Public Sector Employee Satisfaction during Covid 19: Working from home and the role of expectations

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Abstract

This paper seeks to examine employee satisfaction and productivity and the effect the pandemic had on employees within the public sector within the context of a prior expectation. During the pandemic, employees all around the world have turned to remote working leading to effects on employee satisfaction and productivity. Significant benefits can be gained for both employees and employers, with employees working remotely being more motivated to be more productive, overall reducing the costs of absenteeism, lower productivity, and increasing job satisfaction.

This study was conducted using a self-administered questionnaire in which the researcher took a quantitative approach. The questionnaire was distributed using snowball and convenience sampling, obtaining 108 respondents from within the public sector. Respondents were between the ages of 20-60, from either Revenue, the Department of Social Protection, Education or Healthcare sectors.

Results from the study revealed some interesting findings, 1. that females possessed higher satisfaction rates at work than males in the public sector, despite existing literature stating males are more satisfied in their jobs than females. 2. Higher levels of satisfaction are seen in those who either have taken a hybrid approach to working or are willing to take a hybrid approach to working in the future. 3. The education department demonstrated the highest levels of satisfaction compared to the other 3 departments of Revenue, the Department of Social Protection and Healthcare. However, there was no significant differences between employee satisfaction and their working environments.

Keywords: Employee Satisfaction, Employee Productivity, Remote Working, Public Sector, COVID-19

Declaration

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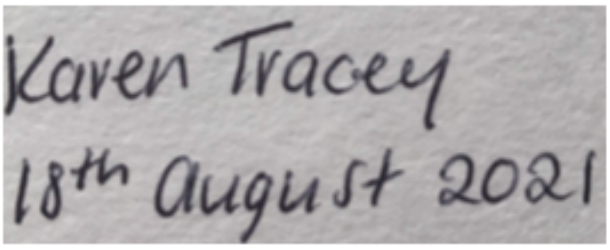

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Chapter 1: Introduction

Introduction

Since the outbreak of COVID-19, employees all around the world have turned to remote working leading to effects on employee satisfaction and productivity. More and more organisations around the world are realizing that the cost of an unhealthy workforce leads to unwanted employee behaviours such as attention deficit and dissatisfaction. As employees are spending most days working from home, organisations are finding ways to utilize their time and resources to improve their employees' health and ensure a productive workforce (Kunte, 2016). Significant benefits can be gained from both employees and employers, with employees working remotely being more motivated and productive, overall reducing the costs of absenteeism, lower productivity, and increasing job satisfaction (Wright, 2015

Many researchers have found that employee engagement and satisfaction is not solely found in financial security but in how management deal with what motivates their employees on a personal basis. Moreover, under new legislation, employees now have the legal right to request to work from home, allowing employees the flexibility to decide where and when they want to work post pandemic (Finn, 2021). To add to this, research shows that employees working 20% or more hours at home or employees who are given the choice to work from home report lower levels of stress, higher satisfaction, and a reluctance to leave their organisation (Kaduk *et al.*, 2019).

This research has been conducted during the pandemic with the majority of public servants working from home as remote working may remain a permanent approach to the future of work. With remote working becoming a long-term approach to working, it has the potential to enhance productivity and a range of other social and economic indicators such as employee wellbeing and gender equality, however the overall influence on organisations and employees is ambiguous and carries many risks in relation to employee satisfaction and performance (OECD, 2020).

Research Question and Aim

Proposed research question: Public Sector Employee Satisfaction during Covid 19: Working from home and the role of expectations

This research aims to examine the satisfaction and productivity of public sector employees during the pandemic, while comparing employees working from home expectations with the reality of working from home. Due to the pandemic, organisations and sectors have turned to remote working and have had to adapt to new ways of working. As the pandemic is still ongoing, researchers are currently examining whether remote working influences employee's satisfaction and productivity more positively or negatively. Little research has been conducted in regard to employee satisfaction within the public sector pre-COVID-19, overall allowing the researcher to conduct further research throughout the pandemic and to gather some conclusions regarding employee satisfaction, productivity, and their expectations of working from home.

Chapter 2: Literature Review

Introduction

The purpose of the literature review is to critically analyse the most up to date research on employee satisfaction and productivity and the affect the pandemic had on employees within the public sector within the context of a prior expectation. CIPD (2021) states that employees who are managed well and have good quality jobs, will not only be more satisfied, healthier and stay in their job longer, but are more inclined to drive productivity, and provide better products and services. This chapter will review the current research on the extrinsic and intrinsic factors of satisfaction and productivity using Hertzberg's Two Factor Theory, as well as other drivers of employee satisfaction and productivity of public sector employee's while working from home.

Employee Satisfaction

One of the key aspects of this research focuses on employee satisfaction while working from home. Definitions of employee satisfaction differ throughout the literature, however one commonly used definition by Locke (1976) treats satisfaction as a positive emotional state emerging from "the appraisal of one's job or job experiences" (p.1304). Job satisfaction is a complex variable and is mainly influenced by an individual's personality as well as situational factors of their working environment acknowledges Buitendach and Rothmann (2009).

Existing literature has also stated that employee satisfaction is a reflection on how organisations treat their employees resulting in how appreciative employees are of their own organisation (Locke, 1976) but also a positive indicator of emotional stability and mental and physical health (Čuček & Kač, 2020). To add to this, Job Satisfaction is regarded as one of the most important dimensions of one's happiness at work (Warr, 2007) with Rothmann (2008) stating that job satisfaction is one factor that influences work-related well-being and should be assessed in diagnostic studies of employee wellbeing in organisations.

There are two main theories that determine what motivates and satisfies people in their workplace, by identifying an individual's needs, drives, goals, and priorities in order to get them to perform effectively (Luthans, 2005). Researchers have identified these needs and placed them into categories such as biological, social, psychological, and higher order

requirements of an individual that need to be fulfilled for an employee to be motivated and satisfied (Satter *et al.,* 2010).

The first theory of satisfaction, known as Maslow's Hierarchy of needs theory (1943) explains that there is a hierarchy level for an individual's satisfaction to be measured within an organisation (Mc Leod, 2018). This theory focuses on five essential needs including a combination of home and job needs, which are self- Actualisation, Esteem, Belongings, Safety and Physical/Physiological needs. According to this theory, the Physical and Psychological need is considered to be most important and must be fulfilled before further needs can be satisfied. As this theory was the first of satisfaction, some researchers suggest that this theory set down the foundation for other satisfaction theories to be developed by early researchers (Velmurugan & Sankar, 2017).

The second theory of satisfaction is Herzberg's Two-Factor Theory (1959) is where he focused his study on 200 accountants and engineers employed across Pittsburgh, Pennsylvania (Luthans, 2005). He discovered that the common characteristics of job satisfaction are pay and benefits, recognition, working conditions and relations with co-workers which have more recently been categorised into two dimensions known as extrinsic satisfaction (hygiene factors) and intrinsic satisfaction (motivator factors) (Locke, 1976).

According to Hertzberg, after his study he found that the presence of hygiene factors does not influence employee satisfaction or productivity, but on the other hand, the lack of these factors can lead to reduced productivity and dissatisfaction. Research shows the lack of motivation or intrinsic factors has a negative impact on employee motivation to be productive in their workplace, yet the presence of these factors has been seen to increase employee productivity and satisfaction (Özsoy, 2019).

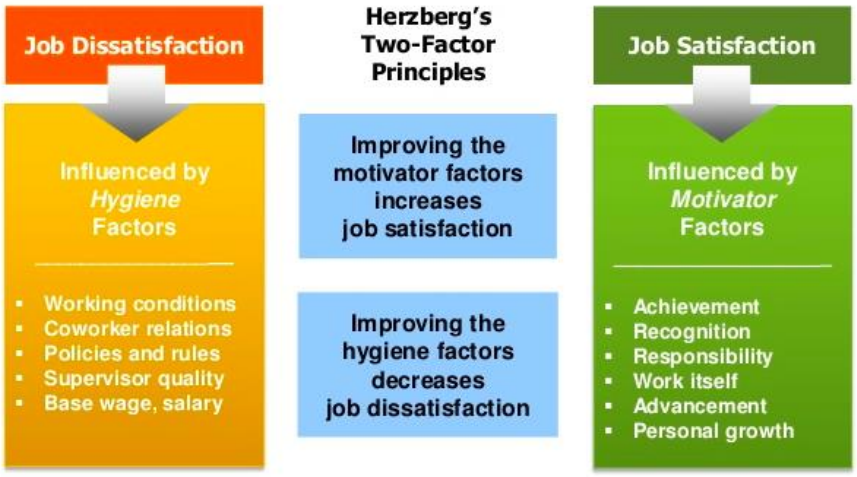

Figure 1: Hertzberg's Two-Factor Theory (Luman, 2021)

As satisfaction is a complex concept, it is important to note that employees' attitudes can vary significantly even if they work in the same or similar workplaces which is not uncommon as many employees develop or inherit attitudes before they enter the workforce. This also can make it harder for employees to change their attitudes after they reach a certain age (Özsoy, 2013). Therefore, it is harder for researchers to ensure an accurate level of satisfaction is obtained. It is also argued that this theory has some limitations as it may produce different results depending on the variety of respondents contextual situations such as personality traits, occupation, income, and country of origin (Özsoy, 2019).

Furthermore, even though personality traits can affect employee satisfaction and productivity, attitudes specific to each individual can affect other factors, for example an individual with a hard upbringing and raised under bad conditions leading to trauma, could not have the same workplace attitudes as another individual brought up in a more positive and healthy environment (Özsoy, 2019). These two different individuals can share two completely different levels of job satisfaction and productivity from their backgrounds even when working in the same conditions.

Additionally, employees working in different sectors at different levels may have different expectations leading to various factors influencing their satisfaction and productivity levels (Myers, 1964). For example, some jobs might provide more flexibility and autonomy than others, overall satisfying more employees that value these more than increased pay or higher statuses (Özsoy, 2019). Mc Greevy (2017) suggests that even though non-Irish nationals are

underrepresented in the Irish Public service, 10.2% of the healthcare sector and 7% of the education sector are made up of non-Irish nationals.

Moreover, employees with different nationalities can not only affect cultural context but employee satisfaction and productivity can be dependent on the level of economic development. Therefore, employees born in underdeveloped or developing countries but working in Ireland may have different expectations compared to Irish nationals born in a developed country (Özsoy, 2019). Employees coming from underdeveloped or developing countries may be more motivated and productive because of the financial aspects of the job than other Irish employees (Maslow, 1954).

Many researchers have suggested that when studies were conducted using Hertzberg's theory, results were considered inconsistent to each other. Zhang *et al* (2010) found that Hertzberg theory was only partially supported in their research on management, yet this theory was supported in their research on seasonal workers in the hospitality and tourism sectors (Lundberg *et al.,* 2009). On the other hand, other research conducted using Hertzberg intrinsic and extrinsic factors were not fully supported or consistent with the assumptions of this theory (Hur, 2018; Jensen, 1993 & Williams, 1992), meaning further research is still required for testing on different samples, personalities, and sectors to get more accurate and consistent findings. Hence, why this research is based on 4 Irish public sectors Education, Healthcare, Revenue, and the Department of Social Protection, analysing various different employee expectations in relation to their productivity and satisfaction during the pandemic.

From the graphic above, it is clear the nature of work and recognition are examples of intrinsic factors while, the working environment, wage levels and co-worker relationships are referred to as extrinsic factors (Kumarasinghe & Samaranayake, 2020). Various researchers in previous studies have used indicators such as: 1. the Nature of the Work; for example, how challenging the work is for the employee and do they attain levels of success in their current role. 2. Employment relationships; do employees feel respected and supported by other co-workers? Does their organisation acknowledge employees' expectations and interests? and lastly, 3. Recognition; Are employees rewarded for completing tasks to a high standard? (Pawirosumarto *et al.,* 2020).

Empirical evidence found that employee satisfaction also depends on different working conditions as employees working in normal conditions are considered happier than other employees working under tough working conditions. Further studies reported that

management attitudes towards their employees and how big or small the organisation plays a huge part in contributing to employee satisfaction and their working conditions (Bakotic & Babic, 2013). Many quantitative studies focused on the intrinsic factor of employee satisfaction showing that there is a positive association between the intrinsic factor of employee satisfaction and their working environment (Raziq & Maulabakhsh, 2015).

Over the last number of years, we see a shift from extrinsic factors to more intrinsic factors of satisfaction as employees now lean towards a more challenging environment where employers foster new experiences and learning for their employees. Kleiman (1997) mentions that typical answers from employees when asked what they want the most from their organisation were mutual respect amongst all hierarchical levels of their organisation, recognition for meeting targets and opportunities for growth and development of current skills. Hence, employees potentially will be happier in their jobs if their work is enjoyable, their organisation offers realistic opportunities for development, respect from all cohorts of the organisation and lastly fair pay. This theory has seen to be the most useful job satisfaction model (Kim, 2004), as it has been used to measure motivational factors such as satisfaction and productivity in educational settings (Satter *et al.*, 2010) as well as a theoretical framework in order to assess the satisfaction of police officers (Getahun *et al.*, 2007).

In today's working world, organisations have placed more emphasis on shifting from collective relationships to more individual relationships as employee engagement has become an essential part of the employment relationship. To expand on this, organisations who pursue a positive employee relations environment and encourage high levels of employee engagement are more likely to see more positive behaviours such as increased employee wellbeing and performance. Abun *et al* (2019) discusses that employee satisfaction depends on how positive a working relationship is affecting overall organisational performance.

In other words, organisations that have not established a positive working relationship tend to see higher levels of turnover, while also having an effect on the employees' mental state leading to reduced productivity and concentration. To add to this, Hickok (2021) believes employee trust has been eroded since the start of the pandemic with more and more employees turning to remote working. Even though trust building is considered more of a soft skill compared to more analytical skills, it is extremely important in order to obtain positive working relationships and a healthy workplace culture. Employee trust is built through in person interaction, not necessarily from work related duties.

Ultimately, with remote working becoming more prominent, the ability to prioritise and develop trust amongst remote working colleagues has become increasingly difficult and is seen to have an immediate effect on both employee satisfaction and quality of work produced by employees. Consequently, the difficulty arises trying to form and sustain social interactions, as Zoom calls cannot replace the depth and quality of in-person social interactions, in order to convey empathy, understanding, shared concern and knowledge, thus effecting the satisfaction and productivity of remote working employees (Hickok, 2021).

Tansel (2013) mentions that employment relationships are seen to be more satisfactory in smaller organisations than larger organisations. Empirical evidence implies that employee satisfaction is lower in larger organisations as the more employees an organisation has, the more difficult it is to create good working relationships, thus affecting employee satisfaction. This evidence has directed my focus on the Irish public sector as due to larger organisations having lower satisfaction rates, my research will focus on whether or not working from home plays an important role in moderating satisfaction levels and to what extent do these satisfaction and productivity levels rise within the public sector.

Abun *et al* (2019) suggests that in order to promote good employee relations certain factors must be met, these include open communication between both parties, mutual respect and reliance, consistent feedback, and support from both employees and employers. Moreover, organisations can foster good working relationships if they promote team-based activities and organise event where higher management can engage with lower levels of the organisation. Murray (2020) mentions that the government are planning to spend up to €60,000 on programmes to engage and to provide public servants with the best working from home experiences as pre covid-19 70% of public servants had never worked from home.

Additionally, this new programme will maintain and foster good working relationships across teams, continue to facilitate collaboration and support employee wellbeing as remote working is likely to become a "permanent feature" of how the public sectors operate going forward. This in turn can have a positive effect on public servants' satisfaction and productivity if they are given the support and guidance, they need to perform their work remotely (Murray, 2020). Quantitative research by using questionnaires examined that employee satisfaction increases by nearly 50% when the employee has a good working relationship within their job. Empirical research suggests that the most accurate and common

measurements of ES is either surveys or questionnaires as not only does it examine ES levels but determines other improvements for an organisation (Chen *et al.,* 2006).

Overall, the current research states that hygiene factors do not influence employee satisfaction or productivity, but the lack of these hygiene factors can cause reduced productivity and employee dissatisfaction. On the other hand, the lack of motivator or intrinsic factors has a negative impact on employee satisfaction and motivation in the workplace, while research shows that the presence of these intrinsic factors has increased employee productivity and satisfaction in workplaces worldwide (Özsoy, 2019). This research focuses on these two factors from a remote working perspective and whether there are differences in employee satisfaction and productivity compared to onsite working.

Measurement of Employee Satisfaction

Utrecht Work Engagement Scale (UWES)

To date, there has been many measures of employee satisfaction in literatures (Benrazavi & Silong, 2013; Mafini & Pooe, 2013; Aydogdu & Asikgil, 2011) however, for the purpose of this research, I will be using the Utrecht Work Engagement Scale (UWES), a self-report questionnaire consisting of 17 items (UWES-17) that measure the three underlying dimensions of work engagement known as 1. Vigour, 2. Dedication and 3. Absorption (Schaufeli *et al.,* 2006). Schaufeli *et al* (2002) argues that instead of a momentary and explicit state, engagement is known as being a more persistent and common cognitive state that is not solely focused on any individual, behaviour, or event.

Furthermore, engagement is a positive, enjoying, work related cognitive state that is characterised by these three dimensions of vigour, dedication, and absorption. Moreover, Vigour is characterised by high levels of energy, resilience, persistence in facing difficulties and willingness to invest one's effort into their work. Dedication is determined by the sense of significance, pride, inspiration, and involvement in work, while Absorption is characterised by being in a fulfilling job, where one is immersed in their job and where time passes quickly. This characteristic shows employees more likely to put in discretionary effort due to higher satisfaction levels (Schaufeli *et al.*, 2006).

Research shows that nine out of ten employees in the world want to engage in new challenges and are ready to invest their discretionary effort into their daily working lives (Handa & Gulati, 2014), yet unfortunately only two out of ten employees do so (Catlette &

Hadden, 2008). Positive employee engagement and satisfaction levels are vital for all public sector organisations, so I have based my research around the Irish Public Sector (Revenue, Department of Social Protection, Education and Healthcare). After Gallup's (2016) review of four hundred organisations and eighty thousand interviews, results showed that when measuring satisfaction, the measurement tool should be short and simple with key questions only.

SHRM (2021a) suggests that the number and types of questions asked can influence a surveys response rate. Survey experts state that surveys should use familiar terminology to all employees and avoid using questions that are repetitious or that may cause confusion. Additionally, if the survey is too long, the response rate is more than likely be extremely low. Furthermore, when measuring satisfaction, survey design experts advise surveyors to use a list of items seeking numerical responses for example, for this research responses are from 1 to 5, 1 indicating the respondent strongly disagrees and 5 indicating the respondent strongly agrees to a particular statement. This approach to surveying allows for the surveyor to easily analyse satisfaction scores and to determine new ways of enhancing satisfaction and productivity in the workplace, either onsite or at home.

The Job Satisfaction Survey was one competing measure to the UWES measurement tool as it consists of 36 items that determine employee attitudes at work and their different perspectives. Similarly, to the UWES model, the survey was developed on a 6-point Likert scale allowing respondents to strongly disagree to strongly agree on specific items in the survey. It also consisted of 9 subscales some of which suited this current research study i.e., Co-workers, Promotion, and nature of work (Tsounis & Sarafis, 2018) but the UWES model had more items suiting employee satisfaction in the public sector and what the researcher seeks to examine. Additionally, it is the most widely used measurement tool that assesses employee engagement in the workplace.

Even though the UWES measurement tool is similar to the Job Satisfaction Survey, it provides more scope for research as it considers other job attitudes and is interlinked with three engagement dimensions known as satisfaction, job involvement and organisational commitment. For example, the statement within the UWES measurement tool that states, "I am enthusiastic about my job" corresponds with the statement from the Job Satisfaction Survey of "Most days I am very much personally in my work" (Saane *et al.,* 2003; Mackay *et al.,* 2016). Yet, research from academia acknowledges the UWES measurement tool to be the

most accurate and reliable to derive employee satisfaction and productivity level results by analysing employees' attitudes in order to predict both employee and organisational effectiveness (Bakker & Demerouti, 2008).

In summary, the UWES measurement tool was best suited to this research study as the data the model collects can be analysed through statistical software and allows the researcher to develop hypotheses and an understanding of what drives employee satisfaction and productivity in the workplace today (Saunders *et al.,* 2009). The following section describes how important high productivity is at work and the characteristics that have enhanced productivity in previous studies, allowing the researcher to determine if these characteristics still enhance employee productivity today throughout this study.

Productivity

Due to the increase in globalisation, organisations all around the world are turning their focus to improving their workforce's productivity as higher levels of productivity enhance organisational performance and can obtain competitive advantage (Greef *et al.,* 2004). According to Lambert (2000) productivity represents an employee's ability to use specific goods and services to produce outputs over a certain period of time. SHRM (2021) states that many executives worldwide see enhancing employee engagement as one of the top 5 international strategies in business as not only does it affect retention and employee productivity, but it is also extremely important for an organisation's reputation and overall stakeholder value.

Furthermore, SHRM (2021) describes that employee engagement and productivity can be affected by co-worker and supervisor relationships, social cohesion, common goals and visions, the work environment and knowledge sharing within the organisation. Employees always want to feel like a valuable asset to their organisation and want their ideas heard and acknowledged, in turn they are more likely to stay engaged, overall becoming more productive and committed to their job (SHRM, 2021). There are a considerable number of factors affecting employee productivity in the workplace one of which is an employees work environment.

Furthermore, a favourable and positive working environment enhances employee wellbeing, satisfaction and enables them to perform with higher motivation, overall having

higher productivity outputs (Akinyele, 2007). Sarode and Shirsath (2014) mention that physical aspects of a work environment can have a direct impact on employee productivity, concentration, satisfaction and health and safety. Some factors of a working environment that need to be taken into consideration whether working onsite or remotely include the layout of the workplace, an employee's workstation setup, and whether they have appropriate equipment, space, and lighting to perform their job. Phillips (2020) mentions that remote workers will need support and potential financial assistance to set up their remote working space with evidence showing that organisations are reallocating their budgets to equip all their remote working employees effectively.

Due to the constant changes and evolving work environment, organisations face many challenges in trying to keep their employees satisfied and committed at work. In order to do this, organisations must provide a safe working environment (Raziq & Maulabakhsh, 2015) as Research shows that the work generated by employees is influenced by their working environment and if employees are working in poor conditions, this can lead to inefficient employee productivity as well as lower job satisfaction (Sarode & Shirsath, 2014). Furthermore, many industries such as the Banking Industry, educational institutions and telecommunication sectors were studied worldwide, where they found a positive association between the working environment and the intrinsic factors of satisfaction from a sample size of 210 employees (Raziq & Maulabakhsh, 2015). As well as that, it was argued that in the current era, human interactions and employee relationships play a more vital role in overall employee satisfaction particularly in public sector organisations (Chandrasekar, 2011).

Quantitative findings from studies conducted using regression analysis indicated that an employee's working environment has a positive association on employee satisfaction and productivity with an R-squared value of 13.2%, overall suggesting organisation place more emphasis on implementing new ways to provide more comfortability for their employees while working onsite or at home (Raziq & Maulabakhsh, 2015). Not only does the working environment play a huge part in employee satisfaction, Kinzl *et al.*, (2005) acknowledges that growth opportunities provided by employers has a positive association with employee satisfaction. At a 95% confidence interval, the correlation coefficient was .268, demonstrating a positive association with employee satisfaction and opportunities for growth.

The Blessing White (2006) survey shows that nearly 60% of employees surveyed stated they would remain more satisfied and productive if they have growth opportunities within their organisations. However, current survey evidence from The Whitaker Institute of NUI Galway (2021) showed that 22% of respondents agreed or strongly agreed that remote working reduces opportunities for promotion while over one third (36%) either disagreed or strongly disagreed.

Previous research shows that other drivers of productivity include organisations having strong leadership skills and support for their employees at all times especially recognising their achievements, allowing for their employees to have a voice in decision making and lastly having organisational integrity where their values are reflected within the organisations culture itself (CIPD, 2021). Research conducted across the UK by CIPD (2006) suggests that employees indicated effective communication as being a key driver in their levels of productivity, while others say that the most important factor to drive employee engagement and productivity is when their views and opinions are acknowledged.

CIPD (2021) explain that employees who are more engaged are more likely to be happier, healthier, and more motivated at work as research has repeatedly shown that employee engagement interlinks with higher performance. Other studies also show positive relationships amongst high productivity and engagement such as higher satisfaction levels, innovation, employee retention and less health and safety issues. The Whitaker Institute of NUI Galway (2021) reports that 44% of 6442 respondents believed remote working post pandemic will positively impact their team's productivity, while 12% believe remote working post pandemic will negatively impact their team's productivity.

The International Labour Organisation (2018) refers to 53% of the Irish female population to be within the labour force while 67.3% of males participating in the labour force. As the current pandemic has changed employees' ways of working to a more remote setting, employees' expectations of remote working in line with the reality of remote working will be interesting. Clark (1997) believes females are more drawn towards jobs that provide more intrinsic aspects to their job, while males prefer the extrinsic aspects of jobs such as pay and promotions. However, choosing either of these extrinsic aspects of a job is seen to have a considerable negative effect on male satisfaction at work compared to females. Conversely, women prefer intrinsic aspects such as job security and good employee relations, overall

being positively associated with female satisfaction at work and no effect on male satisfaction levels.

The recent survey conducted by Whitaker Institute of NUI Galway (2021) examined whether employees had been working more hours due to the extra workload of working from home in which 51% reported working more hours on average compared to onsite, 45% acknowledged working the same hours and 4% suggested they work less hours than they did onsite. The researcher sees this as an opportunity to analyse employees' expectations from before employees were remote working to their current remote working situation and compare their satisfaction and productivity levels during the crisis. Work life balance is another aspect Whitaker Institute of NUI Galway took into consideration when conducting their survey, with 25% of respondents proposing their work life balance would be better working onsite and 57% stating their work life balance would be worse working onsite.

The International Labour Organisation (2018) found that the biggest hurdle for women in work is the struggle to balance personal life with children and their work life. Hence why females are more inclined to work for organisations and sectors that provide opportunities to work from home and support in determining a more successful work life balance. This has given the researcher an insight into gender differences and different expectations on remote working males and females could have before or during the current pandemic. In summary, employee satisfaction and productivity have been widely researched worldwide, yet due to the little information relating to the public sector in regard to the drivers of satisfaction and productivity, this allows the researcher to conduct further research in these areas particularly to public service workers.

Remote Working

Working from home also known as remote working is a working practice that allows professionals in organisations to work beyond the traditional office setting and encourages more flexible working (Prasad *et al.,* 2020). CIPD (2020) suggests that pre Covid-19, working from home was extremely low with 71% of organisations reporting that less than 10% of their workforce working remotely, despite all the advantages that come with this, such as work-life balance, wellbeing, and productivity.

Martin (2021) observes that 94% of medium to large organisations offered some sort of flexible working pre Covid-19, yet 43% of medium to large organisations had only made it available to their employees due to the pandemic. The ultimate choice of working from home is normally highly dependent on whether an employer is convinced that the benefits of their employees working from home at least compensates the costs associated with the implementation (Illegems *et al.,* 2001). Thus, allowing the current research project to examine the satisfaction and productivity levels in remote workers to those working onsite in order to determine whether there is a positive association with satisfaction and productivity while working from home.

Studies show that pre Covid-19, 73% of organisations surveyed acknowledged an increase in requests for working from home by employees, the main driver of this demand was reducing commute times (77%) (CIPD, 2020). To expand on this, an individual's decision to work remotely is influenced by various situational characteristics, perceptions, and attitudes of the individual, for example depending on the location, working from home might not be suitable. On the other hand, potential increases in household numbers could be benefitted by employees remote working as flexibility allows employees to handle family circumstances better (Illegems *et al.,* 2001). Under new legislation, employees now have the choice to request remote working and research conducted by the Government of Ireland (2021) reported that that the end of 2020, 94% of respondents would be in favour of being able to work from home post pandemic on a voluntary basis, 10% higher than the start of the crisis.

Current studies from the UK found that 72% of organisations acknowledged expanding their benefits targeting employee wellbeing and 59% are extending additional benefits, such as reduced working hours. To expand on this, 31% of organisations were concerned about the remote working effects on their employees as employees working from home have been complaining about pandemic tiredness, heavy workload stress, lack of uncertainty regarding their work life and jobs, as well as not being able to detach from work outside office hours at home (Jacobs, 2020). In a 2020 report more than two thirds of respondents reported the lack of support from senior management when working remotely and a small reduction in support from HR for management and their employees (CIPD, 2020).

In comparison to the Whitaker Institute of NUI Galway (2021) survey from April 2021, 83% of employees indicated their management regularly communicated with them and 72% acknowledged their management supporting them, overall seeing a huge increase in

organisations taking ownership of their actions and trying to provide a more effective and supportive environment for their remote working employees. Furthermore, 74% of respondents also discussed how they feel part of a team even while remote working with 80% believing their employer is doing their best in the current circumstances.

For example, 70% of Microsoft's 30,000 employees worldwide indicated that they would like flexible working from home options to continue and 66% of the organisation's management are looking at new ways to redesign physical spaces to accommodate hybrid work more effectively. Many organisations such as Aviva are considering developing five working profiles that allow employees to choose their time spent working at home and onsite. This is to ensure team collaboration is still high priority and to help sync teams' schedules for both virtual and hybrid meetings. They have also developed an app to align these schedules and to continue to foster a culture of collaboration and ongoing team learning (Jacobs, 2021).

Wronski and Cohen (2020) argue that employees who work remotely are more likely to work full-time, attain a higher income and work for industries that have higher rates of job satisfaction, for example HR/Recruitment. Empirical evidence identifies voluntary remote workers to be 57% more satisfied with their job compared to 50% working in an office environment. With new remote working legislation allowing employees to voluntarily request to work from home, we could see changes in satisfaction rates going forward. The Whitaker Institute of NUI Galway (2021) reports that 78% of 6442 employees surveyed indicated that they plan on working a hybrid approach (blending onsite and remote working) if they can choose when to work remotely.

Another key theme that arose during this study was that each team would need to be present onsite for one day a week altogether while alternatively, 21% of organisations suggested they will take a rota-based approach ensuring one team member is onsite every day. Additionally, 14% of employees surveyed included that the decision to work onsite would be project dependent or reflect personal circumstances, with many respondents satisfied being offered the flexibility to choose when to work onsite or remotely (The Whitaker Institute of NUI Galway, 2021). Furthermore, the closing of schools has led to most parent's remote working but still monitoring their children.

Many employees working while monitoring their children have acknowledged decreased morale, higher stress levels, and reduced job efficiency (Toniolo-Barrios & Pitt, 2021). Even though The Central Statistics Office (2020) identified lower levels of financial difficulties

across remote workers, the Covid-19 crisis has given these parents more responsibilities, with approximately one in five people caring for children, leading to increased difficulties while remote working. Research shows that many remote working women who have children stated that their peak of their productivity was when their children were sleeping, either at night, in the morning or during lunchtime (Manzo & Minello, 2020).

A survey conducted by the Institute of Directors mentioned that one in five organisations were not planning on introducing any form of remote working post pandemic, with one in ten organisations wanting all their employees solely working from home (Thomas & Pickard, 2021). Miller (2008) analyses that organisations who give their employees the opportunity to work from home see greater levels of productivity, higher retention of qualified employees, lower costs and improved employee health and wellness.

The Public Sector

IBEC (2021) expresses how the work of public sector employees is vital *'to the successful economic and social well-being of citizens and business who rely on these essential services'*. There are currently over 300,00 public sector employees, overall accounting for 13% of the Irish workforce and are amongst the largest employers in the state. The Department of Public Expenditure and Reform (2019) survey identifies high levels of satisfaction and commitment from the public sector employees as in 2019 they received an overall 85% customer satisfaction level and 87% satisfaction relating to how knowledgeable and helpful the public servants were, from the public. Over the last number of years, the publics level of dissatisfaction has been at an all-time low since 2009 as the public servants have been providing effective and efficient services for the public.

Public sector productivity is essential for the economic performance of a country just like the private sector. Thornhill (2006) suggests the top three reasons why the productivity of public servants is crucial, 1. as stated above the public sector accounts for a huge proportion of the Irish workforce, 2. Public servants provide major services in the economy, in particular to organisational services and social services, both affecting the costs of inputs and labour quality. Lastly, 3. The public sector is a *'consumer of tax resources'*. Overall suggesting that public sector productivity is vital as low productivity levels from various sectors can lead to negative implications on the Irish economy.

Since March 2020, public sector employees have had to embrace working from home since the start of the pandemic with 75% of public servants working from home at the time of the survey in August 2020. Three quarters of public servants indicated they would like to continue to work from home in the future if given the opportunity, while 62% stated they would prefer a blended approach (Government of Ireland, 2020). Furthermore, satisfaction is extremely high within the public sector with the education sector being one of the highest in the EU but on the other hand, satisfaction within the healthcare sector is below EU average (Boyle, 2018).

Studies show that females in the EU experienced greater difficulties maintaining a healthy balance between their work and their personal lives than men, when working from home. In comparison to females in the Irish public service, it was found that 73% of female public servants portrayed being as effective while working from home than onsite compared to 65% of male public servants. Additionally, 78% of female public servants in Ireland would like to continue to work remotely going forward compared to 72% of males (Government of Ireland, 2020).

Some benefits of remote working include attracting and retaining talent from an employer's point of view, enhancing a work life balance, improving family wellbeing, and reduced commuting times. On the other hand, many drawbacks include a negative impact on employee health such as feelings of isolation, stress, and loneliness, with many employees finding it difficult to switch off and keep to the regular amount of hours work. Many employers agree that having their employees working from home makes it more difficult for creativity and collaboration as if these issues aren't solved, they could see negative impacts on their organisation's productivity.

In relation to productivity, there is not much evidence to support higher productivity and remote working, as remote working pre Covid-19 cannot be compared to the current remote working approaches as most employers were not equipped to facilitate their employees to work from home (Murray, 2021). However, even though Ireland has been ranked extremely high in international competitiveness and productivity, the national productivity levels showed underperformance in the private sector compared to the public sector (Wall, 2021). This alone provides the researcher with a rationale for undertaking this study as there is no research conducted on remote working pre-COVID-19.

Current research shows that nearly two thirds of Irish public servants are satisfied with their terms and conditions of employment, however respondents show concerns about how their departments deal with promotions and poor performance, with only 36% agreeing that their department has clear and fair promotional opportunities. Additionally, less than half of clerical officers to principal officer levels believe the high performance will lead to promotions, higher grades are less satisfied with their promotion processes compared to lower grades. Only 20% of public servants surveyed reported were satisfied with poor performance being addressed within their department (Wall, 2021).

In summary, the researcher has undertaken this study with particular emphasis on the public sector as it accounts for 13% of the Irish workforce employing over 300,000 people (IBEC, 2021). Existing literature has placed more emphasis on the private sector and Small-Medium Sized enterprises, with the lack of research based around the public sector in general, thus giving the researcher a great opportunity to expand, add and compare to existing research projects already conducted.

Chapter 3: Methodology

Introduction

This section will address the research methods and approaches chosen for this research study and justification as to why these methods suit this current study. Firstly, an overview of the research philosophy and research framework that supports this research study as well as an outline of the hypotheses, including an overview of the research approaches and strategies. The following two sections will be a discussion on data collection and analytical methods specific to this research study, including sampling techniques, inclusion and exclusion criteria considered for the specific sample and information on the chosen instrument. The last section reviews the questionnaire design and the pilot study to be undertaken, alongside a discussion on the ethical considerations and limitations of the research.

Research Philosophy

Research Philosophy is a vital part of research in order to answer the research question. Saunders *et al* (2019) state that research philosophy is considered the nature and development of the knowledge. By developing an understanding of the nature of reality, researchers are able to link their research question to the most appropriate methods for study.

Saunders *et al* (2019) examines three main styles of thinking: epistemology, ontology, and axiology with the ontological style of thinking best suiting the proposed research question on the impact of remote working on employee satisfaction and productivity. Ontology is defined as the assumptions on the nature of reality by investigating your research objects, these could include workplace relations in organisations for example. Quinlan (2011) believes that because there are many different understandings of the nature of reality, it is extremely important to identify ontological issues when conducting social science research. To expand on this, Ontology is divided into two divisions: Positivism, also referred to as objectivism and Interpretivism, also referred to as subjectivism.

Positivism relates to the importance of pure facts obtained by measurement or observations (Saunders *et al.,* 2019) without being influenced by the interpretation of human bias (Alharahsheh & Pius, 2020), overall utilizing analyses through statistical methods (Quinlan, 2011). Extensive research shows that positivism is widely accepted and, used and recognised in studies with Esterby-Smith *et al* (2002) explaining that knowledge is only of

significance if related to external reality observations. Saunders *et al* (2007) describe that a researcher who takes a positivist approach to their research seeks to examine and predict what happens in organisations for example by analysing relationships and regularities between constituent elements such as satisfaction and productivity. Methodologies that take a positivist approach are influenced by theories derived from natural and positive science (Bahari, 2010).

Interpretivism on the other hand suggests that the only access to reality is through the aid of social constructs (Alharahsheh & Pius, 2020) and does not support numerical and statistical methods (Quinlan, 2011). Researchers state that qualitative studies take an interpretivism approach, while quantitative studies take a positivism approach to research (Baškarada & Koronios, 2018). The current research study seeks to examine the impact of remote working on employee satisfaction and productivity which will be measured numerically and through statistical methods, overall taking a positivism approach towards the analyses of the study. As stated above, the positivism philosophy ensures bias free research is conducted by the researcher, including a structured measurement tool for measuring satisfaction with no specific focus on personal opinions (Quinlan, 2011). Overall, the positivism philosophy with ontological thinking best suits the proposed research question.

Research Framework

The "Research Onion" framework introduced by Saunders *et al* (2009) ensures reliability, validity and credibility to research designs and all elements of research methodologies. In other words, the research onion framework allows researchers to design a step-by-step methodology appropriate to their specific research study (Raithatha, 2017). The outer layer of the onion aids the researcher in determining the most appropriate philosophy, approach, methodological option, and techniques to conduct their research effectively. To add to this, each layer allows the researcher to make logical decisions in regard to the credibility of their research, while the inner layers suggest the data collection methods best suited to answer the research question, in line with the limitations of choosing each data collection method. The inner layer includes the methodology, the time from over which the studies will be carried out and the strategies to help the researcher analyse the data and provide further discussion throughout the study. This research onion has influenced my research study and served as a

great model in directing me towards the most appropriate and suitable methodology, ensuring its reliable and credible (Saunders *et al*., 2009).

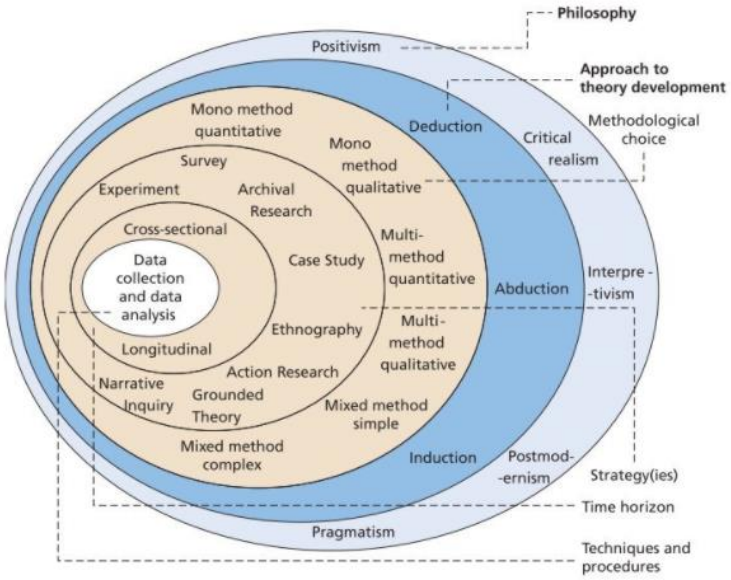

Figure 2: The "Research Onion"

Research Approach

After discussing the research philosophy and framework, the research approach needs to be determined. Saunders *et al* (2019) identifies two research approaches for any topic of study, these are referred to as an inductive study and deductive study. The inductive approach involves the collection of data and development of a theoretical explanation based on the analysis of the data collected, and mainly driven towards a qualitative study using the subjective division. While on the contrary, Creswell (2003) states that the deductive approach suggests that researchers verifying a theory use it as a framework for their whole study and examine the research questions and hypotheses derived from the theory through the collection of data. From the literature, research evidence shows that the UWES scale has been widely used around the world especially in organisations and education settings to determine work engagement, productivity, and satisfaction of individuals (Wickramasinghe *et al.,* 2018; Schaufeli & Bakker, 2004).

Furthermore, analyse and results from these studies show the three factors of Vigour, dedication and absorption of satisfaction and productivity are highly integrated with correlations between 0.60 and 0.99 (Seppala *et al.,* 2008). From these existing theories,

hypotheses have been derived for the current research and will be analysed through quantitative methods, in order to conclude the acceptance or rejection of the hypotheses. Moreover, for the purpose of this research this deductive approach linked with the objective division is more appropriate as this study examines the relationship between variables using a quantitative method.

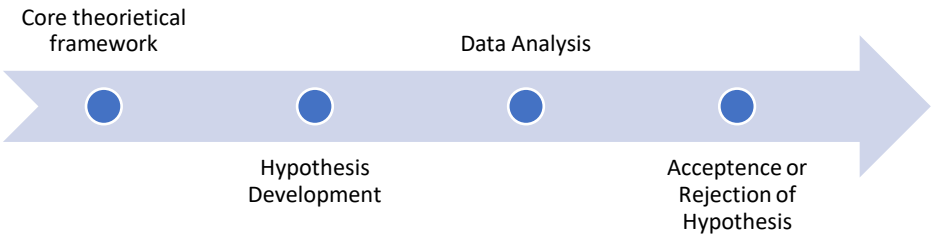

Figure 3: Deductive Study

Hypotheses

Hypothesis	Null Hypothesis	Alternative Hypothesis	Sub-Hypothesis
H.1	Employee Satisfaction is not associated with working from home	Higher levels of Employee Satisfaction are associated with working from home	
H.2	Employee Satisfaction is not influenced by their working environment	Higher levels of Employee Satisfaction are influenced by their working environment	1. Lower levels of Employee Satisfaction are associated with more children 2. Higher levels of Employee Satisfaction are associated with having the right equipment
H.3	Employee Satisfaction is not associated with a hybrid model of work	Higher levels of Employee Satisfaction are associated with a hybrid model of work	
H.4	Employee Satisfaction is not associated with males at work	Higher levels of Employee Satisfaction are associated with males at work	
H.5	Employee Satisfaction is not associated with older age cohorts	Higher levels of Employee Satisfaction are associated with older age cohorts	
H.6	Employee Satisfaction is not associated with better workplace relationships	Higher levels of Employee Satisfaction are associated with better workplace relationships	Lower levels of Employee Satisfaction are not associated with team camaraderie

Table 1: Hypotheses

Hypotheses Reasoning

H.1- A workplace survey conducted demonstrates that employees who are able to work from home are happier than those who work onsite, with employees working remotely having above average rates of workplace satisfaction (Wronski & Cohen, 2020).

H.2

Sub-Hypothesis 1- Empirical evidence shows that employees without children or without dependent children (ages 12-16) are more satisfied in their jobs than employees who have children at home (Perez, 2009).

Sub-Hypothesis 2- Research from the Whitaker Institute of NUI Galway (2020) indicates that 60% of respondents had access to the right equipment (tools and information) to effectively work from home, 29% stated they had small problems with accessing the right equipment and 11% stated access to equipment was a significant problem. 30% of respondents from the Whitaker Institute of NUI Galway (2021) survey in May 2021 believe that access to tools and information would be better onsite, 4% stating it would be worse and 66% suggesting no difference.

H.3- In a validated survey from Accenture, 83% of respondents expressed they prefer a hybrid approach to working, where they can work from home at least 25% of their working week. Additionally, 40% of respondents believe they can be productive and live a healthy life anywhere, either onsite or at home, or through a combination of both (McKendrick, 2021).

H.4- A study conducted from Qualtrics showed that 57% of males compared to 29% of females express that remote working has positively affected their career with males having higher productivity and satisfaction rates when working from home. 70% of male productivity has increased since the beginning of the pandemic compared to only 41% of females indicating similar developments (Cerullo, 2020).

H.5- The Engaging Works Workplace Happiness Survey proposes that employees over 45 are more satisfied (72%) in their working environment compared to employees under 45 (65%). 84% of older employees have happier relationships with co-workers compared to 73% of employees aged below 24 (Franklin, 2020).

H.6- Research shows that 70% of employees in a survey conducted consider positive and happy relationships to be the most vital element to satisfaction in the workplace with 58% of males refusing higher paid jobs if there was a possibility of not getting along with their co-workers. A study from Gallup reports that strong workplace relationships provide organisations with healthier, more engaged, and more productive employees, and the absence of high team camaraderie leading to dissatisfaction and turnover (Schawbel, 2018).

Research Strategy and Design

Researchers must examine whether their study is based on one of two research methodologies, these are known as qualitative or quantitative studies. Creswell (2003) acknowledges that a qualitative researcher usually takes a more constructivist approach, for example, they build their own knowledge determined by their experiences. Whereas quantitative studies are conducted by collecting data both primary and secondary and allows the researcher to create tables or graphs to facilitate comparisons through developing

statistical relations between variables. Many researchers conduct quantitative studies as numerical inferences can be calculated reasonably quick with the aid of SPSS software or Microsoft EXCEL. This not only reduces time and cost for the researcher, but this method provides no human bias (Saunders *et al.*, 2019).

Experiments and surveys are mainly used in a quantitative research design and predetermined instruments are used for data collection in order to analyse statistically (Bahari, 2010). The qualitative methodology does not fill the requirements of the proposed research as it solely focuses on non-numerical data and derives its hypotheses from social correlations (Neuman, 2006). In addition to this, as stated above the qualitative approach is more time consuming for the researcher as qualitative study require data collection through in person interviews or surveys and this current study, does not allow the completion of the data collection under this time frame.

Research designs can be put into three categories, explorative, descriptive, and explanatory explains Saunders *et al* (2009). Researchers who take a descriptive approach aim to create a precise image of the individuals or situations and these relationships are measured and analysed using various different variables. Existing literature on employee satisfaction suggests that the most suited research design is based on the descriptive style. As this current research has been widely researched and seeks to examine the impact of remote working on employee satisfaction and productivity numerically and utilises statistical methods to analyse the hypotheses derived, supporting the quantitative approach.

Population and Sampling

After determining your research strategy, approach and design, the next step is to decide on your target population and select a sample. In quantitative research, the population specific to the research study is a group of individuals in which the researcher will require information from them in order to be ascertained. When selecting a population suitable for your research, the research question will suggest a desired population to be studied, taking into consideration the location, gender, occupation, and age group. In order for the population to suit the research study, it is important who is to be included and excluded based on the inclusion and exclusion criteria (Banerjee & Chaudhury, 2010).

The target population for this research study relates to public service workers above the age of 20 working in Education, Healthcare, Revenue, or the Department of Social Protection, with particular interest in remote workers.

This current study identifies the inclusion criteria to be as follows;

1. The respondents must be working within the Irish Public Service (Education, Healthcare, Revenue, or the Department of Social Protection)
2. The respondents must be over the age of 20
3. The respondents must be working remotely throughout the pandemic (in the last 1.5-2 years)

The entirety of the survey can be completed by individuals who fulfil these three inclusion criterium, yet if individuals fulfil the first two criterium, they are welcome to fill out the survey sections relating to employee satisfaction and productivity. The sample within the public sector was chosen due to it being one of the largest employers in Ireland, representing 13% of the Irish labour force (IBEC, 2021), with approx 148,000 employees being across Healthcare, Education, Revenue, and the Department of Social Protection. Furthermore, a survey conducted in 2020 revealed that 75% of public sector workers were working remotely at that time of the survey, 76% of female public servants and 73% of male public servants (Government of Ireland, 2020).

Considering the pandemic is ongoing over a year and a half, the timeframe of 1.5-2 for this research is justified as the current covid climate is rapidly changing. This current research allows the researcher to identify public servants pre-covid expectations while working from home as 81% of respondents surveyed had no previous experience working from home, highlighting the low remote working levels prior to COVID-19 (Government of Ireland, 2020).

Saunders *et al* (2009) suggests two sampling techniques available to researchers, these are known as probabilistic and non-probabilistic. Probabilistic sampling allows all individuals to have an equal opportunity of being chosen for the study, while on the other hand, not all individuals get chosen for the study using non-probabilistic sampling. For the purpose of this research study, non-probabilistic sampling suits best due to the timeframe of completion, it is not cost and time feasible to allow all public servants the equal opportunity to be chosen, also due to the size of the public service workforce.

Once the sampling technique has been chosen, researchers must then identify the sample size. Researchers need to take great consideration in terms of confidence level and the margin of error in order to identify the response rate needed for their study. The margin of error is the "accuracy you require from any estimates made from your sample" (Saunders *et al.*, 2019, p 299) and the confidence level is the level of certainty that your data results will reflect the results of the target population. An online sample calculator aided the researcher in identifying sample sizes for an approximate population of 148,000 with a confidence interval of 95% and a margin of error between 1% to 10% (Qualtrics, 2020).

POPULATION 148,000	**CONFIDENCE LEVEL 95%**
MARGIN OF ERROR	SAMPLE SIZE
1%	**9018**
2%	**2363**
3%	**1060**
4%	**598**
5%	**384**
6%	**267**
7%	**196**
8%	**150**
9%	**119**
10%	**96**

Qualtrics (2020)

Table 2: Sample Size Calculations

The entire public sector employs over 300,000 people (IBEC, 2021), yet to tailor the sample size to our research using only 4 sectors (Healthcare, Education, Revenue and Department of Social Protection), the sample size equates to 148,000 approximately (Acheson & Collins, 2020; CSO, 2021; CSO 2021a). For example, if 70% respondents state that they are happier and more productive while working from home, with a confidence level of 95% and a margin of error of 5%, then these satisfied respondents will range from 65% to 75% (70% ± 5%) in 95 of surveys conducted out of 100. Overall, if the survey were conducted 100 times the results from the respondents would be in a certain margin of error either above or below the data collected for 95 of the surveys (Hunter, 2021). As stated above, there are time and cost restraints for the current research study, leading to it being too difficult to have a larger sample size. The online sample calculator has indicated that with a 5% margin of error, a sample size of 384 would be realistic and accurate for the researcher within their timeframe of completion.

Saunders et al (2019) describes four sampling techniques based on four categories, quota, purposive, convenient and snowball. For the purpose of this research study, the best suited techniques are convenience sampling and the snowball effect. Convenience sampling is described by Galloway (2005) as involving respondents who are convenient to the researcher with no set pattern acquiring the respondents. Naderifar *et al* (2017) also suggests convenience sampling as an easy access and convenient way for researchers to engage with members of their target population. For the pilot test, the researcher gave five public sector employees the survey who they had easy access to but also employees that were willing to fill out the survey. Even though convenience sampling exhibits a high degree of bias, this sampling method can aid the researcher to obtain various attitudes, opinions and to identify tentative hypotheses that can be used in future research tests (Galloway, 2005). Despite the potential bias in convenience sampling, this sampling method best suited the pilot study for this current research project.

Additionally, Snowball sampling is widely used when the target population cannot be found in one location and therefore, the researcher asks each respondent or individual to either provide them access to their fellow colleagues from the same target population or allow these individuals to pass the survey onto others within the same population (Elfil & Negida, 2017). This method of sampling must ensure that the group of respondents meet the inclusion criteria for the current research, but that the other respondents in their population meet these criteria also. This allows a "chain referral" to form and supports the researcher in gathering more data from more respondents in a shorter timeframe in order to suit the current research completion timeframe (Quinlin, 2011).

This snowball sampling is very common in social science research, for example, conducting a survey on homeless children, there is no one set location where these children are so it will become difficult for the researcher to locate this target population. Hence, using the snowball effect where if the researcher provides one child with the survey, they can pass it on to other children within the target population (Elfil & Negida, 2017). This current research allowed the researcher to use this sampling method with the researcher conducting the survey on public service workers who then passed the survey onto others within their target population departments, Healthcare, Education, Revenue, and the Department of Social Protection. Overall, collecting a larger number of respondents in a shorter timeframe.

Data Collection

This section will discuss the preferred data collection methods best suited to the current research study.

The current research study seeks to examine the impact of remote working on employee satisfaction and productivity through the aid of surveys consisting of Multiple-Choice Questions (MCQ) and a satisfaction measurement tool (UWES scale) using Likert scale type questions. Research conducted by surveys is described as the collection of information from target population respondents through their attitudes and interests to specific research questions (Check & Schutt, 2012). Survey research provides researchers with a broad range of methods to recruit potential respondents, collect data and use various methods of instrumentation, normally using quantitative strategies such as questionnaire that can be analysed through statistical measures (Ponto, 2015). Singleton and Straits (2009) acknowledge surveys to explore and analyse human behaviour widely used in social and psychological research studies.

Quinlan (2011) also believes that due to the public sector having a large population, surveys are most effective in generating larger scale respondents in a shorter timeframe while also taking into consideration it being the more cost-effective approach to collecting data. Additionally, gathering data through surveys allows the researcher to use validated research instruments, widely used frameworks and scales relating to employee satisfaction and productivity to help analyse the data and compare results. As stated previously, using surveys as a method of data collection can cause bias within the data set, the researcher has kept the survey questions short and simple to reduce ambiguity and to limit bias as much as possible. Respondents' answers are derived from a 5-point Likert scale to ensure respondents are not misled and their answers are as accurate as possible also.

The researcher prepared and designed the questionnaire to also mitigate non-response bias, it was designed to be short and easy for all respondents to fill out with reminders sent to individuals the researcher had been in contact with to ensure the response rate was kept high. Lastly, the pilot test aided the researcher in ensuring the questionnaire had a logical flow reducing ambiguity and avoiding dropouts, making respondents aware of their privacy and confidentiality in filling out the questionnaire. Questionnaires can be categorised into two categories; self-administered and interview administered. Self-administered questionnaires allow respondents to complete the questionnaire at their own leisure without any intervention

from the researcher, while interview administered questionnaires have the interviewer present while filling out the survey (Saunders *et al.,* 2019).

Unlike self-administered questionnaires, interview administered questionnaires can have interviewers influence individuals' responses, motivate them, and provide additional instruction or help during the data collection, overall placing consequences on non-response and data quality (De Lueew, 2008). As the current research is based on a self-administered questionnaire, this will limit the human bias as the interviewer will not be present when individuals are filling out the survey. Additionally, self-administered questionnaires layout and visual presentation are more important than interview administered questionnaires to ensure all respondents have a clear understanding of the questions being asked and do not face any pressure in filling out the survey, also allowing further research to be conducted once the responses are of a high standard (De Lueew, 2008). Lastly, as the Irish public service is of a high population, self-administered questionnaires allow the researcher to gather data from a larger sample in a shorter and more cost feasible timeframe than interview administered questionnaires would (Saunders *et al.,* 2019). Overall, suggesting self-administered questionnaires to best suit this current research project.

The self-administered questionnaire was distributed online mainly through email but with also using social media platforms such as Facebook, Twitter, WhatsApp, and Instagram in order to reach a larger sample. Wright (2017) states that using online surveys, researchers access a wide range of individuals from various locations, have the ability to reach respondents who could be difficult to contact, and have the convenience of using an automated source of collecting data, in turn, reducing time and effort for the researcher. Yet on the other hand, online surveys can lead to uncertainty over data validity, issues with sampling methods and concerns around the design, the way the online survey is conducted and how it is evaluated. Due to the strict timeframe for the researcher to gather public servant responses, online surveys best suit the current research project as online surveys allow the researcher to gather a larger sample more cost and time efficient than various other methods of collecting data would be.

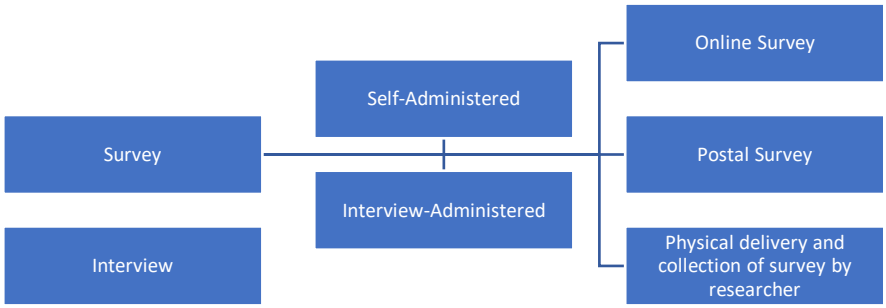

Figure 4: Data Collection Method

After taking into consideration the various sampling methods for the current research study, convenience sampling and the snowball sampling effect best suits the proposed research question, with the aid of online surveys. The online survey has been distributed through Google Forms and has been tested and filled out on many different devices for example, iPhones, Android devices, tablets, and laptops, during the pilot study to ensure compatibility, accuracy, and efficiency, overall limiting the non-response bias. The link was published on the 14th of June through Google Forms for 5 weeks, with 110 responses recorded.

Statistical Analysis

This section outlines a brief description on the statistical tests conducted during this research study and how the results are interpreted by the researcher.

Normality Test

Saunders *et al* (2019) suggests that numerical data samples should be gathered from normally distributed populations. Quantitative variables should be normally distributed around each variable mean showing a symmetrical bell-shaped curve frequency distribution. The null hypothesis is considered the data that is normally distributed, with the p-value determining the level of significance of the data. Nahm (2017) explains that the p-value ($p \leq 0.05$) indicates how incompatible the data is with the null hypothesis, in other words, if the p value is smaller, the greater the incompatibility of the data is in relation to the null hypothesis.

Reliability Test

This test is to ensure consistency across all part of the specific measuring tool, in this study the UWES model (Huck, 207). The reliability of the UWES measurement tool is closely related to the validity of the instrument (Tavakol & Dennick, 2011). The Cronbach alpha formula is the most widely used statistical measure in quantitative research to ensure the measurement tool is valid (Goodwin, 2010). Furthermore, a value greater than 0.7 is acceptable in Cronbach alpha terms (DeVeillis, 2012). Demerouti *et al.,* (2001) and Schaufeli & Bakker (2004) suggest that the Cronbach alpha coefficients for the UWES measurement tool range from 0.80 to 0.95, with the UWES demonstrating high test reliability.

Kruskal Wallis H Test

The Kruskal Wallis H test is a nonparametric test to help determine if there are statistically significant differences between two or more independent variables in relation to a dependent variable that is continuous or ordinal (Laerd, 2021). The null hypothesis in this test suggests that all variable group means are the same, with the acceptance or rejection of the null hypothesis based on the p-value, similar to the normality test. in turn, if the p-value is ≤ 0.05, we see a rejection in the null hypothesis.

Mann-Whitney U Test

The Mann-Whitney U test allows researchers to compare differences between two variables with this test showing that the dependent variable is not normally distributed and is either ordinal or continuous. The independent variable should be categorical and is limited to two independent groups (Laerd, 2021a). The null hypothesis suggests that the independent variable for example working from home does not impact the dependent variable i.e., Employee Satisfaction. Again, we see the null hypothesis being accepted or rejected based on the p-value, if the p-value is ≤ 0.05 the null hypothesis is rejected.

Multiple Linear Regression

Multiple Linear Regression analysis provides researchers to analyse the strength of the relationship between a dependent variable and various independent variables as well as the importance of each independent variable has on the dependent variable (Petchko, 2018). Field (2009) states that this analysis should model a linear relationship between both variables.

The Durbin-Watson test is conducted to test the statistical independence of the findings and Field (2009) indicates that due to the Durbin-Watson having a statistical range from 0-4, the number 2 shows no correlation between residuals. A Durbin-Watson range between 2-4 suggests a more negative correlation and a range between 0-2 indicates a more positive correlation.

To conclude, after taking into consideration all the statistical tests, the researcher conducted these tests above in order to discuss and examine the data collected statistically as they best suited the research question.

Questionnaire Design

The researcher has chosen questionnaires as the research instrument for this research study. The current study's' questionnaire follows a structured format consisting of closed ended questions with the use of validated instruments. Using validated instruments aids the researcher in comparing various studies previously conducted with the current research study to suggest recommendations for future researchers conducting research in similar fields.

- The first question on the survey is in relation to the respondent's agreement in taking part in the survey

- Socio-Demographic Factors: The next set of questions are relating to general information of the respondent, i.e., Age, Gender, Education level, Employment Status, Sector in which the respondents are employed in, Marital Status and the number of children each individual may have.

- Remote Working: The next series of question is assessing whether or not these individuals have worked from home before/currently working from home and their opinions on remote working i.e., would they return to onsite working, or whether they have the correct equipment to work from home efficiently and effectively.

- Expectations of Remote Working: This section examines respondents' expectations of remote working in line with the reality of remote working, i.e., do respondents work more hours when working from home, difficulties in work life balance, higher stress levels, lack of promotional opportunities, and the impact of remote working on team camaraderie.

- Employee Satisfaction: These series of employee satisfaction questions are derived from the UWES Satisfaction scale consisting of 17 items (UWES-17) that measure the three underlying dimensions of work engagement known as Vigour, Dedication, and Absorption.

- Employee Productivity: This last section consists of 6 productivity questions based on the productivity of employees before and during the current pandemic, i.e., whether they have become more productive from working from home or vice versa.

The following 5 remote working questions were taken from the NUI Galway Remote Working in Ireland survey conducted in April 2021 to gather employees experiences of working from home after one year of being in lockdown in order to contain the spread of the COVID-19 virus (Whitaker Institute of NUI Galway, 2021).

- Are you currently working remotely?
- If you were giving the option to return onsite, which would you choose? Onsite/At home/Hybrid approach
- Do you have all the equipment needed to fulfill your role to the same standard as in the office?
- Have you been able to stick to a work routine or schedule?
- Had you worked remotely pre COVID-19?

The next section allows the researcher to examine individuals expectations of remote working in line with the reality of remote working using 1-5 likert scale repsonses from 1 being strongly disagree and 5 being strongly agree.

- I am working more hours from home than I would onsite due to increased workload?
- There are more difficulties in balancing work and personal life when working from home?
- It is harder to disconnect or unwind at the end of a working day when working from home
- Remote working has reduced my workplace levels of stress and strain more than I expected
- There is a lack of promotional opportunities when working from home
- Remote working has negatively impacted your team or organisation's camaraderie

Following on from the expectations of remote working section, this section accesses employee satisfaction using thr UWES Scale measurement tool with 17 questions under three dimsensions. Responses are calculated through a 7-point likert scale, and are usually used to measure individuals attitudes, emotions, perceptions, personality characteristics and other behaviours, in particular while working (Lewis-Beck *et al.,* 2004). The average scores of each dimension can be calculated by aggretating repsonses and dividing them by the number of questions in each dimension, with the range for each dimension being from 0-6. The UWES scale suggests that higher results indicate higher levels of satisfaction, clasifying results as very low, low, average, high and very high (Schaufeli & Bakker, 2004).

For example, the Vigor dimension has 6 questions with 7 potential responses shown on a Likert scale, 0 being Never and 6 being Always. The range for the vigor dimension would be 6-42, with the two other dimensions shown below in the table.

DIMENSION	NUMBER OF QUESTIONS	RANGE OF VALUES
Vigor	6	6 TO 42
Dedication	5	5 TO 35
Absorption	6	6 TO 42

Table 3: Scoring Structure

The UWES scale has been subject to many validity studies to discover the relationship between satisfaction and productivity in the workplace, also showing the possible advantages and disadvantages of engagement and the role that engagement plays in promoting higher employee satisfaction and productvity while at work (Schaufeli & Bakker, 2004). From previous research studies implementing the UWES scale, it is clear work engagement is positively associated with an employee's workplace characteristics such positive employee relations between all hierarchical levels of their organisation, job autonomy, regular feedback from management, and opportunities to progress (Demerouti *et al.,* 2001; Schaufeli & Bakker, 2004).

Moreover, UWES approached studies suggest that employees who are more positive about either working from home or the opportunity to work from home, tend to carry these positive attitudes throughout their daily activities and exhibit higher levels of satisfaction in their working life and personal life overall (Montgomery *et al.,* 2003). Furthermore, in families, research shows that wives levels of vigour and dedication from the UWES scale are associated and contribute to how high their husbands' levels of these two dimensions are both

in work and at home (Schaufeli & Bakker, 2004). Lastly, Storm and Rothmann (2003) demonstrate that this UWES scale is unbiased and is available in eight languages in order to measure employee satisfaction and engagement of various different groups worldwide. Overall, there is very little research relating to the Irish public service on employee satisfaction and productivity either on employees working remotely or onsite, overall giving me the opportunity to build on other research conducted with the UWES measurement tool.

Finally, the last section set of 6 statements were developed by the researcher, again using the Likert scale from 1-5, 1 being Strongly disagree and 5 being strongly agree. Overall relating to productivity levels before the pandemic and during the pandemic, and whether stress levels and/or flexibility have increased. Depending on what sector respondents were employed in, some may only have been able to answer the last 2 statements.

- Working remotely enables me to accomplish tasks more quickly
- Working remotely increases my productivity
- Working remotely reduces my work-related stress levels
- Working remotely gives me greater flexibility
- On a scale of 1-10, 1 being highly unproductive and 10 being highly productive, how would you rate your productivity levels before COVID-19?
- Using the same scale, how would you rate your productivity levels during COVID-19?

The following tables show the entirety of the questionnaire and their response scale.

LABEL	VALUES	MEASURE
Do you agree to take part in this study?	• "I am happy to take part in this study" • "I do not want to take part in this study"	Nominal
Gender	• "Male" • "Female"	Nominal
Age	• 20-30 • 31-40 • 41-50 • 51-60	Ordinal
Education Level	• Leaving Certificate • Bachelor's Degree • Master's Degree • Ph.D or higher	Nominal
Employment Status	• Employed Full-Time • Employed Part-Time • Contract	Nominal
Sector in which you are employed by	• Revenue • Department of Social Protection • Education • Healthcare	Nominal
Marital Status	• Married • Widowed • Separated • Living with partner • Single	Nominal
Number of Children	• None • 1 • 2-4 • More than 4	Ordinal

Table 4: Socio Demographics- Questionnaire

Remote Working		
Are you currently working remotely?	1. Yes, I am currently working completely remotely since the outbreak of COVID-19 2. A mix- I am working remotely sometimes and onsite sometimes 3. No, I am back working onsite recently 4. No, I am working onsite	Nominal
If you were giving the option to return onsite, which would you choose?	1. Remaining at home 2. Working onsite **3.** Hybrid approach	Nominal
Do you have all the equipment needed to fulfil your role to the same standard as in the office?	1. Yes 2. No	Nominal
Have you been able to stick to a work routine or schedule?	1. Yes 2. No	Nominal
Had you worked remotely pre COVID-19?	1. Never 2. Every Now and Then 3. Several Times a month 4. Several Times a week **5.** Daily	Nominal

Table 5: Remote Working- Questionnaire

Expectations of Remote Working		
I am working more hours from home than I would onsite due to increased workload?	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree **5.** Strongly Agree	Ordinal: 5-Point Likert Scale
There are more difficulties in balancing work and personal life when working from home?	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Ordinal: 5-Point Likert Scale
It is harder to disconnect or unwind at the end of a working day when working from home	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Ordinal: 5-Point Likert Scale
Remote working has reduced my workplace levels of stress and strain more than I expected	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Ordinal: 5-Point Likert Scale
There is a lack of promotional opportunities when working from home	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Ordinal: 5-Point Likert Scale
Remote working has negatively impacted your team or organisation's camaraderie	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Ordinal: 5-Point Likert Scale

Table 6: Expectations of Remote Working-Questionnaire

Employee Satisfaction		
At my work, I feel I'm bursting with energy		
I find the work that I do full of meaning and purpose		
Time flies when I'm working		
At my job, I feel strong and vigorous		
I am enthusiastic about my job		
When I am working, I forget about everything else around me		
My job inspires me	0. Never 1. Almost Never 2. Rarely 3. Sometimes 4. Often 5. Very Often 6. Always	Ordinal; 7-Point Likert Scale
When I get up in the morning, I feel like going to work		
I feel happy when I am working intensely		
I am proud of the work that I do		
I am immersed in my work		
I can continue working for very long periods at a time		
To me, my job is challenging		
I get carried away when I'm working		
At my job, I am very resilient, mentally		
It is difficult to detach myself from my job		
At my work I always persevere, even when things do not go well		

Table 7: Employee Satisfaction- Questionnaire

Employee Productivity		
Working remotely enables me to accomplish tasks more quickly	1- Strongly Disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly Agree	Ordinal; 5-Point Likert Scale
Working remotely increases my productivity	1- Strongly Disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly Agree	Ordinal; 5-Point Likert Scale
Working remotely reduces my work-related stress levels	1- Strongly Disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly Agree	Ordinal; 5-Point Likert Scale
Working remotely gives me greater flexibility	1- Strongly Disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly Agree	Ordinal; 5-Point Likert Scale
On a scale of 1-10, 1 being highly unproductive and 10 being highly productive, how would you rate your productivity levels before COVID-19?	Highly Unproductive = 1 Highly Productive = 10	Ordinal; 10-Point Likert Scale
Using the same scale, how would you rate your productivity levels during COVID-19?	Highly Unproductive = 1 Highly Productive = 10	Ordinal; 10-Point Likert Scale

Table 8: Employee Productivity- Questionnaire

Pilot Test

A pilot study is conducted to reflect all the main procedures of the main research study but often with a smaller sized sample. It allows the researcher to validate the feasibility of the research by determining whether the individuals meet the inclusion and exclusion criteria (In, 2017). The researcher chooses the sample based off their own convenience and normally because the individuals show compliance in participating. In addition, convenience sampling is less expensive and allows for the collection of data in a short time, however, on the contrary, human bias may arise and it cannot be controlled or measure using this sampling method (Acharya *et al.*, 2013). Due to the current pandemic and this particular research study, it is not possible to be on close contact with participants, therefore a pilot study is necessary to ensure validity i.e that participants can correctly access and interpret the survey questions being asked (Saunders *et al.*, 2009).

The pilot study conducted for this current research study was distributed to five public servants using convenience sampling. The feedback provided by these five participants allowed a small rephrasing of the “expectations” part of the survey to avoid ambiguity and allow easier interpretation. The top three feedback comments were positive, and the

participants suggested the UWES model was easy to follow and answer using the likert scale. Overall, the pilot study was successful with the participants stating the survey was simplistic and relatively quick to answer, needing minor adjustments to ensure effective data collection.

Ethical Considerations

Saunders *et al* (2019) proposes that researchers carrying out any research study must understand it is essential to take into consideration any ethical issues that may arise from carrying out such research (Saunders *et al.,* 2019). Researchers must ensure that the questionnaires conducted do not expect individuals to answer personal questions such as their name, date of birth or age for example. To expand on this, individuals must be informed about how their information will be stored confidentially and that their involvement in the study is voluntary as they can opt out of the study at any time and their results will not be published in the results of the study.

The data collected will be secured using a password, only available to the researcher and supervisor and will be deleted after the timeframe issued by the NCI guidelines. Furthermore, NCI have provided each researcher with an ethics form at the start of the study which has been filled out, submitted, and approved by the ethics committee at NCI. To conclude, there was no ethical issues throughout the conduction of the research study.

Research Design Limitations

It is understood that employee satisfaction and productivity are difficult to determine, however the UWES model of satisfaction incorporates all closely related constructs. As the research was conducting quantitatively, interviews and other face to face data analysis were not used. Qualitative research could have allowed for more in-depth analysis of employee's attitudes and expectations towards working from home and how satisfied they were in their jobs, to help answer the research question more accurately and reduce bias. Many employees may misrepresent themselves or dishonest answers depending on their situation when filling out the questionnaire (Wright, 2006), however, by using the widely used UWES model of satisfaction, the researcher hoped to reduce this risk of inaccuracy.

Another limitation to this current research design would be the distribution of online questionnaires. Even though they are considered easy, inexpensive, and convenient for

researchers to collect data, response rate could be a lot slower than various other methods of data collection due to older generational respondents not having access to the internet for example (Andrade, 2020). This could lead to potential respondents ignoring the questionnaire also, in turn interviews or other face to face data collection may be more accurate. In addition to this limitation, using non-probabilistic sampling can be considered a limitation when statistically analysing the data collected as Tansey (2007) acknowledging that there is limited potential to generalise, and statistical inferences may not represent the entire public service.

Lastly, choosing a sample from the public sector can be seen as a limitation as there is a gender imbalance within the public sector with 63% of public service workers being female (Russell et al., 2017). Moreover, 62% people employed by Revenue are female with similar statistics shown in the Department of Social Protection (Acheson & Collins, 2020). In relation to the healthcare sector, 4 out of 5 (79.3%) healthcare workers are female and the latest research from the education sector shows that 85.8% of primary teachers are female and 70.3% of secondary school teachers are female. Even though the current data collected represents the proportion of males and females in the public sector as accurately as possible, the imbalance in the number of female employees my result in a bias from a female perspective. Overall, Saunders *et al* (2019) suggests that there are many ways to develop and analyse the research question, yet there could be potential limitations to be considered.

Conclusion

To conclude, the research onion framework by Saunders *et al* (2019) aided the researcher to determine the suitability of the philosophy, research approach and design by taking a quantitative approach using questionnaires as the main data collection method. The ethical considerations were thought through and signed by the ethics committee at NCI and the data collected will be analysed through statistical measures to determine the impact of remote working on employee satisfaction and productivity.

Chapter 4: Results

Introduction

This section provides all the statistical tests conducted that best suited the research question and data collection. Using descriptive statistics, the researcher first analysed the dependent variable of employee satisfaction and independent variables associated with the tests, as well as conducting normality and reliability tests to ensure accuracy. As the normality tests suggested the dependent variable of employee satisfaction to be not-normal, non-parametric tests were used. The non-parametric tests conducted were Kruskal Wallis H Test and the Mann Whitney U Test with a 95% confidence interval. Finally, logistic regression was performed to test the hypotheses in the current study.

Descriptive Statistics

This current research study had 108 survey respondents with no need to delete data from the sample. The demographic variable statistics are within the table below. The sample consists of 34 males and 74 females with the majority of respondents (52) aged between 20-30. Additionally, 46.3% held a bachelor's degree with the Leaving Certificate (31.5%) being the second highest qualification held by 34 respondents surveyed. The employment rates between the four public service departments are evenly spread out averaging around 25-30 respondents per department. The majority of respondents had no children (56%), 32.4% of respondents were married with 77 respondents employed full time in the public sector.

Demographic variable		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	1. Male	34	31.2	31.5	31.5
	2. Female	74	67.9	68.5	100.0
Age	1. 20-30	52	47.7	48.1	48.1
	2. 31-40	15	13.8	13.9	62.0
	3. 41-50	17	15.6	15.7	77.8
	4. 51-60	24	22.0	22.2	100.0
Education Level	1. Leaving Certificate	34	31.2	31.5	31.5
	2. Bachelor's Degree	50	45.9	46.3	77.8
	3. Master's Degree	22	20.2	20.4	98.1
	4. Ph.D or higher	2	1.8	1.9	100.0
Employment Status	1. Employed Full-Time	77	70.6	71.3	71.3
	2. Employed Part-Time	24	22.0	22.2	93.5
	3. Contract	7	6.4	5.5	100.0
Department	1. Revenue	24	22.0	22.2	22.2
	2. Dept. of Social Protection	21	19.3	19.4	41.7
	3. Education	32	29.4	29.6	71.3
	4. Healthcare	31	28.4	28.7	100.0
Marital Status	1. Married	35	32.1	32.4	32.4
	2. Widowed	1	.9	.9	33.3
	3. Separated	2	1.8	1.9	35.2
	4. Living with Partner	17	15.6	15.7	50.9
	5. Single	53	48.6	49.1	100.0
No of Children	1. None	61	56.0	56.0	56.9
	2. 1	9	8.3	8.3	65.1
	3. 2-4	35	32.1	32.1	97.2
	4. 4 or more	3	2.8	2.8	100.0

Table 9: Descriptive Statistics for Socio Demographic Variables

Descriptive statistics has also been conducted for dependent variable of Employee Satisfaction under three headings known as the Mean, Standard Deviation and Variance. The mean of the dependent variable is 70.88 while the standard deviation is 12.554.

Dependent Variable of Employee Satisfaction				
	N	Mean	Std. Deviation	Variance
Satisfaction	108	70.88	12.554	157.602

Table 10: Descriptive Statistics for Employee Satisfaction Dependent Variable

Reliability Test

The reliability test is to ensure consistency across all parts of the specific UWES model in this current study (Huck, 2007). The questionnaire consisted of 17 items proposed by Schaufeli and Bakker (2004). The Cronbach Alpha obtained was 0.881 demonstrating high internal consistency as Nunnaly and Bernstein (1994) suggest that internal consistencies well

above 0.60 are recommended for recently developed instruments like the UWES measurement tool. The corrected item-total correlation column shows the correlation between each of the 17 items and the Cronbach Alpha score excluding specific items, overall showing how each item contributes to the measurement scale.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.881	.888	17

Table 11: Reliability Statistics

From the table "Item-Total Statistics" (see appendix) it is clear that 15 of the 17 items have values over 0.3 in the Corrected Item-Total Correlation column, showing a strong correlation, yet 2 items are below 0.3 showing an extremely weak correlation and lower internal consistency than other items within the scale. From the same table, it shows how the alpha values would change if those items were deleted. For example, the two items had values of .217 relating to how challenging one's job is and -.164 relating to the difficulty detaching from one's work but if both were excluded from the scale, the new alphas would be 0.885 and 0.902, overall demonstrating higher internal consistencies and reliability.

Normality Test

A normality test was conducted to analyse the sample data and whether it has come from a normally distributed population. In the table below, the Kolmogorov-Smirnov and the Shapiro-Wilk tests provide the researcher with p-values to determine whether the dependent variable of employee satisfaction is normal or non-normal. Both the Kolmogorov-Smirnov and the Shapiro-Wilk tests show a non-normal distribution, overall rejecting the null hypothesis. Furthermore, other normality tests were conducted through SPSS, i.e., Normal and Detrended Q-Q plots of employee satisfaction, where a more normal distribution was seen, yet for the purpose of this research study the researcher took a non-parametric approach from the p-values from both the Kolmogorov-Smirnov and the Shapiro-Wilk tests.

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig. Value
Satisfaction	.086	108	.046	.970	108	.015

KEY: df = Degrees of Freedom

Sig. Value = Significant Value

Table 12: Tests of Normality

Univariate Tests

Univariate Tests such as Kruskal Wallis H test and the Mann-Whitney U test were conducted to determine the correlation between Employee Satisfaction and different demographic and independent variables during the current pandemic.

Hypothesis Test 1- Employee Satisfaction & Working from home

The Kruskal Wallis H Test was conducted to determine if there were differences in Employee Satisfaction and working from home. The independent variable i.e., working from home has 4 levels and the results suggest that there are significant differences in employee satisfaction levels and working from home as the p-value is 0.002. The mean rank of respondents working from home is 36.50 compared to the mean rank of 67.06 for onsite workers. As this p-value is smaller than the Alpha of 0.05, the null hypothesis is rejected leading to higher levels of satisfaction being associated with working from home.

Hypothesis Test 2- Employee Satisfaction & Working Environment

Sub-Hypothesis 1: Children

The independent variable of the number of children had 2 levels and the results are shown in the table below. The results from SPSS state that out of 108 respondents 61 had no children with a mean rank of 59.09 and 47 had 1 child or more with a mean rank of 48.54. As the p-value is 0.083, the null hypothesis is not rejected as there is no significant differences between the number of children employees have with employee satisfaction.

Sub-Hypothesis 2: Equipment Fulfilment

This test consists of the dependent variable known as employee satisfaction and the independent variable of equipment and the results are seen below. Due to not all respondents experiencing working from home the sample size for this particular hypothesis was 72. From the table the mean rank of equipment fulfilment from respondents who voted "Yes" is 38.94 and for respondents who voted "No" the mean rank was 34.55. After conducting the Mann-Whitney U Test, the results show there are no significant differences between employee satisfaction levels and whether they have the correct equipment to fulfil their roles at home. Overall, the p-value is .376 so the researcher does not reject the null hypothesis as the differences in the mean rank are not statistically significant.

Hypothesis Test 3- Employee Satisfaction & Hybrid Working

The dependent variable of employee satisfaction is used with the independent variable of hybrid working consisting of 3 levels. Due to the number of respondents working onsite in sectors such as Healthcare for example, the sample size is based on 72 respondents. From the tables below the highest number of respondents (39) voted they would take a hybrid approach to working in the future if made available showing a mean rank of 34.09 and a p-value of 0.03, in turn the researcher rejects the null hypothesis as higher levels of satisfaction are seen to be related to the hybrid approach of working.

Hypothesis Test 4- Employee Satisfaction & Gender

The Mann Whitney U Test is conducted to test this hypothesis relating to employee satisfaction between males in the workplace. The dependent variable of employee satisfaction and the independent variable of males are tested, and results are as follows. The total of respondents who answered this question was the whole sample of 108, with the males having a mean rank of 43.43 and the females having a mean rank of 59.59. the p-value is smaller than 0.05, allowing the researcher to reject the null hypothesis of employee satisfaction being associated to males at work. Overall, as the null hypothesis is rejected the researcher implies significant differences in male and female satisfaction levels at work.

Hypothesis Test 5- Employee Satisfaction & Age

The sample size was 108, the dependent variable was kept the same and the independent variable was Age. The results are shown below in the table were 52 respondents where aged between 20-30 (mean rank of 61.00) and 56 respondents aged between 31-60 (mean rank of 48.46). The p-value is 0.038, leading to the researcher rejecting the null hypothesis as there are significant differences between satisfaction levels and different age cohort.

Hypothesis Test 6- Employee Satisfaction & Workplace Relationships

Sub-Hypothesis- Team Camaraderie

The dependent variable of employee satisfaction stayed the same and the independent variable was workplace relationships in particular under team camaraderie. The total number of respondents who filled in this section was 72 and the results are shown below in the table. 44 respondents agreed team camaraderie is associated with satisfaction in the workplace with a mean rank of 35.70 and 28 disagreed/were neutral about team camaraderie being associated with employee satisfaction. The p-value in this test is .686, overall, the researcher does not reject the null hypothesis as the differences in the mean rank are not statistically significant.

Hypothesis	Dependent Variable	Independent Variable	Levels	Mean Rank	p-Value	df/Z
H.1	Satisfaction	Working from home	1. Yes, I am currently working completely remotely since the outbreak of COVID-19 2. A mix- I am working remotely sometimes and onsite sometimes 3. No, I am back working onsite recently **4.** No, I am working onsite	1. 36.50 2. 59.35 3. 50.29 **4.** 67.06	0.002	3 (df)
H.2	Satisfaction	Working Environment	Sub-Hypothesis 1 = Children 1. No Children 2. 1+ Children Sub-Hypothesis 2 = Equipment 1. Yes **2.** No	Sub-Hypothesis 1 1. 59.09 2. 48.54 Sub-Hypothesis 2 1. 38.94 2. 34.55	0.083 0.376	-1.736 (Z) -0.885 (Z)
H.3	Satisfaction	Hybrid Working	1. Remaining at home 2. Working onsite 3. Hybrid Approach	1. 25.95 2. 45.17 **3.** 34.09	0.030	2 (df)
H.4	Satisfaction	Gender	1. Male **2.** Female	1. 43.43 **2.** 59.59	0.013	-2.292 (Z)
H.5	Satisfaction	Age	1. 20-30 2. 31-60	1. 61.00 2. 48.46	0.038	-2.079 (Z)
H.6	Satisfaction	Team Camaraderie	1. Disagree 2. Agree	1. 37.75 2. 35.70	0.686	-.405 (Z)

Table 13: Demonstration of all hypotheses and their statistical analyses

Linear Regression Analysis

Model 1

Model 1 consists of the dependent variable of employee satisfaction and the independent variables of Gender, Age, and the total scores of the Remote working and Expectations sections were used to conduct linear regression analysis for this study using the Enter method. As the Durbin-Watson statistic in the table below shows a figure of 1.894, where k = the number of independent variables (4) and n = the sample size (108). The formal Durbin Watson test suggests that the range for the number of variables and the sample size used in this current study is from 1.592 to 1.758, yet due to the current Durbin Watson figure in this regression is 1.894, no evidence is shown in relation to autocorrelation. The independent VIF values also indicate no correlation as all values were below 10 and more than 0.1.

The R-squared in the table below also known as the coefficient of determination, measures how much explanation the models' independent variables have on the dependent variable (Field, 2009). The R-squared value is 0.117 in the Model Summary table below, which demonstrates that 11.7% of the variation in the dependent variable (employee satisfaction) was explained by the independent variables in the current model. In turn, the 2 demographic variables Age and Gender, along with respondents Remote Working status and the total scores of Expectations explained 11.7% of employee satisfaction in the public sector.

The multiple regression analysis table is presented below, where the independent variable of Gender has proven to have the biggest impact on employee satisfaction shown by the coefficient of 4.716 and a p-value of .068. Two negative B values are seen regarding the coefficient values of Age (-.462) and Expectations (-.202), with employee satisfaction ranging from 1-119, a 1 unit increase in Age or Expectations reduces employee performance by either .462 or by .202, overall, even though it is significant, it does not have a huge effect on employee satisfaction and productivity.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	60.158	9.650		6.234	.000	41.020	79.295		
	Gender	4.716	2.561	.175	1.842	.068	-.362	9.794	.947	1.056
	AgeRC	-.462	2.853	-.018	-.162	.872	-6.120	5.196	.659	1.518
	Expectations	-.202	.129	-.165	-1.566	.120	-.457	.054	.774	1.292
	Are you currently working remotely?	3.730	2.946	.141	1.266	.208	-2.112	9.572	.694	1.440

Note: F = 3.407 Sig = .012 R Squared = .117 Durbin-Watson = 1.894

Table 14: Model 1 Coefficients table for Linear Regression

Model 2

Model 2 consists of the dependent variable of employee satisfaction and the independent variables of Gender, Age, Department and the total scores of the Remote working and Expectations sections were used to conduct linear regression analysis for this study using the Enter method. The independent variable of Department (Education Vs Revenue, Department of Social Protection and Healthcare) was added into this model to compare and contrast the differences in other variable values once this independent variable has been included.

The Durbin Watson statistic is noted below the table showing a figure of 1.870 with K = 5 independent variables and n = the same sample size as model 1 (108). After comparing the current study's k and n values to the Durbin Watson table, the range of values to interpret autocorrelation is between 1.571 to 1.780. Overall, with the current study's Durbin Watson value equalling to 1.870, no evidence of autocorrelation is shown for this regression analysis. Similarly, the 5 independent VIF values also indicate no correlation as all values were below 10 and more than 0.1.

The R-Squared value noted below is .170, in turn demonstrating that 17% of the variation in employee satisfaction was explained by the 5 independent variables in this regression model. The 3 demographic variables of Age, Gender and Department, particularly relating to education, with the respondents Remote Working status and total scores of expectations equated to 17% of public sector satisfaction. The statistical analysis conducted shows gender to again have the most significant impact on employee satisfaction in the public sector with a

coefficient value of 2.378, a big decrease of 2.338 seen from model 1 (4.716), when the Department variable was added to the model. From the table, we can see significant differences from Expectations (p = .025) and Department in particular to Education (p = .012). By adding an extra independent variable to this model allowed the researcher to try and control the effects on employee satisfaction across departments.

From the table, it is clear there are two negative B values relating to Expectations (-.298) and Department (-7.327), and with the dependent variable of employee satisfaction ranging from 1-119, a 1 unit increase in Department or Expectations reduces employee satisfaction and performance by .298 or by 7.327. Even though this does show significant differences, there are more significant differences seen related to the Department variable effecting employee satisfaction and productivity more than expectations.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	81.129	12.475		6.503	.000	56.384	105.874		
	Gender	2.378	2.657	.088	.895	.373	-2.892	7.647	.835	1.198
	AgeRC	.230	2.792	.009	.082	.935	-5.308	5.768	.653	1.532
	Expectations	-.298	.131	-.244	-2.276	.025	-.558	-.038	.710	1.408
	Are you currently working remotely?	1.157	3.041	.044	.380	.704	-4.875	7.188	.618	1.617
	DepartmentRC2	-7.327	2.866	-.268	-2.557	.012	-13.012	-1.643	.742	1.348

Note: F = 4.180 Sig = .002 R Squared = .170 Durbin-Watson = 1.870

Table 15: Model 2 Coefficients table for Linear Regression

Chapter 5: Discussion

Introduction

This chapter discusses the key findings based on the statistical tests conducted in chapter 4. A brief discussion will be had on regarding the 2 linear regression models as well as some engaging observations from the researcher's univariate tests conducted. While addressing some of these observations, the researcher will compare these to existing literature where applicable.

Employee Satisfaction & Working from home/Hybrid Working

The results from the Kruskal Wallis H Test for Hypothesis 1 suggested that null hypothesis was to be rejected by the researcher (p - .002), overall leading to the conclusion that there are significant differences in Employee Satisfaction while working from home. The mean rank of respondents (23) working from home since the start of the pandemic was 36.50 and a mean rank of 59.35 of respondents (13) taking a blended approach to working. Existing literature shows that employees who work remotely have above average rates of workplace satisfaction than those who work onsite, with more employees turning to full time work if they can work remotely. A survey conducted showed employees that work from home having a Happiness Index score of 75%, outdoing the onsite workers having a Happiness Index score of 71%. Lastly, 57% of remote workers believe that they are very satisfied with their job since the start of COVID-19, with 50% of onsite workers describing being satisfied with their job (Wronski & Cohen, 2020).

It is interesting that even though remote working is new most employers the Whitaker Institute of NUI Galway (2021) survey suggested that 54% of respondents had never worked from home pre-covid but 95% reported they would like to work remotely after the pandemic. Similarly, the Kruskal Wallis H Test for Hypothesis 3 relates to hypothesis 1 as it was found that employee satisfaction is associated to hybrid working, allowing employees to take a blended approach to working onsite and at home. 39 out of 72 respondents who answered this section indicated they would consider taking a blended approach to working post pandemic with 10 respondents wanting to work from home permanently. Again, the Whitaker Institute of NUI Galway (2021) acknowledges that 32% of respondents would like to work from home

on a daily basis post pandemic, 53% to work several times a week and 10% to work several times a month.

Lastly, in a validated survey from Accenture, 83% of respondents expressed they preferred a hybrid approach to working, allowing them to work from home for at least 25% of their working week. To add to this, 40% believed they can be productive and live a healthy life anywhere, whether it be onsite or at home or a combination of both (McKendrick, 2021). Overall, from recent literature and the current study's' results, there is a positive association with employee satisfaction and working from home.

Linear Regression Analysis Model 1: Employee Satisfaction & Gender

Another significant finding was in relation to employee satisfaction and gender, where existing research shows that at the start of the pandemic, 57% of males compared to 29% of females expressed that remote working has increased their satisfaction and positively affected their career (Cerullo, 2020). Studies show that the long lockdown periods caused females to report lower satisfaction and productivity than males (Feng & Savani, 2020). Due to males being more satisfied at work, 70% of male productivity has increased since the start of COVID-19 compared to 41% of females (Cerullo, 2020).

At the start of the pandemic, employers were not equipped for having remote working employees, leading to higher dissatisfaction rates between females, potentially due to the demands of childcare duties. Employers had to implement and develop additional support plans for females in order to take care of children or dependents at home, especially with schools and childcare centres being closed (Feng & Savani, 2020).

It was interesting that when conducting both the univariate tests and the linear regression analyses for this study a year and a half into the pandemic, females in the public sector were more satisfied at work than males were. Males were equal to 1 with a mean rank of 43.43 and females were equal to 2 with a mean rank of 59.59, stating that a 1 unit increase from male to female, being female is positively associated with a 4.176 increase in employee satisfaction. Despite existing literature acknowledging males to be more satisfied at work at the start of COVID-19, it is clear from the current study's analyses, females in the public sector are happier at work now than when the pandemic began.

Clark (1997) believes that males and females who have the same jobs and expectations would report equal satisfaction levels, yet females' expectations are seen to be lower than males in the workplace. High satisfaction in females reflects lower expectations at work, in turn allowing males to take higher positions in the labour market. Females want different things in a job than males do, for example males are more concerned with the extrinsic aspects of working (pay, promotion...), while females prefer the intrinsic factors of work such as good relations with managers, the work itself and how flexible the working hours are. Significantly, employees who seek more extrinsic factors in their work report lower levels of satisfaction, where emphasis on co-workers' relationships are associated with higher satisfaction between employees (Clark, 1997).

The public sector has been developing both national and corporate Family Friendly work policies and programmes in Ireland, to aid the female workforce in balancing work life and their personal life (Harrington *et al.,* 2009), with the current study reporting 74 females and 34 males with 43.5% of respondents had 1+ children within the public sector. Satisfaction between females could be higher due to them potentially having child minding duties with remote working suiting them better than working onsite. A recent survey conducted suggests 54% of mothers with children under 18 would rather work from home than onsite as 33% acknowledge their employers doing very well in providing the flexible opportunity to work from home (Bloom, 2016).

Comparator studies relating to the public healthcare sector showed that out of 546 healthcare professionals surveyed using a job satisfaction scale similar to the UWES measurement tool, resulted in overwhelming evidence of feminisation among all healthcare professions with higher satisfaction levels between females than males (Garcia *et al.*, 2013). Moyes et al (2006) found similar satisfaction rates between females and males, which could be due to males being deemed as the breadwinners in families and take on a lot of work responsibilities compared to females. As males' responsibilities may be greater than females, their expectations from their jobs tend to be higher than females, and with the public sector not always meeting these expectations, this could lead to the lower satisfaction in males. The researcher believes that this culture is slowly changing to see more responsibility-balanced families, yet the balance between females and males at work still has improvements to be made. Overall, this allows for further research to be conducted in the future in relation to public sector satisfaction and productivity.

Linear Regression Analysis Model 2: Employee Satisfaction & Expectations/Education

Model 2 from the linear regression analysis included an extra independent variable (Department) as the researcher was curious to try and control the effects of employee satisfaction across different departments. Upon testing a number of binary variables for the 4 public sector departments sampled within this study, the Education department versus the other 3 departments was found to be most significant. It is clear from the model 2 results that the Education department and the expectations variable had the biggest effect on respondents' satisfaction. The expectations variable was recoded and showed that higher scores in expectations indicated more negative expectations. When the independent variable of department (education) was included, there was significant associations found between Education and respondents' expectations, where a 1 unit increase of employee expectations reduces employee satisfaction by .298.

Findings of -7.327 in relation to the education department demonstrates highest satisfaction levels compared to the other 3 departments of Revenue, the Department of Social Protection and Healthcare. This finding also represents that moving from the education department to any of the other 3 departments is associated with a decrease in employee satisfaction levels of 7.327. High employee satisfaction and productivity of academics is vital in ensuring a high quality of education is provided in order to improve students learning experiences (Stanovska *et al.,* 2017), thus having an impact on the future workforces' and ways of working (Khalid *et al.,* 2012).

Comparator studies focusing on Education in the public sector have conducted research using another similar job satisfaction model to the current study's UWES model. The widely used model of job satisfaction consists of 36 items under headings, including promotion, benefits, nature of the job and communication at work assessing employees' attitudes and interests about their job in education. Results showed that academic teaching employees are highly satisfied in their job when it's to do with their own work. Other results show full time academic staff are more satisfied with the extrinsic aspects of their jobs such as their salary and opportunities for growth, however they are dissatisfied with communication and rewards in the education sector. Lastly, studies have shown that highly productive and motivated employees have a direct effect on employee satisfaction (Szlávicz & Avakumovic, 2018).

To conclude, individual performance of employees' education has the highest satisfaction compared to other public sector departments based on their opportunities for growth, organisational support, and their motivation to do their job. Also taking into consideration the personal attributes of academic staff such as their education level, gender, and their age, influencing the educational correlation with employee satisfaction (Saiti & Papadopoulos, 2014).

Managerial and literature Implications

After conducting research in relation to public sector satisfaction and productivity, the researcher will provide some managerial and literature implications in order for organisations or sectors to produce a satisfied and productive workforce. Results showed that higher satisfaction levels were seen in employees who work from home especially those taking or considering taking a hybrid approach to working, yet only a few variables were associated with working from home.

Implement employee initiatives tailored to different age cohorts

The first managerial implication the researcher has proposed is to implement employee initiatives that best suit the different age cohorts. Research shows different age cohorts are satisfied by different aspects of their job and have different expectations on how they perceive their job. For example, millennials seek new challenges and opportunities to progress (O'Connell, 2017) while older age cohorts are more concerned with having good workplace relationships and job security. If sectors take into consideration the expectations of their employees for new initiatives, this can increase employee satisfaction and productivity within the public sector. However, from an employer's point of view, this could come as an additional cost.

Educational Opportunities to promote growth and development

Secondly, if sectors placed more emphasis on upskilling and provided training and development for both males and females, not only would male satisfaction levels increase but to reduce gender discrimination and give females the opportunity to progress in more hierarchical roles. Additionally, online webinars are effective in ensuring social interaction in remote workers allowing frequent and consistent communication, thus providing opportunities for both individual and sectoral

advancement from home, increasing satisfaction and productivity in hope to obtain competitive advantage in the world of work.

Accuracy of the UWES Model

In regard to literature implications, previous research studies have shown that most areas of the UWES model have a significant impact on employee satisfaction. Within the current study's findings, it's clear that the working environment and workplace relationships do not have a significant impact on employee satisfaction despite other literature stating it does. This could be due to the sample size, the sectors involved in the study and the different views of employees in the public sector, if the sample size was larger, the working environment and workplace relationships could be seen to impact employee satisfaction more significantly.

Chapter 6: Conclusion & CIPD Requirements

Limitations and Future Scope

This section addresses the limitations of this research study and provides an insight of future research recommendations

The current research study did not see any association of the workplace environment on employee satisfaction despite existing literature stating this variable to be a contributing factor to employee satisfaction. For example, empirical evidence found that employee satisfaction also depends on different working conditions as employees working in normal conditions are considered happier than other employees working under tough or unsafe working conditions (Bakotic & Babic, 2013). The reason for this important variable not having any impact on employee satisfaction in the public service could be due to the small sample size not allowing for more respondents' opinions or the choice of sampling technique used to conduct the survey. The researcher suggests a future approach to obtain more representative findings could be to use probabilistic sampling using simple random sampling as it is a reliable and effective in obtaining respondent information. However, it is considered time consuming so if researchers are not time restricted this is the best option to potentially find more accurate findings and generate a bigger sample size.

Furthermore, the current study did not capture different nationalities or ethnicities working within the Irish public sector that could have potentially provided different views on satisfaction and productivity in the workplace. For future research, the researcher proposes adding a socio demographic variable of nationality/ethnicity in order to seek comparisons and alternative views on working within the Irish public sector from respondents who are not of an Irish nationality.

Lastly, in regard to age, the researcher suggests for future research to extend the age category from 18-70 as the Citizens Information (2021) explains that even though public servants can take early retirement at 55, people who joined the public service after 2013 can only take minimum retirement at 66 or mandatory retirement at 70 within certain sectors. Allowing this expansion in age, could obtain more responses from the older age categories and the researcher could see different findings compared to the current study's findings.

Conclusion

To conclude, the aim of this study was to examine employee satisfaction and productivity and the affect the pandemic had on employees within the public sector within the context of a prior expectation. The questionnaire results showed that 86.7% of respondents never worked from home before COVID-19, yet respondents are now more satisfied working from home than onsite with 13.9% wanting to remain at home post COVID-19 and 54.2% indicating they would like to take a hybrid approach to working going forward. Moreover, despite general literature on gender satisfaction at work indicating males being more satisfied at work than females, it was interesting to find that the current study Univariate tests and linear regression analysis found in females in the public sector are more satisfied in their workplace than males.

Furthermore, significant associations were found between Education and respondents' expectations, where a 1 unit increase of employee expectations reduces employee satisfaction by .298 and the education department was found to have the highest satisfaction levels compared to the other 3 departments. This finding also represents that moving from the education department to any of the other 3 departments is associated with a decrease in employee satisfaction levels of 7.327. After taking into consideration existing literature and conducting quantitative research on employee satisfaction and productivity at work whether that be onsite or remotely, there is still scope for further research due to the workforce constantly changing and expanding.

CIPD Requirements

Recommendations and Costings

Since the outbreak of COVID-19, employees all around the world have turned to remote working leading to effects on employee satisfaction and productivity. The top 3 recommendations the researcher has proposed for employers to take into consideration with having remote workers will ensure a satisfied and productive workforce under these new circumstances. The top 3 recommendations include Effective Communication. Ongoing E-Learning and Work-Life Balance Coaching.

Effective Communication- Frequent, Consistent and Transparent

Effective communication has always been a top priority in order for organisations and their employees to thrive and enhance relations at work. Since the pandemic has come so unexpectedly, organisations now need to place more emphasis on communicating with their remote workers so that they don't risk developing a disengaged and dissatisfied workforce. By management organising team meetings both formally and informally it can help create stronger teams and enhance overall productivity as remote workers lack social interaction, setting aside time for team calls can help ensure a more satisfied workforce. If employees consult with others on projects and on developing new plans, this will keep employees more engaged and aid future cooperation more efficiently and effectively, overall increasing employee satisfaction and productivity. There is no financial cost accrued when ensuring ongoing effective communication, yet if there is a lack of communication, organisations could see a cost in recruitment and training new employees, due to the lack of retention.

Development of an E-Learning Portal

E-learning is described as an online means of learning for ongoing learning, training, and developmental purposes in organisations. This form of learning is ideal for remote workers as they can develop their skills and knowledge at home at their own discretion. Formal e-learning allows individual employees to upskill by course-based content, while informal e-learning provides individuals with the opportunity to interact with other colleagues and professionals from the organisation to gain new insights on potential career paths. Overall, the development of an e-learning portal allows employees to develop critical thinking and independent learning with the opportunity to engage in other learning courses with co-workers when applicable, in turn increasing employee relations, satisfaction and productivity to obtain competitive advantage. An E-learning portal would cost an organisation or the public sector a once off payment of approximately €14,000 to €17,000, depending on how many courses within the portal, on average it takes 197 hours to develop a 1 hour one e-learning course.

Work Life Balance Training Program

The public sector could provide a 2-day online Work life balance training program if "in person" training wasn't possible due to specific restrictions in place at that time allowing employees to engage in stress and time management projects relating to both work life and personal life. These programs can be highly interactive, easy to use and enjoyable for employees to management their work projects and relationships outside working hours better. Work life balance programs increase individual's productivity, commitment, and accountability, allowing for better communication and improved morale, benefitting both the employee and employer in the long term.

Personal Learning Statement

Writing this masters dissertation has been both challenging yet rewarding at the same time, it has expanded my knowledge from my HR undergraduate course on how employee satisfaction and productivity play a vital part in the success of organisations gaining and obtaining their competitive advantage. As there wasn't much research conducted in relation to the public sector in general, this dissertation gave me a great insight to determinants that influence satisfaction and productivity in the public sector, in comparison to various other organisations. Writing this dissertation has allowed me to enter the HR industry in the coming weeks and put my learning and experiences into practice as the experience gained from pursuing my master's dissertation has been invaluable.

Some challenges I experienced while writing this dissertation during the pandemic was in regard to access of library resources, meeting with other students and especially meeting with my supervisor as it would have been better to meet in person, yet we adapted to the current circumstances and restrictions. I had done quantitative methods in my HR undergraduate course, so I did have some knowledge, but not as much knowledge as I needed to operate Excel and SPSS so that was definitely a main challenge throughout this dissertation. However, I now feel more confident in operating these statistical methods in research and I am able to run analyses more easily, with hope to use them again in my future HR career.

Employee engagement has always been a very interesting topic for me, and I have gained more experience than I could have ever imagined when writing this dissertation, yet I do have areas of interest that could be developed more, for example using more descriptive and

critical writing that hopefully I can develop during my time in the HR industry. To conclude, I will never forget how challenging and rewarding writing this dissertation was and I am excited to pursue my career in HR with the invaluable experience I have gained from both my undergraduate degree and my master's degree.

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Appendix

Descriptive Statistics

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	34	31.2	31.5	31.5
	Female	74	67.9	68.5	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	52	47.7	48.1	48.1
	31-40	15	13.8	13.9	62.0
	41-50	17	15.6	15.7	77.8
	51-60	24	22.0	22.2	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Education Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Leaving Certificate	34	31.2	31.5	31.5
	Bachelor's Degree	50	45.9	46.3	77.8
	Master's Degree	22	20.2	20.4	98.1
	Ph.D or higher	2	1.8	1.9	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Employment Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed Full-Time	77	70.6	71.3	71.3
	Employed Part-Time	24	22.0	22.2	93.5
	Contract	7	6.4	6.5	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Department					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Revenue	24	22.0	22.2	22.2
	Department of Social Protection	21	19.3	19.4	41.7
	Education	32	29.4	29.6	71.3
	Healthcare	31	28.4	28.7	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	35	32.1	32.4	32.4
	Widowed	1	.9	.9	33.3
	Separated	2	1.8	1.9	35.2
	Living with Partner	17	15.6	15.7	50.9
	Single	53	48.6	49.1	100.0
	Total	108	99.1	100.0	
Missing	System	1	.9		
Total		109	100.0		

Number of Children					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	.9	.9	.9
	None	61	56.0	56.0	56.9
	1	9	8.3	8.3	65.1
	2-4	35	32.1	32.1	97.2
	More than 4	3	2.8	2.8	100.0
	Total	109	100.0	100.0	

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
Satisfaction	108	70.88	12.554	157.602

Reliability Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.881	.888	17

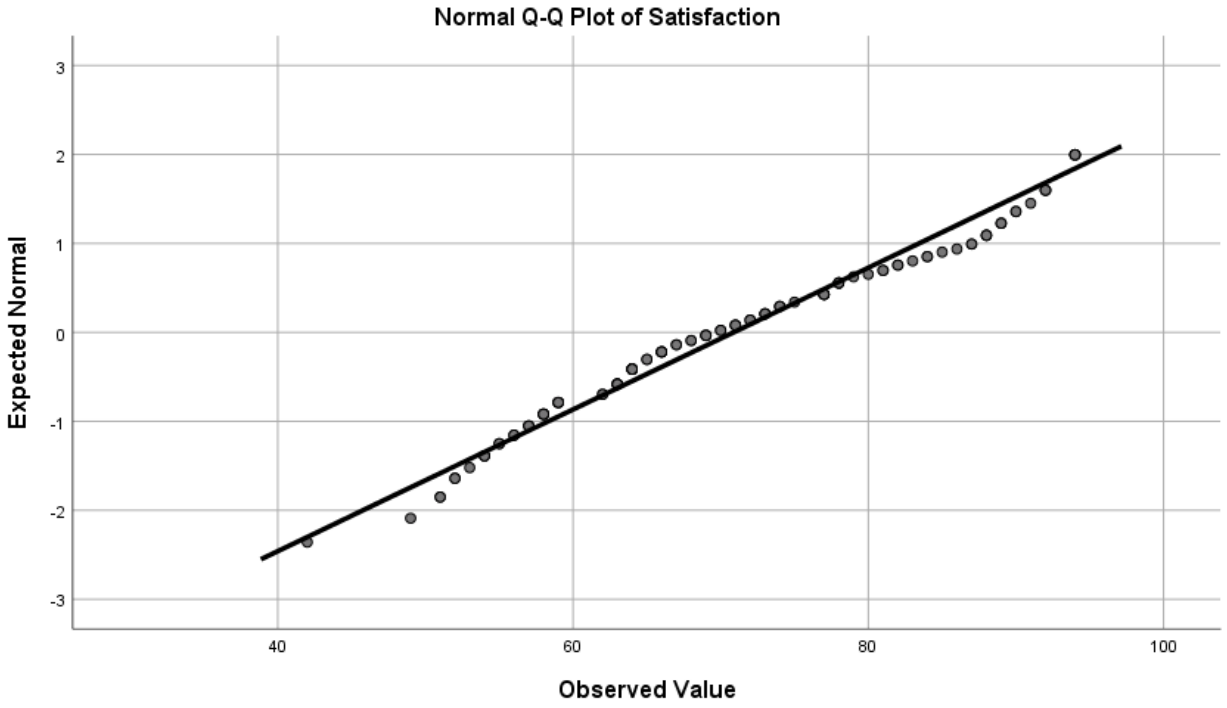
Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Bursting with energy	67.07	139.864	.552	.471	.873
Work full of meaning and purpose	66.21	136.674	.705	.711	.867
Time flies when I'm working	66.17	140.720	.594	.488	.872
At my job, I feel strong and vigorous	66.94	136.931	.740	.698	.867
I am enthusiastic about my job	66.21	135.496	.729	.755	.866
When I am working, I forget about everything else around me	67.23	139.731	.510	.437	.875
My job inspires me	66.60	136.354	.608	.646	.870
When I get up in the morning, I feel like going to work	67.40	130.522	.684	.585	.867
I feel happy when I am working intensely	66.73	137.899	.546	.436	.873
I am proud of the work that I do	65.45	146.830	.541	.424	.875
I am immersed in my work	66.22	137.502	.717	.628	.867
I can continue working for very long periods at a time	66.65	139.389	.527	.472	.874
To me, my job is challenging	66.49	149.991	.217	.212	.885
I get carried away when I'm working	67.07	144.125	.339	.248	.882
At my job, I am very resilient, mentally	66.56	137.725	.637	.488	.870
At my work I always persevere, even when things do not go well	66.35	139.726	.573	.476	.872
Difficult to detach from workRC	68.69	161.504	-.164	.325	.902

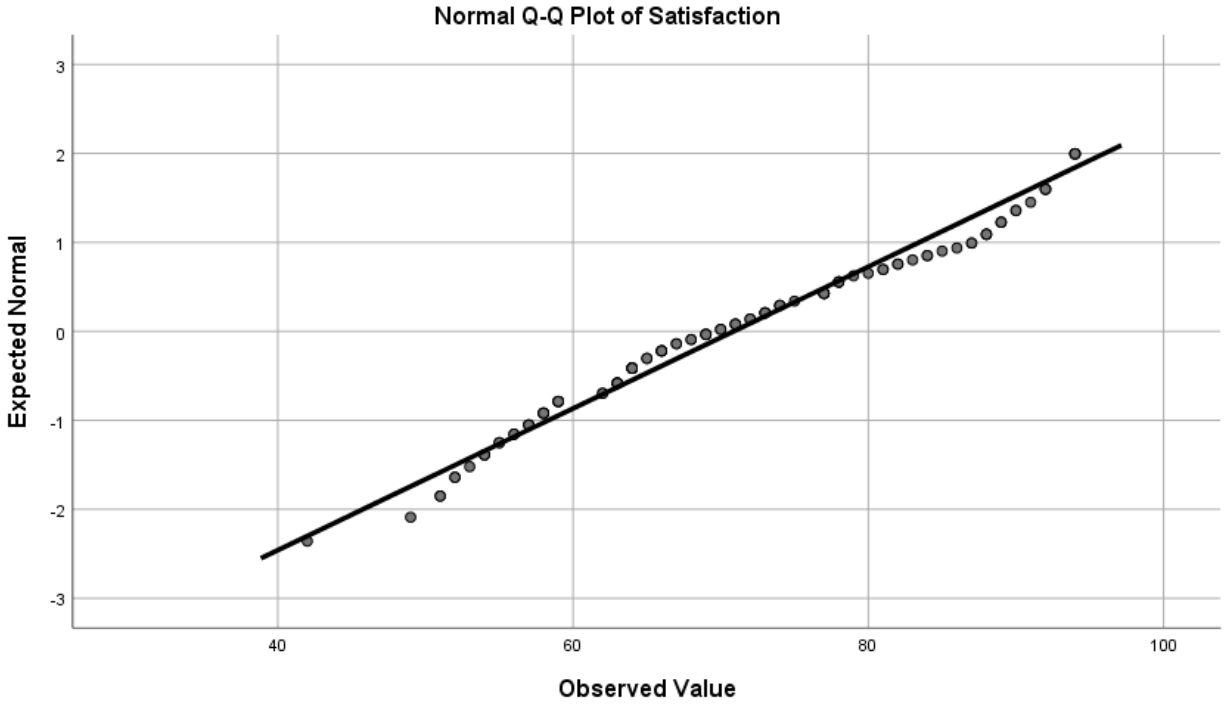
Normality Test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig. Value
Satisfaction	.086	108	.046	.970	108	.015

KEY: df = Degrees of Freedom

Sig. Value = Significant Value


Normal Q-Q Plot of Satisfaction
Expected Normal
3
2
1
0
-1
-2
-3
40
60
80
100
Observed Value


Normal Q-Q Plot of Satisfaction
Expected Normal
3
2
1
0
-1
-2
-3
40
60
80
100
Observed Value

Hypothesis Test 1

Ranks			
	Are you currently working remotely?	N	Mean Rank
Satisfaction	Yes, I am currently working completely remotely since the outbreak of COVID-19	23	36.50
	A mix- I am working remotely sometimes and onsite sometimes	13	59.35
	No, I am back working onsite recently	33	50.29
	No, I am working onsite	39	67.06
	Total	108	

Test Statistics[a,b]	
	Satisfaction
Kruskal-Wallis H	14.797
df	3
Sig. Value	.002

Hypothesis 2

Sub-Hypothesis 1:

Ranks				
	ChildrenRC	N	Mean Rank	Sum of Ranks
Satisfaction	1	61	59.09	3604.50
	2	47	48.54	2281.50
	Total	108		

Test Statistics[a]	
	Satisfaction
Mann-Whitney U	1153.500
Wilcoxon W	2281.500
Z	-1.736
Asymp. Sig. (2-tailed)	.083

Sub- Hypothesis 2:

Ranks				
	Equipment Fulfilment	N	Mean Rank	Sum of Ranks
Satisfaction	Yes	32	38.94	1246.00
	No	40	34.55	1382.00
	Total	72		

Test Statistics[a]	
	Satisfaction
Mann-Whitney U	562.000
Wilcoxon W	1382.000
Z	-.885
Sig.Value (2-tailed)	.376

Hypothesis 3

Ranks			
	Option_to_return_onsite	N	Mean Rank
Satisfaction	Remaining at home	10	25.95
	Working onsite	23	45.17
	Hybrid approach	39	34.09
	Total	72	

Test Statistics[a,b]	
	Satisfaction
Kruskal-Wallis H	7.020
Df	2
Sig. Value	.030

Hypothesis 4

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Satisfaction	Male	34	43.43	1476.50
	Female	74	59.59	4409.50
	Total	108		

Test Statistics[a]	
	Satisfaction
Mann-Whitney U	881.500
Wilcoxon W	1476.500
Z	-2.492
Sig. Value (2-tailed)	.013

Hypothesis 5

Ranks				
	AgeRC	N	Mean Rank	Sum of Ranks
Satisfaction	1	52	61.00	3172.00
	2	56	48.46	2714.00
	Total	108		

Test Statistics[a]	
	Satisfaction
Mann-Whitney U	1118.000
Wilcoxon W	2714.000
Z	-2.079
Asymp. Sig. (2-tailed)	.038

Hypothesis 6

Ranks				
	Team_CamaraderieRC	N	Mean Rank	Sum of Ranks
Satisfaction	1.00	28	37.75	1057.00
	2.00	44	35.70	1571.00
	Total	72		

Test Statistics[a]	
	Satisfaction
Mann-Whitney U	581.000
Wilcoxon W	1571.000
Z	-.405
Asymp. Sig. (2-tailed)	.686

Linear Regression

Model 1

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.342[a]	.117	.083	12.025	1.894
a. Predictors: (Constant), Are you currently working remotely?, Gender, Expectations, AgeRC					
b. Dependent Variable: Satisfaction					

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	60.158	9.650		6.234	.000	41.020	79.295		
	Gender	4.716	2.561	.175	1.842	.068	-.362	9.794	.947	1.056
	AgeRC	-.462	2.853	-.018	-.162	.872	-6.120	5.196	.659	1.518
	Expectations	-.202	.129	-.165	-1.566	.120	-.457	.054	.774	1.292
	Are you currently working remotely?	3.730	2.946	.141	1.266	.208	-2.112	9.572	.694	1.440

Model 2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.412[a]	.170	.129	11.714	1.870

a. Predictors: (Constant), DepartmentRC2, Expectations, Gender, AgeRC, Are you currently working remotely?

b. Dependent Variable: Satisfaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	81.129	12.475		6.503	.000	56.384	105.874		
	Gender	2.378	2.657	.088	.895	.373	-2.892	7.647	.835	1.198
	AgeRC	.230	2.792	.009	.082	.935	-5.308	5.768	.653	1.532
	Expectations	-.298	.131	-.244	-2.276	.025	-.558	-.038	.710	1.408
	Are you currently working remotely?	1.157	3.041	.044	.380	.704	-4.875	7.188	.618	1.617
	DepartmentRC2	-7.327	2.866	-.268	-2.557	.012	-13.012	-1.643	.742	1.348