | | |
| 3 | Managers tend to grant employees, who do not support FWAs, more promotions than the employees who take advantage of these programs. | | | | | |
| 4 | Female managers are more supportive of FWAs programs than male managers. | | | | | |
| 5 | Managers see that supporting FWAs affects workers' productivity negatively. | | | | | |
| 6 | Managers see ease in the evaluation of employees who are not associated with FWAs as compared to employees who benefit from these programs. | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| 7 | Managers believe that some FWAs programs reduce the exchange of experiences among workers which affects their productivity negatively. | | | | |
| 8 | Managers believe that the adoption of FWAs is not suitable for senior positions with a high degree of responsibility in the company. | | | | |
| 9 | Managers believe that FWAs reduce the level of control and supervision over the workers who participate in these programs which negatively affects their productivity. | | | | |

| No. | Fifth: The effect of work type upon the possibility of adopting FWAs and therefore the productivity of workers in the ICT sector in the Gaza Strip results in the following: | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|-----|---|----------------|-------|---------|----------|-------------------|
| 1 | The type of work affects the choice of FWAs type and therefore affects workers' productivity. | | | | | |
| 2 | In cases where the work task necessitates only one person; this supports FWAs. | | | | | |
| 3 | In case of the work that does not need to contact with the customers; it is easy to adopt FWAs program for workers. | | | | | |
| 4 | The fact that the nature of the work (Software) affects the possibility of adopting FWAs. | | | | | |
| 5 | The fact that the nature of the work (Hardware) affects the possibility of adopting FWAs. | | | | | |
| 6 | Work that needs continuous communication among team members reduces the possibility of adopting FWAs for workers. | | | | | |
| 7 | Work that needs a long and continuous time commitment to be realised increases the need for FWAs programs for workers. | | | | | |
| 9 | The fact that the job is in the senior level of management affects the type of FWAs and thus the level of workers' productivity. | | | | | |

Appendix D

ICT Companies in the Gaza Strip, (2011)

| # | Company Name | Tel |
|----|--|---------------|
| 1 | AL-Qudwa Company | 972-8-2823933 |
| 2 | ALTARIQ Systems & Projects | 970-8-2847736 |
| 3 | Castle Establishment Company | 970-8-2846885 |
| 4 | Citynet | 970-8-2387495 |
| 5 | Computer Connect | 970-8-2882213 |
| 6 | Computer Land Center | 970-8-2855662 |
| 7 | Development Pioneers Company for Consultations | 972-8-2888781 |
| 8 | Digital Zone SmartNet Co. Ltd. | 970-8-2881101 |
| 9 | El-Helou Commercial Establishment Ltd. | 970-8-2825177 |
| 10 | Fusion internet & communications system | 970-8-2880158 |
| 11 | Future Information Systems | 972-8-2820065 |
| 12 | Future Tech | 970-8-2847355 |
| 13 | ICT-Warehouse for Information & Communication technology | 970-8-2839839 |
| 14 | Impact Consulting, Inc. | 970-8-2827777 |
| 15 | IT PARTNERS | 970-8-2839911 |
| 16 | Jamal Sons Telecom Computers Systems Ltd. | 970-8-2867199 |
| 17 | jerusalem information technology | 970-8-2824445 |
| 18 | johatoon for cartoon company | 970-8-2828838 |
| 19 | Link Information Technology | 970-8-2825530 |
| 20 | Mashareq | 097-2-2827668 |
| 21 | Mdar Co. for management and software | 972-8-2862338 |
| 22 | ModernTech Corporation Ltd(MTC) | 970-8-2824199 |

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| 23 | netstream | 972-8-2883900 |
| 24 | Next Communications Technologies Co. ltd | 972-8-2870559 |
| 25 | P A L I N V E S T® - Development and Business Services | 970-8-2889776 |
| 26 | Palestine For Communication & IT | 972-8-2889129 |
| 27 | PC WORLD COMPANY LTD | 970-8-2824229 |
| 28 | SADAF Technology Development | 970-8-2888821 |
| 29 | Sidata Information and Communication Systems Ltd. | 970-8-2825131 |
| 30 | Smart For Information Technology Co. Ltd | 970-8-2888069 |
| 31 | Speed Click for IT & Tele Communications Ltd. | 970-8-2861199 |
| 32 | STEP for Technology & Development | 970-8-2833544 |
| 33 | TATWEER Business Services | 970-8-2882600 |
| 34 | Teletalk Telecom Co.Ltd | 970-8-2855556 |
| 35 | Unit One iT Co. | 972-8-2883607 |
| 36 | VISION PLUS | 970-8-2884888 |
| 37 | Ziyad Mourtaga & Bros. Co. | 970-8-2866562 |

Appendix E

Sample of Flexible Work Policy

Organization X

Flexible hours of work policy

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|--|--|
| Flexible hours of work policy Objective | The objective of this policy is to provide all staff of <i>Organization X</i> with access to flexible hours of work that meet our organizations operational needs and customer service requirements; and assist employees to balance work and personal commitments. |
| Scope | Flexible working arrangements are the primary hours arrangement and apply to full time, part time and fixed term contract employees, unless the employer otherwise specifies or the employee does not wish to work flexible hours. |
| Definitions | <p>Flexi leave</p> <p>Flexi leave is time off work using accrued credit hours. In any four week settlement period an employee may be allowed a maximum of three days flexi leave.</p> <p>Credit hours</p> <p>Credit hours are hours worked in excess of the prescribed hours of 150 hours per settlement period. A maximum of 15 hours can be carried forward to the next settlement period.</p> |
| Policy Principles | <p>Consistent with the provisions of the <i>Organization X Enterprise Agreement</i>, flexible working arrangements enable the hours of duty to be worked with flexible commencement and finishing times within the prescribed hours of duty and provide access to flexi leave subject to the employer retaining the right to determine arrangements that best suit operational needs.</p> <p>The prescribed hours of duty are 152 hours per four week settlement period, to be worked between 7.00am and 6.00pm Monday to Friday as determined by the employer, with a lunch interval of not less than 30 minutes. Employees shall not be required to work more than five (5) hours continuously without a break.</p> <p>A maximum of 10 ordinary hours may be worked in any one 1 day, between the hours of 7.00am and 6.00pm.</p> <p>Flexi leave must be taken consistent with the prepared roster where one exists and subject to the prior approval of the supervisor. Flexi leave must be applied for using the flexi leave form available on the <i>Organization X</i> intranet.</p> |

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|-------------------------|---|
| | There will be limitations to flexible working arrangements where employees have line management responsibilities and/or there are particular operational requirements of a work area. |
| Responsibilities | Employees using flexible hours of work are responsible for maintaining accurate time sheet records of hours. Managers are responsible for approving flexi leave. |
| Effective Date | 1 January 2009 |
| Review Date | 1 January 2010 |

Appendix F

Sample of Suggested Areas Where it May be Possible to Measure the Effects of Work Life Balance

| Area | What can be measured? |
|---|---|
| Staff retention | Staff turnover rate, number of job vacancies. Cost of replacing an employee, including advertising, recruitment costs, on and off the job training costs and administration costs. |
| Staff attraction | Number of applicants for each job vacancy advertised Cost of recruitment, induction and training |
| Usage rates of work life balance initiatives | Number of employees working part time, number using flexible work hours, number of employees taking paid parental leave etc |
| Productivity | Workload indicators Productivity indicators |
| Absenteeism | Amount of sick leave taken per employee. |
| Satisfaction with work life balance initiatives | Employee satisfaction with flexible work arrangements through survey of focus groups Employee satisfaction with work life balance, job satisfaction and wellness through repeat work life balance survey Management satisfaction and/or problems with flexible work arrangements through survey or focus groups |
| Costs of initiatives | Costs of setting up home based work facilities (offset with reduced cost of office accommodation if appropriate) Costs of additional paid leave provided to employees Additional administration costs if any |