



## **The Impact of Work Model in the Job Design Satisfaction**

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## **ABSTRACT**

Work evolved from being a means of livelihood to a pursuit of meaning and fulfillment for contemporary employees. More recently, with the advent of flexible work arrangements, organizations have changed their structures, moving from traditional on-site models to hybrid and remote setups. As such, the impact of these diverse work models on job design satisfaction remains a relevant research subject.

This thesis delves into the dynamics of job design satisfaction within InnoWave Technologies, a multinational IT consulting company predominantly operating under hybrid and remote work arrangements. In the context of consulting, where projects and assignments often diverge from employee expectations, understanding job design satisfaction becomes crucial. The rise in employee churn, exacerbated by the Great Resignation post-Covid-19, adds urgency to comprehending how work arrangements influence employees' perceptions of job satisfaction.

The study aims to identify employees' job design satisfaction based on their engagement in hybrid or remote work. It investigates the aspects of job design satisfaction, focusing on how work arrangement requirements influence employees' perceptions about their work. By addressing two research questions, the study seeks to shed light on the distinctions in job design satisfaction between hybrid and remote workers within InnoWave and pinpoint factors influencing job satisfaction. The results highlight that there are no differences in perceptions of Job Design Satisfaction by employees working in remote and hybrid work models.

**Keywords:** Job Design Satisfaction, Flexible Work Models, Employee Satisfaction

**Title:** The Impact of Work Model in Job Design Satisfaction

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## **RESUMO**

O trabalho evoluiu de ser considerado um meio de subsistência para uma procura de significado e realização para os trabalhadores. Esta transformação, explorada pela área de Comportamento Organizacional, evoluiu a compreensão sobre os trabalhadores e como são tratados. Com o surgimento de modelos de trabalho flexíveis, as organizações adaptaram-se, passando de modelos tradicionais para configurações de trabalho híbridas e remotas.

Esta tese investiga a dinâmica da satisfação com o design do trabalho na InnoWave Technologies, uma empresa multinacional de consultoria em TI que opera predominantemente em modelo híbrido e remoto. No contexto da consultoria, onde os projetos muitas vezes divergem das expectativas dos funcionários, entender a satisfação com o design do trabalho torna-se crucial. O aumento da rotatividade de funcionários, exacerbado pelo fenómeno conhecido como “Great Resignation”, aumenta a urgência de compreensão de como os modelos de trabalho influenciam as percepções dos colaboradores sobre a satisfação no trabalho.

O estudo procura esclarecer sobre as diferenças na satisfação com o design do trabalho entre os modelos híbrido, presencial e remoto na InnoWave, e identificar fatores que influenciam a satisfação no trabalho em empresas de consultoria em TI. Os resultados destacam que não há diferenças nas percepções de satisfação com o design do trabalho entre colaboradores que trabalham nestes modelos.

**Palavras-Chave:** Satisfação com o Design do Trabalho, Modelos de Trabalho Flexível, Satisfação Colaboradores

**Título:** O Impacto do Modelo de Trabalho na Satisfação com o Design do Trabalho

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## INTRODUCTION

Work is part of everyday life for billions of people worldwide and at the present time, it is seen not only as a way of making a living but as something meaningful and purposeful. Nowadays, workers search in work a sense of fulfillment and accomplishment (Lepisto & Pratt, 2017; Taylor, 2017) Although, that has not always been the case.

Before the third industrial revolution, in the 19<sup>th</sup> century and the very beginning of the 20<sup>th</sup> century, workers were perceived as just another piece of the machine in a factory's production line. Well, that has changed since the relationship between production and human social factors has been established by the field of Organizational Behavior. Because of this, it was understood that not only operational factors are relevant in performance, but other aspects like employee satisfaction play a significant role in employee performance (Judge & Bono, 2001). Notably, this transformation is much more prevalent within the western societies, where the impact of this paradigm shift, in the treatment and understanding of workers, has been strongly experienced. Through the finding of this linkage between job satisfaction and employee performance, employee satisfaction became a central aspect to organizations, which started to focus on achieving better results by improving the way their employees feel and behave in their work.

In recent years, the advent of flexible work arrangements has prompted organizations to reevaluate their conventional work structures, transitioning from predominantly on-site work to decentralized models. This shift not only influences how employees perceive their roles and responsibilities but also impacts the design and organization of their tasks, roles, and broader work context – collectively shaping their **job design satisfaction (JDS)** (Oldham & Fried, 2016). However, the specific effects of different work models – on-site, hybrid and remote work - on job design has been object of attention, especially in the context of multinational companies that operate in a variety of cultural and economic settings.

It is particularly interesting to deep dive in JDS in consulting companies where employees often change projects, and where their assignment may not always align with their expectations. Furthermore, due to the nature of the consulting work, the focus of the assignment may be on a specific aspect of the work that the employee might not enjoy, or the work context may be different from what the employee expected, such as changes in the work model. Moreover, companies have experienced rising employee churn over the past few years, which only accelerated after the Covid-19 pandemic, also known as the Great Resignation (Serenko, 2023). Some of the causes for this acceleration include the search for a better work-life balance, autonomy, smart working, career progression opportunities, and safety concerns over Covid-19.

This study will focus on understanding which employees have a better sense of JDS based on their work arrangements. It takes place on an organizational setting whose current work force

is working mainly in hybrid and remote work. To achieve this, we need to delve into JDS - how satisfied employees are with the way their job is structured (Parker, 2014) - specifically on the work arrangement requirements and understand how those affect employees' perception on job satisfaction.

This thesis will examine the perceptions and experiences of employees regarding their JDS across these two work models and try to contribute to the understanding of how work arrangements influence the job design dimensions of work and help organizations optimize their talent management strategies. To do so, this thesis aims to answer the following **research questions**:

Research question 1: How does JDS differ between employees working in hybrid, onsite, and remote work arrangements within InnoWave Technologies?

Research question 2: What specific job design factors significantly influence job satisfaction within hybrid, onsite, and remote work models that can contribute to understand what is valued by IT workers in IT consulting companies?

Each section is organized as follows: i) First, the literature review provides a systematic overview of the previously researched concepts and findings on employee satisfaction and work models. ii) Second, the methodology and result analysis details how the author will answer the research questions and the findings that can be drawn from the data. iii) Finally, the conclusions, limitations, and future research chapters present the takeaways from this case study and what future direction can be taken.

# LITERATURE REVIEW

## 1. OVERVIEW OF JOB SATISFACTION: DEFINITION AND CONCEPTS

Since the beginning of the 20<sup>th</sup> century that several research endeavors have helped grow our understanding of job satisfaction (JS) and its determining factors. One of the earliest and most widely used definition is from author Edwin A. Locke who states that JS is “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” (Locke, 1976). More recently, Paul E. Spector stated that JS is “how people feel about their jobs and different aspects of their jobs (Spector, 1997), being defined “as an overall, evaluative judgement of one’s job ranging from positive to negative” (Judge, Zhang, & Glerum, 2020).

### a. Key Theories and Frameworks of Job Satisfaction

To provide a comprehensive understanding of the JS concepts we must delve into the key theories and frameworks. These theories clarify the key drivers of JS but also shed light on the intricate relationship between JS and job design. These theories allow to uncover the fundamental building blocks that help understand the impact of several work arrangements on job design satisfaction (JDS).

One of the earliest studies around human behavior in the workplace is called the Hawthorne studies. These studies consisted in several experiences around the working conditions, like lighting and number of breaks, of employees and how those affected employee productivity and JS. These found that workers’ productivity increased not because of changes in working conditions but because employees were aware that they were being observed (Landsberger, 1958). This suggested that attention and recognition positively influence employee performance and satisfaction as well as the need for employers to make jobs engaging for employees.

Around the same timeframe Fisher & Hanna (1931) delved into the notion that JS is an individual trait, with individuals perceiving satisfaction or dissatisfaction based on their inherent dispositions. More recently, dispositional, and situational factors influence in JS continues to be a core aspect in JS research with several studies focusing on this dimension (Ones, Dilchert, Viswesvaran, & Judge, 2007; Judge, Klinger, Simon, & Yang, 2008).

In the 1950s, Herzberg, Mausner and Snyderman (1959) developed the Two-Factor Theory arguing that the factors that contribute to the satisfaction of employees – also known as motivators - are separate from the factors that contribute to the dissatisfaction of employees – or hygiene

factors. Furthermore, not only the factors exist in two different scales, but they are not correlated, meaning that improving the factors that relate to employee satisfaction does not necessarily translate to an improvement of the factors that contribute to dissatisfaction of employees and vice versa. As it is known, Herzberg's Two-Factor Theory is still widely used to study JS before (Chiat & Panatik, 2019) and after (Mo, Zeng, & Lin, 2023) the Covid-19 pandemic. The results of these studies support Herzberg's motivation-hygiene theory.

Later in the 20th century, in 1974, Hackman and Oldham developed the Job Characteristics Model based on the theory that JS of workers comes mainly from the job design. The theory "proposes that positive personal and work outcomes (high internal motivation, high work satisfaction, high quality performance, and low absenteeism and turnover) are obtained when three critical psychological states are present for a given employee (experienced meaningfulness of the work, experienced responsibility for the outcomes of the work, and knowledge of the results of the work activities). All three of the psychological states must be present for the positive outcomes to be realized (Hackman & Oldham, 1975). This study also resulted in the creation of a measuring instrument, by the same authors, called the Job Diagnostic Survey. This survey measures the motivating potential score of a job in the five core job dimensions and should be applied before and after job redesign to measure its effects on employees. To this day, its usage can be found in the assessment and study of job motivation (Nagrath, Gupta, & Bindia, 2020) and through the measurement of core job characteristics (Tsigilis & Koutelios, 2019) of school teachers.

Shortly after in 1976, Edwin A. Locke developed the Range of Affect Theory, one of the most popular theories on JS. This theory defines JS as the difference between what an employee expects from a job and what the employee gets from it (Locke, 1976). It also states that employees value certain job facets over others and the more the employee expectation on the job facet(s) are met the more satisfied the employee will be, on the contrary if the expectation is not met the more the employee will be dissatisfied with its job. Ever since this theory has been used to identify facets on employees' jobs that promote overall JS (Conway, Williams, & Green, 2013) and in multiple samples in several countries (Mcfarlin, Coster, Rice, & Cooper, 2010).

Entering the 1980s several theories focused on dispositional factors which suggest that JS is different from person to person and that, to a certain extent, JS is an individual trait. Individuals with a positive or negative disposition towards work will perceive job satisfaction or dissatisfaction accordingly to their disposition (Judge, Heller, & Klinger, 2008). One of the theories on dispositional factors is the Five-Factor Model of Personality developed by McCrae & John (1992). This theory has five different dimensions – Extraversion – an individual's sociability, assertiveness and need for social interaction, Agreeableness –an individual's interpersonal warmth, empathy, and cooperativeness, Conscientiousness – a person's level of organization, responsibility and self-discipline, Neuroticism –an individual's emotional reactivity, anxiety and resilience to stress, and

Openness to Experience –individual’s receptiveness to new ideas, experiences, and intellectual curiosity.

Another theory in the dispositional factors category is the Core Self-Evaluations Taxonomy, introduced by (Judge, Locke, & Durham, 1997) where four Core Self-Evaluations –Self-Esteem, General Self-Efficacy, Locus of Control and Neuroticism – are regarded as the characteristics on which one can assess propensity for a higher JS. Typically, high Self-Esteem, General Self-Efficacy, internal Locus of Control, and lower level of Neuroticism leads to workers with higher JS.

As per Connolly & Viswesvaran meta-analysis research paper (2000), several other theories have been developed under the relationship between JS and Negative or Positive Affectivity, such as Affective Events Theory, The Stimulus Organism-Response Model, and the Affect Infusion Model. These authors studies state that these theories are based on the notions that individuals with positive affectivity emotions and expressions have a higher JS than those with negative affectivity emotions and expressions.

More recently, theories like the Job Demands-Resources Model (JD-R) (Bakker & Demerouti, 2007) distinguish between the job demands and resources as predictors for job satisfaction, burn-out, and stress. Bakker and Demerouti classify job demands as the “physical, psychological, social, or organizational aspects of a job that tax an individual’s energy “. And job resources “as those physical, psychological, social or organizational aspects of the job that are either or: functional in achieving work goals; reduce job demands and the associated physiological and psychological costs; stimulate personal growth, learning and development;”. The JD-R model proposes that the impact of job demands and resources on well-being outcomes is moderated by personal and situational factors. Similarly, to Hackman and Oldham’s Job Characteristics theory, the JD-R model also recognizes the importance of creating work environments that lead to positive outcomes for employees and both theories are centered on the concept of job design and how it influences employee outcomes. They acknowledge that how jobs are structured and the tasks they entail can impact employee’s experiences and performance!

Another theory that emerged on the late 21<sup>st</sup> century is the Positive Psychology Approach by Martin Seligman (2012). This theory draws on the broader field of positive psychology and emphasizes the role of positive experiences and emotions in shaping JS, encouraging a focus on promoting well-being and happiness in the workplace. This approach highlights the importance of creating positive and supportive work environments that foster engagement and well-being among employees and shows that creating such a work environment can significantly impact employee’s JS.

## Contemporary Research on Job Satisfaction

As the field of organizational behavior has evolved, job satisfaction (JS) has remained a central topic of study. Research on JS has entered what is called the affective era - post 1995, a period characterized by a deeper exploration of emotional and attitudinal aspects of JS (Judge, Hulin, & Dalal, 2012; Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017). During this era, new concepts and theories have emerged, updating the understanding of JS.

One such development is the tripartite model of attitudes, according to which JS is composed of three components: cognitive, affective, and behavioral aspects (Schleicher, Hansen, & Fox, 2011; Judge, Zhang, & Glerum, 2020). The cognitive aspect involves beliefs or judgements that individuals hold about their jobs, the affective component refers to the feelings or emotions that their job prompts, and finally the behavioral element relates to how individuals behave towards their job. While these three components are commonly used to understand job attitudes, not all attitudes will contain all three elements. In some cases, an individual's attitude towards their job might be mainly cognitive and emotional, with limited observable behavior tied to it. For instance, an employee might have positive thoughts and emotions about their job but not necessarily exhibit specific behaviors because of that attitude. Nonetheless, JS is generally considered to be made up of all three of these components (Schleicher, Hansen, & Fox, 2011).

In this contemporary era of JS, there has been a growing recognition of the influence of emotional factors on JS and overall well-being. This emphasis is a relatively recent development in the field, and it delves into how emotions shape individual's perceptions of their work experiences and subsequently impact their JS. Moreover, this shift in research has led to the identification of two distinct types of emotional content (Rothausen & Henderson, 2019). The first - Hedonic, which revolves around the experience of enjoyment and pleasure derived from one's work. The second - Eudemonic, which relates to the deeper sense of meaning, purpose, and fulfillment individuals find in their work, even if it involves overcoming challenges. As an important aspect of job attitudes, JS can manifest in various ways, directed not only towards specific job-related facets but also towards the broader context of one's overall job experience.

As the world grappled with unprecedented challenges brought by the pandemic, researchers began to explore the impact of these changes on employee satisfaction. Now more than ever JS theories emphasize adaptability and resilience as very important ingredients in employee JS. These two characteristics are especially important in job occupations that were severely affected by the pandemic between 2020 and 2022 like healthcare professionals (Alameddine, Bou-Karroum, Ghalayini, & Abiad, 2021; Shahrabaki, Abolghaseminejad, Iari, Zeidabadinejad, & Dehghan, 2023) and the hotel and restaurant industry (Cheng & Kao, 2022) which experienced high levels

of job stress. Overall, employees and organizations had to adapt very rapidly to different working conditions, which included remote work, changes in job roles, and uncertainty about the future. These research papers concluded that individuals who could effectively adapt to change reported higher levels of JS. Those individuals demonstrated characteristics like resilience - individuals that tend to bounce back from setbacks more effectively display a capability to handle stress, uncertainty, and adversity; flexibility - individuals open to change that can adjust their expectations and behaviors in response to new situations. These are specifically important because they allow for easier adaptation to new work conditions and roles. Other important aspects are the ability and willingness to learn new things and acquire new skills as well as a proactive mindset to seek out opportunities, make changes and take control of their circumstances, even in uncertain times.

Moreover, the pandemic intensified the discussion of remote work and its impact on JS. While some employees experienced increased JS due to the flexibility and autonomy of remote work (Sousa-Uva, Sousa-Uva, Sampayo, & Serranheira, 2021), others faced challenges with remote work fatigue and difficulties in work-life balance (Palumbo, 2020; Stankevičiūtė & Kunska, 2021; Bonanomi, Facchin, Barello, & Villani, 2021), which negatively impact their JS. The studies that reported increased JS attributed it to higher organizational trust and feeling good in the workplace at home. This shows that organizational culture and work environment play a crucial role in affecting remote work satisfaction. On the other hand, studies that reported remote work was difficult for employees attribute it to reduced work-life balance with feelings like work fatigue and over-working culture. Furthermore, individual differences like adaptability, autonomy preference, introversion/extroversion, work-life boundaries and need for structure play a large role in whether employees are satisfied in remote work arrangements.

Another important aspect to consider is employee psychological safety. Psychological safety is described “as a shared belief amongst individuals as to whether it is safe to engage in interpersonal risk-taking in the workplace” (Newman, Donohue, & Eva, 2017). In a psychologically safe environment, employees experience an environment where they are accepted for who they are and encourage open expression of thoughts. There is mutual respect and a genuine interest in understanding colleagues on a personal level and the interactions are characterized by positive intentions, allowing employees to engage in constructive conflict or confrontation without fear of judgment or reprisal. Employees that are part of organizations where there is a perceived sense of psychological safety also experience greater autonomy to decision-making and flexibility which are key aspects during crisis-management situations like the covid-19 pandemic. These studies reinforce the importance of psychological safety as remote workers require an environment in which they feel comfortable sharing their challenges and concerns related to remote, hybrid and onsite work as well as they require the autonomy and flexibility to not experience strain and stress of micro-management.

These theories allow the identification and categorization of JS determinants, which are the factors that affect whether someone is satisfied with their job. In the 1970s, scholars such as Hackman and Oldman initiated the research of these determinants, categorizing them into three groups, the ones resulting from the features of the organizational context, the ones resulting from dispositional factors and those resulting from the interactions between the two (Hackman & Oldham, 1975; Parker & Wall, 1998).

The features of the organizational context are the settings in which workers perform their daily work that encompasses the internal and external circumstances of an organization. These features refer to the characteristics of the workplace environment that can influence job design and work outcomes. Examples of these features include task characteristics (e.g., task identity – extent to which an employee can perceive the entire task they are working, task significance – degree to which an employee’s work has a meaningful impact on others or the organization, task autonomy – extent to which employees have the freedom and ownership to make decisions and manage their work independently), social characteristics (e.g., social support – assistance, encouragement and collaboration between employees and their colleagues, coworker relations – encompasses the quality of the relations between colleagues, supervisor relations – encompasses the quality of the relation with the supervisor), and contextual characteristics (e.g., physical demands – physical requirements and strains associated with a job, work schedule – timing and structure of an employee’s work hours and days, pay and benefits – compensation and perks offered to employees). The organizational context can shape job design by providing resources and support to employees, defining job roles and expectations, and creating a work environment that promotes or inhibits motivation and JS.

On the other hand, dispositional factors are the individual characteristics that influence the worker’s behavior and actions. These factors include personality traits (e.g., conscientiousness, extraversion, emotional stability), values (e.g., work values, ethical values), abilities (e.g., cognitive ability, physical ability), and other personal factors (e.g., motivation, job attitudes, demographic characteristics). Within the dispositional factors, **innate** dispositions like genetics, cause individuals to be naturally predisposed towards a level of JS regardless of the job itself (Judge & Larsen, 2001). There are several other dispositional factors like values, abilities, and personal factors that are learned and developed that also play an important role in employee JS. Furthermore, other dispositions like temperament and personal traits, that result from a mix of innate and dispositional factors, becoming a combination between nature and nurture.

Finally, the interactions between the organizational context and dispositional factors refer to the ways in which individual characteristics and organizational features interact to influence job

design and the result of the employee's efforts. Typically, those efforts consist in tangible accomplishments while on the job like goals met. For example, a highly structured and routine job may be well-suited to individuals who prefer predictability and stability, while individuals who value variety and autonomy may find such a job dissatisfying. Conversely, a very career driven individual and high motivation may perform well in a job with challenging demands and high-performance expectations, while an individual with lower motivation may struggle in the same job (Spector, 1997). Thus, the interactions between organizational context and dispositional factors can help explain why some individuals thrive in certain job designs while others struggle or experience dissatisfaction.

More recently, other models, like the Tripartite model of attitudes, consider the interplay of cognitive, behavioral, and affective determinants in JS. Cognitive factors encompass individual's perceptions, beliefs, and evaluations regarding their jobs. Employee's cognitive evaluation of their work environment and job characteristics significantly influence their overall satisfaction levels. At the same time, behavioral factors play an important role in shaping JS (for instance, job engagement, task performance and organizational citizenship). Employees that feel a sense of purpose, are actively engaged in their work, and exhibit positive work behaviors usually report higher levels of satisfaction. Finally, affective factors, including emotional experiences and feelings, contribute significantly to JS. Positive affectivity fosters a more favorable perception of one's job and work environment, leading to increased JS. On the other hand, negative affectivity may result in decreased JS, as employees may experience heightened levels of stress, frustration, or dissatisfaction with their work.

Understanding how these concepts interplay can provide valuable insights into the determinants of JS and underscores the importance of addressing these factors to enhance employee well-being.

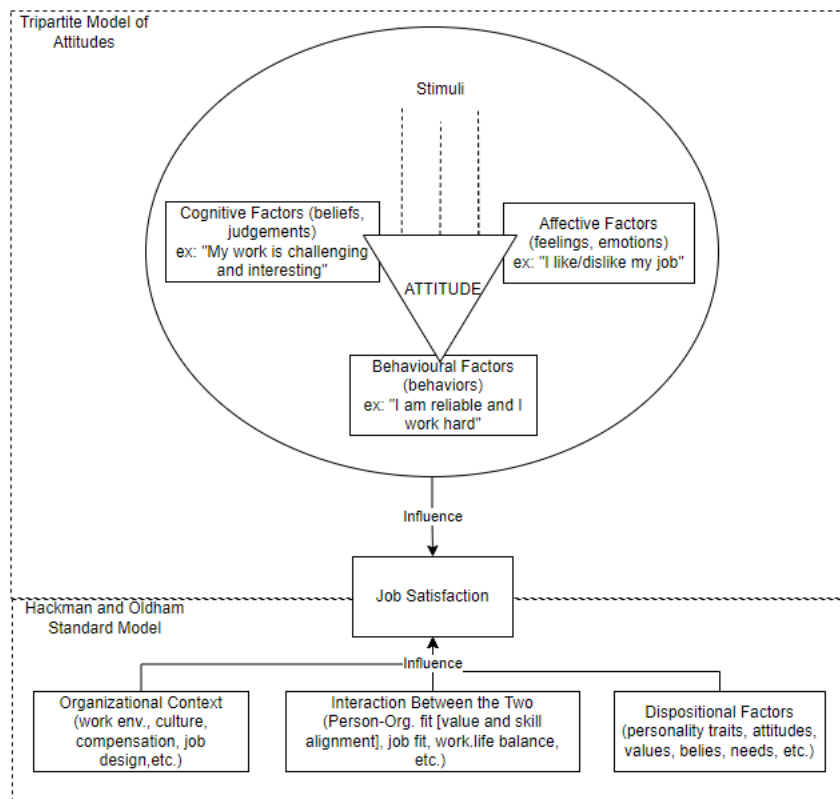


Figure 3: Example job satisfaction determinants models (Hackman & Oldham, 1975; Schleicher, Hansen, & Fox, 2011)

## b. Job Satisfaction Measurement Approaches and Instruments

For organizations to understand how to improve their employee’s job satisfaction (JS) it is necessary to measure it in an organizational setting. For that, a **general job satisfaction** measurement or a **facet job satisfaction** measurement approach can be used (Pan, Shen, Liu, Yang, & Wang, 2015).

The general approach is typically used “when the overall attitude is of interest” (Spector, 1997), or when someone is interested in the overall level of satisfaction in certain segments of the participants or in JS change over time (Ironson, Brannick, Smith, Gibson, & Paul, 1989; Wanous, Reichers, & Hudy, 1997; Judge & Kammeyer-Mueller, 2012).

The facet approach can be used “to find out which parts of the job produces satisfaction or dissatisfaction” (Spector, 1997). For instance, when organization are interested in improving employee JS or explaining employee churn (Ironson, Brannick, Smith, Gibson, & Paul, 1989).

Each approach is valid, although it is required to check the appropriateness of applying one or the other, “if neither the research question nor the research situation suggest the use of a single-item JS measure, then choosing a well-constructed scale makes sense” (Wanous, Reichers, & Hudy, 1997). Taking this into account, the JS measurements “should be purpose-driven”, where the selected measurement approach is aligned with the goals of the study (Judge, Zhang, & Glerum,

2020), but the usage of faceted approach with multi-item scales tends to be more useful because it gathers more granular information that can be used to obtain better insights. Furthermore, global measures typically fail on capturing the underlying attitudes and become less reliable (Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017).

Several methods can be used while applying both measurement approaches, such as employee focus groups, interviews, or surveys. Although when compared to surveys, focus groups and interviews provide more context and detailed information that the researcher may have not prepared, they are also more costly, time-consuming and introduce an unpredictability component leading to difficulties in quantifying and standardizing results (Spector, 1997).

In the surveys category, there are several instruments that are used in most publications and across several industries. In the instruments that measure faceted JS the Job Satisfaction Survey (JSS) developed by (Spector, 1985), continues to be “recognized as a valid, reliable, and extensively used tool for measuring job satisfaction” as per (Singh, Singh, Kumar, Khatri, & Malik, 2023). The Job Satisfaction Survey is a 36-item and nine criteria scale containing career development opportunities, compensation, benefits, management practices, contingent rewards, working environment, relationship with colleagues, communication, and relevance of work.

Still in the multi-facet measurements, we have the Job Diagnostic Survey with its five core job dimensions and its ability to measure the motivating potential score of a job before and after its redesign and the Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969). The JDI is a checklist that measures satisfaction on an 8-point scale in five different aspects of the job: the work itself, the supervisor, the co-workers, pay and promotions all with a high level of reliability. Respondents answer with yes, no or cannot decide in response to each statement in the survey. All the above JS measurement instruments are validated on their reliability and validity. They are also translated for several languages, gender neutral and can be applied to respondents with low schooling levels. More recently, a newer measure for faceted approach appeared. The Facet Satisfaction Scale addresses some of the limitations described previously on the “faceted approaches, in the factor structure, reliability and construct validity” (Bowling, Wagner, & Beehr, 2018). Despite their age, both Job Diagnostic Survey and JDI have been widely used and adapted for the purpose of measuring JS in several dimensions until today (Aliya & Asim, 2019).

On the other hand, single-item measures, can be interpreted by using the Job-in-General Scale (JIG). In the JIG, the respondent is encouraged to think of his or her job in general and answer what the job is like most of the time. Also, it was developed “focusing on the easy of reading and responding” (Ironson, Brannick, Smith, Gibson, & Paul, 1989). More recently, it continues to be widely used as a standard for general measurement of JS (Boynton & McDaniel, 2019).

### **c. Job Design Implications in Job Satisfaction**

Overall, research has focused on the influence that the organizational variables have on employees' attitudes and behaviors. From an organizational characteristics' perspective, job design – “the way work is structured, perceived, experienced and performed” (Grant, Fried, & Juillerat, 2011), affects job satisfaction (JS) because it exposes individuals to different degrees of psychosocial risks, which, if not managed, may lead to the experience of strain (Unda, et al., 2016).

Although, job design is a broader concept that involves the structuring of individual job roles, responsibilities, and tasks to optimize employee performance and satisfaction. The choice of a work model (onsite, hybrid or remote) can be described as a component of job design, particularly in how the job is organized and performed within an organization (Wang, Liu, Qian, & Parker, 2021). Also, job design should take into consideration the work model as it changes the nature of job roles, work environment, and expectations for and from the employee. An effective job design must align with the chosen work model to optimize individual performance and organizational goals.

According to (Parker, 2014) “working virtually represents a different ‘organization’ of one’s tasks, activities, relationships, and responsibilities”. As such, the work model relates to job design in several dimensions:

- **Task allocation and location:** job design involves determining which tasks and responsibilities are assigned to specific job roles. In some cases, the location where these tasks are performed may be a part of the job design. For instance, if a job is designed to be remote, it needs to involve tasks that are possible to perform with a remote or hybrid work arrangement.
- **Work environment:** work environment can influence job design considerations, for instance if a job is designed to be remote it needs to incorporate elements that support remote work, such as the use of virtual collaboration tools, processes, and flexible work hours.
- **Job Characteristics:** With hybrid and remote work, it is important to have highly specific job characteristics such as high level of autonomy and self-management. That happens because job supervision changes from onsite to hybrid and remote work setups.
- **Employee Preferences:** the alignment of the work model with individual preferences is key and a part of job design considerations.

- Communication and Collaboration: work model impacts how communication and collaboration are integrated into job roles. Remote and hybrid work model require different and more robust processes around communication and collaboration.

If a job is properly design, then it will promote employee JDS. This concept refers to the degree to which an individual is satisfied with the design or structure of their job (Hackman & Oldham, cWork redesign, 1980). High levels of JDS are often associated with positive outcomes for both individuals and organizations, such as higher levels of job performance, commitment, and retention, as well as lower levels of turnover and absenteeism. On the other hand, low levels of JDS can lead to negative outcomes, such as burnout, stress, and overall job dissatisfaction (Hackman & Oldham, 1975). There are many factors that are typically part of JDS, such as autonomy, feedback, variety, task identity, task significance, job security, etc. (Spector, 1997; Parker, 2014). This concept is different from JS in the sense that JS includes JDS. The difference is that JS is a broader concept that encompasses a person's overall feelings and attitudes towards their job. It shows how satisfied or fulfilled an employee is with their work and the organization.

All in all, the effectiveness of job design is closely related to whether individuals are well-suited for the roles they occupy and is a promoter of JDS, JS, and performance (Wang, Liu, Qian, & Parker, 2021).

## **2. WORK MODELS: CONCEPTUALIZATION, THEORIES AND APPROACHES**

The way we work has suffered significant changes over the past few years, with the rise of remote and hybrid work models challenging the traditional on-site work model. In recent years, the concept of work models became an even greater area of interest for organizations, managers, and employees and refers to the ways in which work is structured within an organization. With the advent of information and communication technologies, globalization, high office costs, and changing social attitudes, there has been a growing trend towards the adoption of flexible work models that enable employees to work from anywhere. Even more so with the COVID-19 pandemic during the past years and the mandatory lockdowns, forcing all workers that could perform their work away from the office to start working from home until the pandemic died down (Rogers, 2021; Woods & Miklencicova, 2021).

Each type of work has its own unique features, advantages, and challenges, and understanding these can help organizations develop effective strategies for managing their talent. In this section, we will examine the concepts, theories, and approaches to the three types of work models: remote work, hybrid work, and on-site work as well as its benefits and drawbacks as perceived by both the worker and the organization.

### **a. Remote Work: Definition and Impact on Employees and Organizational Performance**

Remote work is a work setup in which employees work from a location outside of the traditional office setting. In this work model, workers perform their job tasks usually from their homes or other locations outside of a shared working space. Also, remote work has become increasingly popular in recent years mainly due to technological advances, changes in work culture and from the 2020 worldwide covid pandemic.

Several theories have been proposed to provide clarity on the concept of remote work and the impacts on employees and organizations. One of the most well-known theories on remote work is the Transactional Distance Theory created by (Moore, 1993). The Transactional Distance Theory was originally developed to describe the relationship between education at a distance and the degree of physical and psychological separation between the professor and the student. The theory suggests that the greater the distance between learners and instructors, the greater the transactional distance – psychological and communication space - between them. Transactional distance theory is also characterized by three elements: dialogue, structure, and autonomy and when transactional

distance is high, it causes a feeling of isolation, lack of support and disconnection that can negatively impact motivation, engagement, and performance. The transactional distant theory principles are relevant in any situation that has a physical and/or psychological distance between groups of people that need to communicate and collaborate effectively to achieve business goals.

As such, the same theory can be applied to work models like remote or hybrid work, mainly due to involving a physical distance between employees and their colleagues and supervisors (Anderson, 2003). Also, like the student-instructor example, remote and hybrid work setups require a high level of autonomy on the part of employees through independent work, managing their own schedule and priorities which may cause an even greater challenge in communication and collaboration. To reduce transactional distance in these settings, organization must establish clear and structure communications channels, shared management systems, provide clear guidance on employee roles, responsibilities and expectations and create the possibility for interaction and team building in remote work (Rovai, 2002). Another theory is the JD-R model which, in this case, proposes that remote work can provide employees with additional resources, such as autonomy and flexibility, that can improve JS through the reduction of job demands (Bakker & Demerouti, 2017).

Additional advantages can be drawn from this specific work arrangement, for instance companies have access to a larger talent pool in several scenarios which allow organizations to hire anywhere if employees have an internet connection. Also, several studies have found that the main positive effects are increased flexibility, autonomy, JS, and work life balance (Charalampous, Grant, Tramontano, & Michailidis, 2018). On the other hand, this work model may also come as a disadvantage for employees that suffer from isolation, slower progress on the corporate ladder, disconnection from the team and the company, difficulties in managing their time and define a proper work-life balance. Finally, in contemporary discussions surrounding remote and hybrid work arrangements, one increasingly more relevant aspect is the environmental impact of these models in comparison with onsite work. Both companies and citizens display an increasing concern and awareness regarding environmental issues, including concerns around the carbon footprint. As such, companies are integrating environmental considerations into their overarching strategies through the implementation of Environmental, Social, and Governance (ESG) criteria (Hickman & Robison, 2020).

## **b. Hybrid Work: Definition and Impact on Employees and Organizational Performance**

Hybrid work takes a different stance on work models, in which hybrid work combines both remote and on-site work. It tries to balance the benefits of remote work like increased autonomy, flexibility and improved job satisfaction (JS) with the advantages of on-site work collaboration, reduced transactional distance and team building (Hinds & Mortensen, 2005).

Hybrid work varies from organization to organization. In some organizations, employees have the flexibility to choose where and how they work and decide when they get to go to the offices and when they work from home, in others, there is less flexibility with organizations mandating that employees are to be on-site specific days of the week. As such, even within hybrid work models, employees may be impacted differently.

Some of the most prominent theories that describe this phenomenon and study its impact on employees are the Social Exchange Theory that explains how individuals make decisions based on the cost and benefits of social relationships (Roeckelein, 2018). For instance, when an individual does something for another individual it provides a reward which creates a sense of obligation for the latter to reciprocate. In this case both individuals get their needs met while also strengthening the relationship. Typically, these exchanges are influenced by three factors: expectations – anticipated result of social exchanges, fairness – justice of the exchange -, and trust – belief that the other part will fulfill its obligations. Furthermore, this theory suggests that people try to maximize their results and that the quality of social relationships is influenced by balance of the cost and the benefit of the exchanges.

When applied to hybrid work settings, this theory suggests that employee's decision to accept hybrid work setups is influenced by the costs and benefits associated with these arrangements. Employees may evaluate the potential benefits of hybrid work, such as increased flexibility and reduced commuting time, against the costs such as decreased collaboration and team building when compared to remote or on-site work setups. Meaning that hybrid work can improve employee JS and organizational commitment by improving the quality of the exchange relationship between employees and the organization (Cropanzano & Mitchell, 2005). Also, the JD-R model which suggests that hybrid work can reduce job demands and increase job resources, improving employee well-being and performance of the organization (Bakker & Demerouti, 2017).

Other theories like the Transactional Model of Stress and Coping by (Lazarus & Folkman, 1984) describes stress as a transactional process involving the evaluation of the job demands and the employee's ability to cope with those demands. It defines that stress depends on the individual's evaluation of the context or situation. The evaluation process happens in two separate phases. In the first phase, employees assess the importance of the situation and whether poses a threat to

their well-being. If the answer is yes, the second phase is applied by the employee who evaluates the available coping resources and their ability to cope with the situation. The transactional model of stress and coping emphasize the importance of the employees' subjective experiences and their ability to develop coping strategies in managing stress. When applied to hybrid work settings, the transactional model of stress and coping proposes that hybrid work is highly dependent on the employee's ability to cope with stress. This employee's ability can then lead to positive or negative outcomes.

All in all, the impact of hybrid work on employees and organizational performance is mixed, with studies suggesting positive results and others not so positive. It is going to be highly dependent on how the organizations lead and define what is hybrid work and how much flexibility they provide to the employees. Furthermore, hybrid work is many times mandated by employers to fight reduced engagement and interactions with the team that result in lack of creativity and innovation.

### **c. On-Site Work: Definition and Impact on Employees and Organizational Performance**

On-Site work is the traditional work model and refers to the work that is done in a physical office shared by employees, where face-to-face interaction takes place with others. It is traditionally the preferred method of organizations, but its impact on employees has been increasingly more relevant with globalization, needs for 24 hours, follow the sun work models where there is the need to always have someone, or a team, available working and providing support, cost reductions and the COVID-19 global pandemic.

In this work setting, employees commute to physical offices for work, interact face-to-face, have a structured work schedule and a clear separation between work and personal life. In some studies, on-site work results in better organizational performance (Purcell & Kinnie, 2007), although evidence is mixed on which work setting promotes improved organizational performance. Positive outcomes typically range from facilitated communication and collaboration, knowledge sharing and higher levels of innovation and productivity (Burt, 2005). Nonetheless, on-site work can also have negative effects, it is associated with higher levels of absenteeism, turnover, and burnout (Golden & Veiga, 2005).

According to (Gyeongmo, 2023) the Job Characteristics Theory (JCT) is "a theoretical framework that can support the benefit in work autonomy". In JCT, it is proposed that employee's satisfaction and motivation can increase on the different dimensions when in an on-site setting. Also, this happens because in this work model employees have more opportunities for social interaction and feedback compared to remote workers who may experience isolation and limited

feedback (Hackman & Oldham, 1975). More recently, others like (Van der Meer & Wielers, 2011) show that there is a positive correlation between job autonomy and employee satisfaction using JCT.

Another theory that suggests on-site work to have positive employee outcomes is the Conservation of Resources (COR) theory. This theory states that employees look to secure and defend resources they deem valuable and end up experiencing stress when those said resources are threatened or lost. On-site work employees have an increased sense of control leading to reduced stress levels and enhances job satisfaction (Hobfoll, 1989). More recently, already after the covid-19 pandemic the COR theory has been explored to try and understand how onsite, remote and hybrid work models have different results in resource loss, resource gains and job burnout (Stasila-Sieradzka, Sanecka, & Turska, 2023). In this study, that was conducted in Poland with a population with 100 working adults that filled the survey online, Stasila et al “examine the links of resource losses and gains since the outbreak of the COVID-19 pandemic with job burnout” and “the results confirmed a positive association of occupational burnout” when work model shifts to remote or hybrid.

### 3. JOB DESIGN SATISFACTION IN CONTEMPORARY WORK MODELS: EXPLORING INFLUENTIAL FACTORS

As discussed, job design significantly influences job satisfaction (JS). Employees with well-designed jobs that align with their preferences are more likely to experience higher JS (Spector, 1997; Parker, 2014). Employee preferences are the result of employee innate and learned dispositional factors. They are the combination of employee nature and nurture that when interconnected with job design leverage JS and employee performance. Underlying to job design and JS are work models, such as remote, hybrid or onsite, that influence task allocation, work environment, job characteristics, employee preferences and communication methods (Parker, 2014; Wang, Liu, Qian, & Parker, 2021). Different work models have different effects on JS. For instance, remote work can offer increased flexibility and autonomy (Van der Meer & Wielers, 2011; Gyeongmo, 2023) - that include factors like control over work and decision-making - leading to higher JS, but it may also lead to feelings of isolation (Moore, 1993) - with impacted factors like social interactions and relationships. Onsite work can promote better communication (Parker, 2014; Wang, Liu, Qian, & Parker, 2021) - including feedback - and collaboration but may lack in work-life balance (Charalampous, Grant, Tramontano, & Michailidis, 2018). Hybrid work, on the other hand, aims to balance the benefits of both remote and onsite work, impacting JS differently depending on the organization's policies (Charalampous, Grant, Tramontano, & Michailidis, 2018; Hinds & Mortensen, 2005; Lazarus & Folkman, 1984). Other factors like job redefinition and shaping (Gagné, et al., 2022; Tims, Bakker, & Derks, 2013), also known as job crafting, allied with learning and growth opportunities (Alameddine, Bou-Karroum, Ghalayini, & Abiad, 2021; Shahrababaki, Abolghaseminejad, Iari, Zeidabadinejad, & Dehghan, 2023) can make a difference in uncertain contexts while at the same time can influence opportunity for skill usage (Cheng & Kao, 2022). Additional elements like compensation and benefits (Singh, Singh, Kumar, Khatri, & Malik, 2023), job significance (Parker, 2014) and values alignment (Hickman & Robison, 2020) may play a role in employee JS depending on specific work models. For instance, workers in remote settings may work for geographies that offer better pay, at the same time these employees have the option to live in areas that are less costly – cost of living and taxes (Lund & Madgavkar, 2020). On the other hand, workers that must commute to office, spend money in travelling, lunch, suitable wardrobe that could be used to other things. Overall, it seems these differences can play a role in how remote, hybrid, and onsite employees perceive work arrangements as well as they preferences. Another relevant aspect in the center of the discourse today, is the environmental impact of work arrangements. Not only citizens are more and more concerned with the environment and carbon

footprint but also companies have more ambitious programs and policies around their environmental, social, and governance (ESG) criteria (Hickman & Robison, 2020). As such, it is imperative to align company and employee values. Companies that put the environmental concerns at the center of the discourse not only fulfill their corporate social responsibility but also resonate more strongly with a workforce more invested in ethical and sustainable practices.

All in all, different work models require unique considerations in job design to create a positive work experience for employees (Wang, Liu, Qian, & Parker, 2021) and each has its own benefits and drawbacks. However, these benefits and drawbacks are specific to the context in which they are applied and to the way employees are impacted in their work and personal lives. Also, from a research relevance and number of publications, models like the remote and hybrid work have increased significantly when compared to onsite work models, with almost all new theories focused on how these could be leveraged to improve business goals while positively impacting employee's wellbeing and number of resources available (Gagné, et al., 2022).

Despite these work models' existence for a significant amount of time it does not mean that the results obtained by previous studies are still valid. For instance, from a compensation perspective, before Covid-19, remote work was mainly available for high income earners (Desilver, 2020), most workers and organizations had little remote or hybrid working experience. With COVID-19, workers in both remote and hybrid work arrangements grew significantly, still maintaining even after the end of the pandemic. As such, it is key for organizations to research and work on JDS because it helps gauge the alignment between individual's traits and job requirements.

## METHODOLOGY AND RESULT ANALYSIS

This thesis aims to understand which employees have a better sense of job design satisfaction (JDS) in the dimensions of decision-making, autonomy, work-life balance, job shaping, relationships, communication, feedback, job significance, skill usage, learning and growth opportunities, control over work, compensation, values alignment, interest, and purpose based on the work arrangements employees are working under. This thesis examines the perceptions and experiences of employees across three work models and tries to contribute to the understanding of how work arrangements influence JDS to help organizations optimize their talent management strategies. To accomplish this, this thesis sets out to address the following **research questions**:

Research question 1: How does JDS differ between employees working in hybrid, onsite, and remote work arrangements within InnoWave Technologies?

Research question 2: What specific job design factors significantly influence job satisfaction within onsite, hybrid and remote work models that can be used to enhance JDS in IT consulting companies?

### 1. RESEARCH DESIGN

This research follows a quantitative and exploratory approach, aiming to comprehend the relationship between JDS and several work models at InnoWave. This study involves the use of a questionnaire to assess various dimensions of JDS among employees within their specific work arrangements. In this section, the author describes the rationale behind this survey's design, covering key aspects such as the chosen methodology to measure JDS (faceted vs. general), the selection of job design factors in line with chapter 3, and the survey preparation.

#### 1) Definition of the measurement instrument

This research aims to explore JDS, work models and the relationship between the two, drawing inspiration from existing research instruments. The following survey questions were formulated and categorized as follows:

Dimensions influencing JDS: Twelve questions that probe aspects of employee's perceptions regarding their job design, examining the meaning and value employees associate with their work:

- Skill usage (Shahrbabaki, Abolghaseminejad, Iari, Zeidabadinejad, & Dehghan, 2023):  
With the pandemic, several sectors were not allowed to fully or partially perform their work and in many cases implemented significant changes in the ways of working.
  - Q: I am given the opportunity to do what I do best every day.
  - Q: My job provides me with opportunities to use my skills and abilities.

- Decision-making and autonomy (Van der Meer & Wielers, 2011; Gyeongmo, 2023): degree of control individuals have over their tasks, schedules, and the ability to make independent decisions. When employees have autonomy, they feel empowered to make decisions which increases their job satisfaction (JS). It also allows employees to tailor their work approach to their strengths, preferences, and personal circumstances.
  - Q: I have a say in the decisions that affect my job.
- Job significance (Parker, 2014): how people perceive their impact in the organization and how a very uncertain context can put into question the employee's relevance to the organization.
  - Q: The job itself is very significant and important in the broader scheme of things.
  - Q: The work I do is not important to the organization.
- Values alignment (Hickman & Robison, 2020) – Nowadays, companies and employees are valuing more and more the environmental impact of their operations. This dimension seeks to understand how value alignment differs between work arrangements:
  - Q: My personal values align with my role and responsibilities.
- Interest and purpose (Parker, 2014) – Given the importance of employee engagement in JS and performance, it is interest to understand if changes in work arrangements impact how employees feel about their jobs:
  - Q: My job is interesting.
  - Q: I feel a sense of accomplishment and purpose from my job.
- Learning and growth (Alameddine, Bou-Karroum, Ghalayini, & Abiad, 2021): with the pandemic and the overall uncertainty in the economy, it is paramount for employees to navigate this uncertainty that they can adapt to new conditions.
  - Q: My job provides me with opportunities to learn and grow.
- Feedback (Moore, 1997): Providing clear, constructive feedback on performance, facilitates employee development and improvement.
  - Q: My job provides me with clear and specific feedback on how well I am doing.
- Control over work (Van der Meer & Wielers, 2011; Gyeongmo, 2023) - In an ever-changing working environment and a volatile and uncertain world with accelerated and profound changes in multiple dimensions, employees' control over their work changes very often.
  - Q: I have a high degree of control over my work.
- Job shaping (Tims, Bakker, & Derks, 2013; Gagné, et al., 2022) – relevant in the context of the changing work conditions, changes in job roles and uncertainty related to mandated hybrid and remote work during covid.

- Q: I have an active role in shaping and redefining my job.

Dimensions affecting JS: eight questions to explore their role in explaining employee perceptions are added because there is the indication that these JS factors may help explain employee perceptions regarding their jobs in distinct work arrangements (Parker, 2014; Desilver, 2020; Lund & Madgavkar, 2020; Hickman & Robison, 2020).

- Compensation and benefits (Lund & Madgavkar, 2020; Desilver, 2020) – In scenarios where the same work force is doing similar work in distinct work models, it is important to understand what is the financial impact employees that go to the office regularly feel (commute, time spent preparing for work, etc.) when compared to those that don't. Also, until recently, most employees with access to these work arrangements were high income earners. With COVID-19, many employees whose work tasks could be done remotely, were mandated to work in more flexible work arrangements:
  - Q: The compensation I receive for the work that I do accurately reflects the value of my contributions.
  - Q: I am not fairly rewarded for the work that I perform.
- Communication (Moore, 1997): Formal communication and communication channels need to be adapted, making information exchange and clarity in task assignments effective.
  - Q: My work environment supports open and honest communication.
- Work-life balance (Van der Meer & Wielers, 2011; Gyeongmo, 2023): Employees had different experiences, some enjoyed more autonomy and ability to separate work and personal life, while others experienced work fatigue, over working and difficulties with work-life balance.
  - Q: My job provides with a good work-life balance.
- Relationships (Moore, 1997): work outside of the office changes relationship dynamics, how employees interact, how they foster camaraderie and whether a positive or negative work environment is formed.
  - Q: I have a positive working relationship between myself and those who oversee my work.
  - Q: I feel a sense of camaraderie with the people I work with.
  - Q: My job gives me the opportunity to interact and build meaningful relationships with my colleagues.
  - Q: My work environment supports social interactions and relationships.

Additionally, in the development of the survey instrument, an examination of established measurement instruments was conducted. Namely on the Job Satisfaction Survey (JSS), and Job

Descriptive Index (JDI) as they are recognized for evaluating JS, and the Job Diagnostic Survey is recognized for evaluating JDS. Upon analysis, the author identified that while each of these instruments cover several dimensions relevant to our research objectives, none encompassed all dimensions essential for our study. Instead, it was found that there was significant overlap among dimensions covered by these instruments, as illustrated by Figure 4: Measurement instruments for JDS and JS strengthening the need of a new measurement instrument.

These surveys shared dimensions, indicate areas of consensus in the literature regarding factors influencing JDS and JS. Based on this, the author derived from the dimensions of the JSS, JDI and Job Diagnostic Survey that were most relevant to these research’s questions and objectives.



Figure 4: Measurement instruments for JDS and JS

## 2) Survey design and preparation

The survey was built in the online survey tool, Qualtrics that allows the design, administration, and collection of survey data. The designed survey, APPENDIX – SURVEY, is written in English, and respondent’s anonymity is guaranteed.

After designing the survey, ensuring valid responses was a priority. Early submissions were excluded, and surveys were validated. The initial section collected demographic data, followed by Likert-scale questions and early responses were collected to help assess survey functionality.

During this phase, specific questions, like “I am not fairly rewarded for the work that I perform” and “The work I do is not important” were deliberately framed in the negative to ascertain respondent attentiveness. By doing this, the author gauges genuine engagement and discern whether participants were thoroughly reading and comprehending each question. Responses exhibiting a repetitive pattern, lacking thoughtful consideration, were identified, and excluded

from the final analysis, with only one instance displaying this behavior. Simultaneously, questions “I am not fairly rewarded for the work that I perform” and “The work I do is not important” were recoded to align with positive affirmations.

## 2. SURVEY RESULTS AND FINDINGS

This section offers an examination of the findings derived from our conducted survey. The dataset, gathered in two distinct phases: survey validity/reliability and result analysis, was developed using the SPSS statistical software.

### 1) Survey Validity and Reliability

Before analyzing the survey data, it is crucial to assess survey question's validity. Through the Pearson correlation analysis, the author gets an indication of the validity of Likert scale questions. To establish the validity of survey questions, we refer to APPENDIX – PEARSON CORRELATION TABLE, where all total scores of Likert scale questions exhibit statistical significance with a p-value smaller than 0.05. With a sample size of 81 responses, 78 degrees of freedom (DF) is obtained according to the  $N - 2$  formulae. With a significance level of 0.05, the critical value for 78 degrees of freedom (DF) is identified as 0.2199 according to Pearson correlation coefficient critical values table. The Pearson correlation values for all survey questions surpass this critical threshold, indicating a high level of statistical significance. As such, this Pearson correlation analysis affirms the validity of the survey questions. The consistently higher correlation values compared to the critical threshold of 0.267 provide strong support for the validity of the survey questions.

From a reliability standpoint the data also shows that these twenty survey questions are reliable in terms of measuring the same construct, with a Cronbach’s  $\alpha$  of 0,900, it is possible to indicate greater internal consistency as per the table below:

Cronbach's Alpha	N of Items
0.9	20

Table 1: Cronbach's  $\alpha$  twenty JS items

With the Pearson Correlation coefficient and the Cronbach’s  $\alpha$  result measurements, the authors ascertained the internal consistency or reliability and validity of all survey questions. The same can be said for the twelve JDS questions, where this scale was found to have good psychometric properties and a high reliability of this measurement, with Cronbach’s  $\alpha$  higher than 0,8 for the twelve items.

Cronbach's $\alpha$	N of Items
0,881	12

Table 2: Cronbach's  $\alpha$  twelve JDS items

## 2) General survey results

InnoWave, has a workforce of 355 eligible employees, all of whom were recipients of the survey. Nonetheless, the survey obtained a total of 88 responses. However, 6 responses are incomplete, rendering them invalid for inclusion in our analysis. Consequently, a dataset of 82 valid responses was used. Within this refined sample, gender distribution reflects 56 male and 26 female respondents, constituting 68.29% and 31.7% of all valid responses, respectively.

Category	Frequency	%
Male	56	68,29
Female	26	31,70
Total	82	100

Table 3: Gender frequency

Age group distribution reflects 17 respondents with 21-25 years old, 19 respondents with 26-30 years old, 23 respondents with 31-35 years old, 10 respondents with 36-40 years old, 6 respondents with 41-45 years old and 7 respondents with more than 45 years old, constituting 20,73%, 23,17%, 28,05%, 12,20%, 7,32%, 8,54% of all valid responses, respectively.

Category	Frequency	%
21-25	17	20,73
26-30	19	23,17
31-35	23	28,05
36-40	10	12,20
41-45	6	7,32
>45	7	8,54
Total	82	100

Table 4: Age group frequency

In terms of tenure distribution, the results show 40 respondents between 0 and 2 years, 22 respondents between 3-5 years and 20 respondents for more than 5 years of tenure, constituting 48,78%, 26,83% and 24,39% of all valid responses, respectively.

Category	Frequency	%
0-2 years	40	48,78
3-5 years	22	26,83

>5 years	20	24,39
Total	82	100

Table 5: Tenure frequency

For the work arrangements, the results show 38 respondents in hybrid work, 43 respondents in remote work and 1 in an onsite work model, constituting 46,34%, 52,43% and 1,22% of all valid responses, respectively.

Category	Frequency	%
Hybrid	38	46,34
Remote	43	52,43
Onsite	1	1,22
Total	82	100

Table 6: Work arrangements frequency

Out of the 82 respondents, 60 answered they have a choice in the work model and 22 answered that they do not have a choice, constituting 73,17% and 26,83% of all valid responses, respectively.

Category	Frequency	%
Yes	60	73,17
No	22	26,83
Total	82	100

Table 7: Choice of work arrangement frequency

Finally, as per the regional distribution, 72 respondents answered they work in Portugal, 9 in India and 1 in the Benelux, constituting 87,80%, 10,98% and 1,22% of all valid responses, respectively.

Category	Frequency	%
Portugal	72	87,80
India	9	10,98
Benelux	1	1,22
Total	82	100

Table 8: Region frequency

The above data shows that only one employee embraces an on-site work model. Although 82 valid responses were obtained, because the onsite work model only obtained one response this analysis focuses on remote and hybrid work models with a total of 81 valid responses.

Focusing on how teams shape their work arrangements, it's clear that InnoWave employees value having a say in the matter with 73.17% feeling that they have the freedom to choose their work model. Which reveals the autonomy and flexibility employees have for where to work. The

remaining, mention not having a say in this, highlighting a group working with more fixed, predetermined models.

Furthermore, as per 7 APPENDIX – SAMPLE DESCRIPTIVE STATISTICS, the mean score for most of the questions was above five for both work models: hybrid and remote. This indicates a generally positive response. Employees tend to feel a positive perception to most of the survey questions. The standard deviation values show that there was some variability in the responses which could suggest a fair level of agreement among respondents with regards to their perception of JDS on each of the survey questions.

The lower mean values obtained pertain to the compensation questions, “the compensation I receive for the work that I do accurately reflects the value of my contributions” with a mean of 4,69 and “I am not fairly rewarded for the work that I perform” with a mean of 4,17. This may indicate that respondents may feel they are not adequately rewarded for their work. The higher mean values obtained pertain to the work relationships with “I have a positive working relationship between myself and those who oversee my work” with a mean of 6,20 and “I feel a sense of camaraderie with the people I work with” with a mean value of 6. This may indicate that respondents may feel strong positive relationships with supervisors and teammates.

3) Hypothesis 1: How does JDS differ between employees working in hybrid, onsite, and remote work arrangements within InnoWave Technologies?

The first hypothesis was tested using a one-way ANOVA. For this, the JDS variable was measured as the sum of the twelve JDS factors and labeled Total\_JDS.

		Levene Statistic	df1	df2	Sig.
Total_JDS	Based on Mean	0.063	1	79	0.803
	Based on Median	0.132	1	79	0.717
	Based on Median and with adjusted df	0.132	1	78.838	0.717
	Based on trimmed mean	0.078	1	79	0.78

Table 10: Test of Homogeneity of Variances

Hybrid and remote work arrangements with similar mean scores. Hybrid work with a mean JDS score of 66.21 and remote work with a slightly lower score of 65.86 and a standard deviation of 8.99 for hybrid work and 9.95 for remote. That is also visible in the min and max values of each sample, with hybrid work with a minimum of 42 and maximum of 80 and remote work with 31 of minimum and 83 of maximum.

Total_JDS									
		N	Mean	Std. Dev,	Std. Er- ror	95% Confidence Inter- val for Mean		Min	Max
						Lower Bound	Upper Bound		
Hybrid		38	66.2105	8.98996	1.45836	63.2556	69.1655	42	80
Remote		43	65.8605	9.94648	1.51682	62.7994	68.9215	31	83
Total		81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83
Model	Fixed Ef- fects			9.51047	1.05672	63.9213	68.128		
	Random Effects				1.05672a	52.5978a	79.4516a		

Table 11: Descriptive Statistics

Based on the above table and plotting the data as per Figure 3 for hybrid and remote work categories against the means there are differences, with hybrid work looking to have a better JDS then remote work employees.

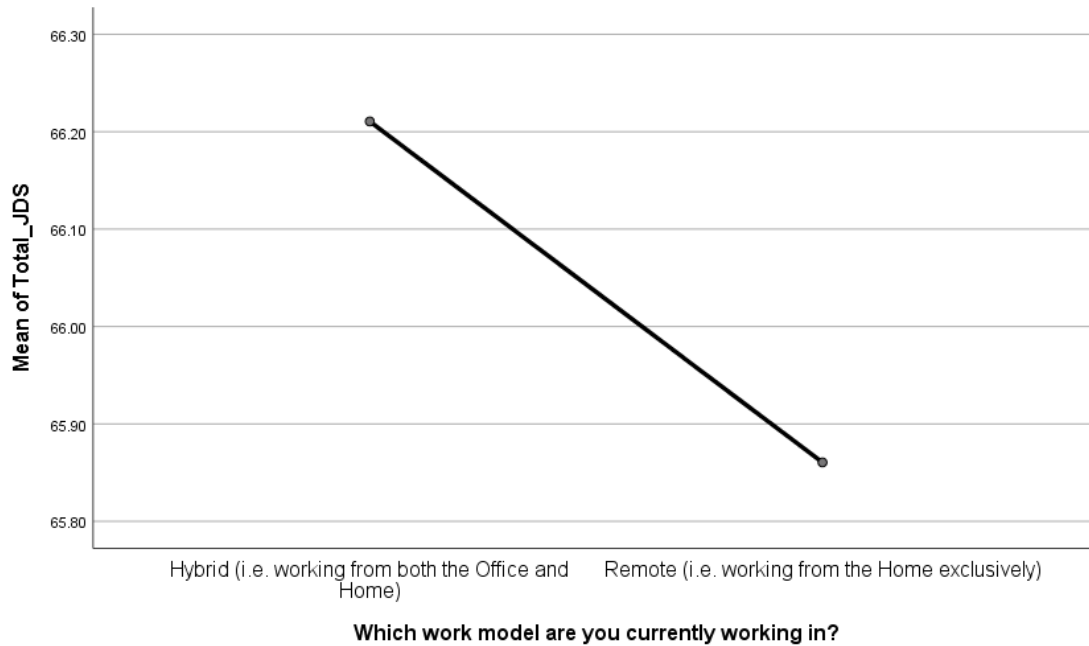


Figure 3: Means plot of JDS based on work arrangements.

Although, **these differences are not statistically significant** as per the ANOVA Table 12. This suggests that hybrid and remote work arrangements do not significantly impact JDS within the studied sample. Other factors, like cognitive, behavioral, and affective factors, not considered in this analysis may have a more substantial influence on employees' perception of JDS. Further exploration of these factors could provide a more comprehensive understanding of the determinants of JDS in the organizational context.

ANOVA					
Total_JDS					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.472	1	2.472	0.027	0.869
Within Groups	7145.479	79	90.449		
Total	7147.951	80			

Table 12: Influence of work arrangements in JDS

When including the additional eight JS questions of this survey in the categories of compensation, relationships, work-life balance, and communication, the results in 8 APPENDIX – ANOVA 20 JS FACTORS suggest that there are **significant differences in how employees perceive the compensation** category based on whether they work in a hybrid or remote work model. The question "I am not fairly rewarded for the work that I perform" displays a significant difference between hybrid and remote work arrangements ( $p = 0.048$ ). This finding suggests **employees perceive differences in the fairness of rewards based on their work model**. This may be due to remote workers incurring in fewer expenses related to commuting, work attire, meals, etc. when

compared to hybrid workers, or work arrangements may also impact employees' perceptions of fairness through psychological and social mechanisms, for instance remote workers might perceive less visibility or recognition when compared to their hybrid counterparts, which could influence their perception of compensation fairness.

a. Job satisfaction across respondent demographic

This study also assesses potential changes in job satisfaction (JS) across various demographic categories, as an additional hypothesis, including gender, age group, choice of work model, region, and tenure. This examination reveals that **there are no statistically significant differences in JDS concerning any of these categories**. As per 5 APPENDIX – ANOVA DEMOGRAPHIC VALUES results suggest that:

- gender does not influence perceptions of JDS with p-value=0,993.
- age group does not influence perceptions of JDS with p-value=0,789.
- generation does not influence perceptions of JDS with p-value=0.744. To conduct the generation analysis, the age group variable was recoded to a generation variable with respondents between 21-25 and 26-30 grouped into the Generation Z category, respondents between 31-35, 36-40 and 41-45 grouped into the Millennials category and +45 respondents grouped into Gen X (Bejtkovsky, 2016).
- tenure does not influence perceptions of JDS with p-value = 0,287.
- choice of work model does not influence perceptions of JDS with p-value=0,969.
- region does not influence perceptions of JDS with p-value=0,218.

4) Hypothesis 2: What specific job design factors significantly influence job satisfaction within onsite, hybrid and remote work models that can be used to enhance JDS in IT consulting companies?

Despite the above results suggesting that only compensation is statistically significant, it is still possible to drill down into the studied factors and understand which patterns and relationships exist between them through factor analysis. From the size of the correlation coefficients, it is determined that there is a **low correlation** between several of the variables but especially lower between variables JDS\_8 and JDS\_12, JDS\_8 and JDS\_3, JDS8\_ JDS\_4, JDS\_8 and JDS\_9. The variables below full definition can be found at Appendix 4.

	JDS_1	JDS_2	JDS_3	JDS_4	JDS_5	JDS_6	JDS_7	JDS_8	JDS_9	JDS_10	JDS_11	JDS_12
JDS_1												
JDS_2	0.721											
JDS_3	0.391	0.322										
JDS_4	0.56	0.464	<b>0.218</b>									
JDS_5	0.583	0.548	0.358	0.566								
JDS_6	0.426	0.493	<b>0.175</b>	<b>0.289</b>	0.489							
JDS_7	0.619	0.528	0.285	0.672	0.676	0.565						
JDS_8	<b>0.274</b>	0.406	<b>-0.072</b>	<b>0.02</b>	<b>0.173</b>	0.381	<b>0.268</b>					
JDS_9	0.545	0.387	<b>0.273</b>	0.367	0.304	<b>0.248</b>	0.533	0.489				
JDS_10	0.587	0.556	0.513	0.342	0.401	<b>0.269</b>	0.358	<b>0.242</b>	0.341			
JDS_11	0.423	0.498	0.564	0.331	0.507	0.435	0.503	0.349	0.335	0.495		
JDS_12	<b>-0.105</b>	<b>-0.059</b>	<b>-0.247</b>	<b>-0.071</b>	<b>0.159</b>	<b>0.063</b>	<b>0.078</b>	<b>-0.118</b>	<b>0.032</b>	<b>-0.263</b>	<b>0.037</b>	

Table 14: Pearson correlation for Hybrid Workers

As per Table 14 the factor analysis is a viable approach. This is also confirmed by the KMO indicator of 0,728, above 0,7 and a Bartlett's test of sphericity of 0,000.

Kaiser-Meyer-Olkin test		0,728
Bartlett's Test of Sphericity	Chi-square	213,219
	df	66
	p-value	,000

Table 15: KMO Test and Bartlett's Test of Sphericity

In Table it is presented the eigenvalues for each factor obtained. Because the components JDS\_1, JDS\_2 and JDS\_3 have an eigenvalue above one, this analysis allows the extraction of three components that explain 66,10% of the total variance. Component JDS\_1 explain 43,73% and JDS\_2 explaining 11,94%, and JDS\_3 explains 10,44% of the total variance.

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Vari- ance	Cumulative %	Total	% of Vari- ance	Cumulative %
JDS_1	5.247	43.727	43.727	5.247	43.727	43.727
JDS_2	1.433	11.943	55.669	1.433	11.943	55.669
JDS_3	1.253	10.438	66.107	1.253	10.438	66.107
JDS_4	0.952	7.935	74.042			
JDS_5	0.794	6.613	80.656			
JDS_6	0.621	5.172	85.827			
JDS_7	0.463	3.857	89.684			
JDS_8	0.358	2.981	92.665			
JDS_9	0.342	2.847	95.511			
JDS_10	0.217	1.806	97.317			
JDS_11	0.199	1.662	98.98			
JDS_12	0.122	1.02	100			

Table 16: Hybrid workers factor analysis

With a varimax rotation of factors and three factors with components JDS\_4, JDS\_5 and JDS\_7, having high loadings, above >0,7, for factor 1. Considering the content of this factor, the author called it **job significance and alignment** as it seems to capture the extent to which employees attribute great importance to their job within the broader context and feel a strong alignment between their personal values, responsibilities associated with their roles and experience a sense of accomplishment and purpose from their job. For factor 2, JDS\_8 has high loadings. As such, the authors called the factor 2 **learning and grow opportunities** and finally factor 3 called **autonomy and decision-making**. Furthermore, all components are positively correlated.

	Factors		
Variable	1	2	3
JDS_1	0.68	0.334	0.353
JDS_2	0.601	0.45	0.297
JDS_3	0.409	-0.14	0.718
JDS_4	0.761	-0.018	0.121
JDS_5	0.852	0.096	0.04
JDS_6	0.544	0.462	-0.064
JDS_7	0.83	0.285	0.005
JDS_8	0.005	0.95	0.043
JDS_9	0.39	0.584	0.134
JDS_10	0.407	0.238	0.68
JDS_11	0.567	0.283	0.344
JDS_12	0.29	-0.097	-0.744

Table 17: Rotated Component Matrix for Hybrid workers

	JDS_1	JDS_2	JDS_3	JDS_4	JDS_5	JDS_6	JDS_7	JDS_8	JDS_9	JDS_10	JDS_11	JDS_12
JDS_1												
JDS_2	0.692											
JDS_3	0.454	0.569										
JDS_4	0.352	0.516	0.474									
JDS_5	0.654	0.544	0.48	0.497								
JDS_6	0.391	0.489	0.305	0.57	0.517							
JDS_7	0.63	0.632	0.618	0.57	0.628	0.702						
JDS_8	0.618	0.789	0.535	0.512	0.578	0.674	0.782					
JDS_9	0.727	0.651	0.588	0.433	0.64	0.557	0.741	0.766				
JDS_10	0.662	0.593	0.441	0.409	0.562	<b>0.205</b>	0.45	0.428	0.584			

JDS_11	0.653	0.68	0.676	0.491	0.642	0.563	0.802	0.658	0.758	0.622		
JDS_12	<u>0.031</u>	<u>0.125</u>	<u>0.147</u>	<u>0.267</u>	<u>0.138</u>	<u>0.18</u>	<u>0.186</u>	<u>0.185</u>	<u>0.195</u>	<u>0.035</u>	<u>0.071</u>	

Table 18: Pearson correlation table for remote workers

As per Table 18 the factor analysis is a viable approach. This is also confirmed by the KMO indicator of 0,86, above 0,7 and a Bartlett's test of sphericity of 0,000.

Kaiser-Meyer-Olkin test		0,86
Bartlett's Test of Sphericity	Chi-square	354,582
	df	66
	p-value	,000

Table 19: KMO Test and Bartlett's Test of Sphericity

In table 20 it is presented the eigenvalues for each factor obtained. Because the components JDS\_1, JDS\_2 have an eigenvalue above one, this analysis allows the extraction of two components that explain 67,38% of the total variance. Component JDS\_1 explain 57,32% and JDS\_2 explaining 10,06% of the total variance.

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
JDS_1	6.879	57.322	57.322	6.879	57.322	57.322
JDS_2	1.207	10.057	67.379	1.207	10.057	67.379
JDS_3	0.856	7.136	74.515			
JDS_4	0.662	5.513	80.028			
JDS_5	0.626	5.215	85.243			
JDS_6	0.508	4.233	89.476			
JDS_7	0.349	2.911	92.387			
JDS_8	0.256	2.133	94.52			
JDS_9	0.237	1.979	96.499			
JDS_10	0.185	1.545	98.044			
JDS_11	0.157	1.307	99.351			
JDS_12	0.078	0.649	100			

Table 20: Remote workers factor analysis

With a varimax rotation two factors are obtained with components JDS\_1, JDS\_2, JDS\_5, JDS\_7, JDS\_8, JDS\_9, JDS\_10 JDS\_11 having high loadings, above >0,7, for factor 1. Considering the content of this factor, the author called it **job fit and fulfillment** as it reflects the extent to which individuals perceive their job as aligning with their personal strengths, values, and development needs. It also includes elements like skill usage, personal growth, autonomy, feedback, and JS (Brkich, Jeffs, & Carless, 2002). For factor 2, JDS\_12 has high loadings. As such, the authors

called the factor 2 **organizational importance** because this factor seems to capture the importance of the job for the organization. Furthermore, all the variables in the factors are positively correlated.

Variable	Factors	
	1	2
JDS_1	0.866	0.032
JDS_2	0.79	0.274
JDS_3	0.654	0.275
JDS_4	0.437	0.617
JDS_5	0.731	0.277
JDS_6	0.434	0.683
JDS_7	0.727	0.517
JDS_8	0.71	0.498
JDS_9	0.808	0.328
JDS_10	0.805	-0.094
JDS_11	0.843	0.267
JDS_12	-0.127	0.729

Table 21: Rotated component matrix for remote workers

Per the results above, the data in this sample suggests that remote and hybrid workers value JDS factors differently. These differences are observed in job significance and alignment (job significance, alignment with personal values, and purpose), learning and growth opportunities (skill usage and growth opportunities), autonomy and decision-making (autonomy and control over tasks) for hybrid workers and in job fit and fulfillment (skill usage, personal growth, feedback, and autonomy) and organizational importance for remote workers. This factor analysis generated distinct components and factor loadings, indicating that the two groups have different factors that co-occur. With eigenvalues above one for the extracted components indicating that a substantial proportion of the total variance in each group is explained and the KMO values and Bartlett’s test confirm the validity of the factor analyses for both groups. Although, while redoing the anova test on the six new extracted factors, all results return that **there is no statistical significance** as per 6 APPENDIX – ANOVA FACTOR ANALYSIS.

Once again, the data suggests that there are no differences on how remote and hybrid workers perceive JDS in the selected factors. This confirms and strengthens the belief that other variables not considered in this thesis analysis are influencing the outcomes.

## CONCLUSIONS

This research aimed to understand job design satisfaction (JDS) across onsite, hybrid and remote work models at InnoWave Technologies and what specific job design factors influence job satisfaction (JS). The analysis of survey results revealed that there are no statistically significant differences in JDS between employees working in hybrid and remote. This may be due to the selection of JDS factors related with features of the organizational context and the lack of dispositional, affective, cognitive, and behavioral aspects (Schleicher, Hansen, & Fox, 2011; Judge, Zhang, & Glerum, 2020). It would be interesting to include this wider range of factors as these have a proven track record of influence on employee perceptions of their JDS and overall JS (Judge & Larsen, 2001). Essentially, JDS is more complex and relies on the balance between an individual's dispositional, affective, cognitive, and behavioral factors, and the broader organizational context effectively considering also the individual and not only the features of the organizational context.

The non-significant differences in this study suggest a robust consistency in employee perceptions for the JDS features of the organizational context, irrespective of whether employees engage in hybrid or remote work. While the overall results of this study on JDS remain consistent between hybrid and remote work models, the identified difference in perceived fairness of rewards warrants closer attention. When looking into the survey questions, the question "I am not fairly rewarded for the work that I perform" has a statistically significant difference between remote and hybrid workers. A possible explanation for this may be due to remote workers incurring in fewer expenses related to commuting, work attire, meals, etc. when compared to hybrid workers. Nonetheless, addressing this distinction may be important to foster an equitable and satisfactory work environment, ensuring that employees across different work arrangements feel adequately recognized and rewarded for their contributions.

At the same time, this is an interesting result given that there are two questions regarding compensation, one where workers regardless of work arrangement, don't seem to have significant differences when asked if the compensation they receive for the work that they do accurately reflects the value of their contributions. Although, when asked if they are fairly rewarded for the work they perform, not only is that difference larger, but also statistically significant. One possibility for this may be that the idea behind compensation is more generic, as explained by (Farr, 1976). Some employees may think about compensation and rewarding as variable compensation and promotions, while others may consider compensation as a broader concept around career progression, autonomy, additional vacation, and flex benefits like company car, fuel allowances, etc.

Despite of these findings, this study does not allow to fully answer if work arrangements have an impact in JDS or to extrapolate to other companies because of a small sample size where only

one respondent answered that worked at the office full time and a small number of respondents in categories like age group, region, etc. and also an incomplete measurement instrument that does not incorporate dispositional, behavioral, cognitive, and affective factors.

## **LIMITATIONS AND FUTURE WORK**

Throughout this research, several limitations became apparent. The first limitation, that influenced this research's analysis is the number of respondents working in onsite work arrangements. Because only one employee identified as an onsite worker, it was not possible to obtain a representative sample of these type of workers. To address this limitation, in future research a careful selection of the company or companies is warranted. The target organizations must have workers whose work characteristics mandates them to work onsite. It would be interesting to expand this study to companies that require workers to be present full time or include other companies in this study to increase the onsite worker sample. Moreover, if the company is a multinational, that employees from multiple regions are represented in the sample. This would allow for a bigger contrast in the type of employees, type of work and work model. For this study, if we consider that onsite work and remote work are two opposites of a spectrum and hybrid work a meet in the middle concept that combines pros from both scenarios it is apparent that a piece of the puzzle is missing. However, the company would have to be carefully selected. For instance, the onsite work model in the current IT landscape will have a significantly lower sample then the other work settings. It would have to be a company that has a department that operates physical things or a company that mandates onsite work for employees.

Given the finding that employees perceive differences in the fairness of rewards based on their work model, it would be interesting to explore how factors like pay structures, incentives, and benefits vary across work model and how they impact JS. Another interesting take would be to examine how organizational ESG criteria impact employee's perception of fairness of rewards and how organizations can align their reward systems with employee values related to sustainability and ethical practices.

Lastly, as previously stated, the absence of dispositional factors, does not allow for a complete analysis of remote and hybrid worker differences regarding their job design in its entirety. Including this dimension as well as a larger sample can unlock findings that are not possible to extract from this study. The author suggests that theories like the Five Factor Model of Personality by (McCrae & John, 1992), the Core Self-Evaluations Taxonomy introduced by (Judge, Locke, & Durham, 1997) can be used to determine which dispositional factors to use depending on research objectives, or the tripartite model including cognitive, behavioral and affective dimensions as predictors of job satisfaction (Schleicher, Hansen, & Fox, 2011).

## REFERENCES

- Alameddine, M., Bou-Karroum, K., Ghalayini, W., & Abiad, F. (2021). Resilience of nurses at the epicenter of the COVID-19 pandemic in Lebanon. *International Journal of Nursing Sciences*, 432-438.
- Aliya, A., & Asim, M. (2019). Relationship between job satisfaction and turnover intention. *International Journal of Human Resource Studies*.
- Anderson, T. (2003). Getting the mix right again: an updated and theoretical rationale for interaction. *The International Review of Research in Open and Distributed Learning*.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology*, 309-328.
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: taking stock and looking forward. *Journal of Occupational Health Psychology*, 273-285.
- Bonanomi, A., Facchin, F., Barello, S., & Villani, D. (2021). Prevalence and health correlates of online fatigue: a cross-sectional study on the Italian academic community during the COVID-19 pandemic. *PLoS ONE* 16.
- Bowling, N. A., Wagner, S. H., & Beehr, T. A. (2018). The facet satisfactions scale: an effective affective measure of job satisfaction facets. *Journal of Business and Psychology*, 383-403.
- Boynton, K. A., & McDaniel, T. (2019). Examining job satisfaction through five job facets of public-school speech-language pathologists.
- Brkich, M., Jeffs, D., & Carless, S. A. (2002). A global self-report measure of person-job fit. *European Journal of Psychological Assessment*, 43-51.
- Burt, R. S. (2005). Brokerage and closure: an introduction to social capital. *Oxford*.
- Charalampous, M., Grant, C. A., Tramontano, C., & Michailidis, E. (2018). Systematically reviewing remote e-workers' well-being at work: a multidimensional approach. *European Journal of Work and Organizational Psychology*, 51-73.
- Cheng, S. C., & Kao, Y. H. (2022). The impact of the COVID-19 pandemic on job satisfaction: a mediated moderation model using job stress and organizational resilience in the hotel industry of Taiwan. *Heliyon* 8.
- Chiat, L. C., & Panatik, S. A. (2019). Perceptions of employee turnover intention by Herzberg's motivation-hygiene theory: a systematic literature review. *Journal of Research in Psychology*, 10-15.
- Conway, P. G., Williams, M. S., & Green, J. L. (2013). A model of job facet satisfaction. *Journal of Social Work Education*, 48-57.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: an interdisciplinary review. *Journal of Management*, 874-900.
- Desilver, D. (2020). Working from home was a luxury for the relatively affluent before coronavirus - not any more. *World Economic Forum*.
- Farr, J. L. (1976). Incentive schedules, productivity, and satisfaction in work groups: A laboratory study. *Organizational Behavior and Human Performance*, 159-170.
- Fisher, V. E., & Hanna, J. V. (1931). *The dissatisfied worker*. Macmillan Co.
- Gagné, M., Parker, S. K., Griffin, M. A., Dunlop, P. D., Knight, C., Klonek, F. E., & Parent-Rocheleau, X. (2022). Understanding and shaping the future of work with self-determination theory. *Nature Reviews Psychology*, 378-392.
- Golden, T. D., & Veiga, J. F. (2005). The impact of extent of telecommuting on job satisfaction: resolving inconsistent findings. *Journal of Management*, 301-318.
- Grant, A. M., Fried, Y., & Juillerat, T. (2011). Work matters: job design in classic and contemporary perspectives. *Handbook of Industrial and Organizational Psychology*, 417-453.
- Gyeongmo, K. (2023). Remote work: how it came to be, its current status and what it may look like.

- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 159-170.
- Hackman, J. R., & Oldham, G. R. (1980). *cWork redesign*. MA: Addison-Wesley.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *Them otivation to work (2nd ed.)*. New York: John Wiley.
- Hickman, A., & Robison, J. (2020). Is working remotely effective? *Gallup*.
- Hinds, P. J., & Mortensen, M. (2005). Understanding conflict in geographically distributed teams: the moderating effects of shared identity, shared context, and spontaneous communication. *Organization Science*, 290-307.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 513-524.
- Ironson, G. H., Brannick, M. T., Smith, P. C., Gibson, W. M., & Paul, K. B. (1989). Construction of a job in general scale: a comparison of global, composite, and specific measures. *Journal of Applied Psychology*, 193-200.
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits-self-esteem, generalized self-efficacy, locus of control, and emotional stability-with job satisfactionand job performance: A meta-analysis. *Journal of Applied Psychology*, 80-92.
- Judge, T. A., & Kammeyer-Mueller, J. D. (2012). Job attitudes. *Annual Review of Psychology*, 341-367.
- Judge, T. A., & Larsen, R. J. (2001). Dispositional affect and job satisfaction: a review and theoretical extension. *Organizational Behavior and Human Decision Processes.*, 67-98.
- Judge, T. A., Heller, D., & Klinger, R. (2008). The dispositional sources of job satisfaction: a comparative test. *Applied Psychology: An International Review*, 361-372.
- Judge, T. A., Hulin, C. L., & Dalal, R. S. (2012). *Job satisfaction and job affect*. Oxford: Oxford University Press.
- Judge, T. A., Klinger, R., Simon, L. S., & Yang, Y. F. (2008). The contributions uof personality to organizational behavior and psychology: findings, criticisms, and future research directions. *Social and personality psychology compass*, 1982-2000.
- Judge, T. A., Locke, E. A., & Durham, C. C. (1997). The dispositional causes of job satisfaction: a core evaluations approach. *Research in Organizational Behavior*, 151-188.
- Judge, T. A., Weiss, H. M., Kammeyer-Mueller, J. D., & Hulin, C. L. (2017). Job attitudes, job satisfaction and job affect: a century of continuity and of change. *Journal of Applied Psychology*, 356-374.
- Judge, T. A., Zhang, S., & Glerum, D. R. (2020). *Job satisfaction. In essentials of job attitudes and other workplace psychological constructs*. New York: Routledge.
- Landsberger, H. A. (1958). *Hawthorne revisited*. Ithaca, New York: Cornell University.
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping.
- Lepisto, D. A., & Pratt, M. G. (2017). Meaningful work as realization and justification: Toward a dual conceptualization. *Organizational Psychology Review* 7, 99-121.
- Locke, E. A. (1976). The nature and causes of job satisfaction. *Handbook of industrial and organizational psychology*, 1297-1349.
- Lund, S., & Madgavkar, A. (2020). What's next for remote work: an analysis of 2000 tasks, 800 jobs, and nine countries. *Business Leadership Academy*.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 175-215.
- Mcfarlin, D. B., Coster, E. A., Rice, R. W., & Cooper, A. T. (2010). Facet importance and job satisfaction: another look at the range-of-affect hypothesis. *Basic and Applied Social Psychology*, 489-502.
- Mo, Q., Zeng, J., & Lin, J. (2023). An empirical study on employment behavior of college students in the post-epidemic era basde on Herzberg's two-factor theory. *Business, Economics and Management*.
- Moore, M. G. (1993). Theory of transactional distance. *Theoretical Principles of Distance Education*.

- Moore, M. G. (1997). Theory of transactional distance. *The American Journal of Distance Education*.
- Nagrath, G., Gupta, A., & Bindia. (2020). An assessment of job motivation of school teachers through job diagnostic survey. *HR Journal*, 94-106.
- Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: a systematic review of the literature. *Human Resources Management Review*, 521-535.
- Oldham, G. R., & Fried, Y. (2016). Job design research and theory: past, present and future. *Organizational Behavior and Human Decision Processes*, 20-35.
- Ones, D. S., Dilchert, S., Viswesvaran, C., & Judge, T. A. (2007). In support of personality assessment in organizational settings. *Personnel psychology*, 995-1027.
- Palumbo, R. (2020). Let me go to the office! An investigation into the side effects of working from home and work-life balance. *International Journal of Public Sector Management*.
- Pan, B., Shen, X., Liu, L., Yang, Y., & Wang, L. (2015). Factors associated with job satisfaction among university teachers in north-eastern region of China. *International Journal of Environmental Research and Public Health*, 12761-12775.
- Parker, S. K. (2014). Beyond motivation: job and work design for development, health, ambidexterity, and more. *Annual review of psychology*, 661-691.
- Parker, S. K., & Wall, T. D. (1998). Job and work design: organizing work to promote well-being and effectiveness. *Sage Publications*.
- Purcell, J., & Kinnie, N. (2007). Human resource management and business performance. *Managing Human Resources: Personal Management in Transition*, 208-231.
- Roecklein, J. E. (2018). Elsevier's Dictionary of Psychological Theories.
- Rogers, R. (2021). Internet of things-based smart healthcare systems, wireless connected devices, and body sensor networks in COVID-19. *American Journal of Medical Research*, 71-80.
- Rothausen, T. J., & Henderson, K. E. (2019). Meaning-based job-related well-being: exploring a meaningful work conceptualization of job satisfaction. *Journal of Business and Psychology*, 357-376.
- Rovai, A. P. (2002). Building sense of community at a distance. *The International Review of Research in Open and Distributed Learning*.
- Schleicher, D. J., Hansen, S. D., & Fox, K. E. (2011). Job attitudes and work values. *Handbook of Industrial and Organizational Psychology*, 137-189.
- Serenko, A. (2023). The great resignation: the great knowledge exodus or the onset of the great knowledge revolution? *Journal of Knowledge Management*, 1042-1055.
- Shahrbabaki, P. M., Abolghaseminejad, P., Iari, L. A., Zeidabadinejad, S., & Dehghan, M. (2023). The relationship between nurses' psychological resilience and job satisfaction during the COVID-19 pandemic: a descriptive-analytical cross-sectional study in Iran. *BMC Nurses*.
- Singh, R., Singh, G., Kumar, K., Khatri, S., & Malik, A. (2023). Determinants of job satisfaction among faculty members of a veterinary university in India: an empirical study. *Current Psychology*.
- Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). The measurement of satisfaction in work and retirement.
- Sousa-Uva, M., Sousa-Uva, A., Sampayo, M. M., & Serranheira, F. (2021). Telework during the COVID-19 epidemic in Portugal and determinants of job satisfaction: a cross-sectional study. *BMC Public Health*.
- Spector, P. E. (1985). Measurement of human service staff satisfaction: development of the job satisfaction survey. *American Journal of Community Psychology*, 693-713.
- Spector, P. E. (1997). Job satisfaction: application, assessment, causes and consequences. *SAGE publications*.
- Stankevičiūtė, Z., & Kunska, S. (2021). Strengthening of work-life balance while working remotely in the context of COVID-19 pandemic. *Human Systems Management*, 221-235.
- Stasila-Sieradzka, M., Sanecka, E., & Turska, E. (2023). Not so good hybrid work model? Resource losses and gains since the outbreak of the COVID-19 pandemic and job burnout

- among non-remote, hybrid, and remote employees. *International Journal of Occupational Medicine and Environmental Health*.
- Taylor, M. (2017). Good work: The Taylor review of modern working practices. *Department of business, energy and industrial strategy*.
- Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting and job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 230-240*.
- Tsigilis, N., & Koutelios, A. (2019). Development and validation of an instrument measuring core job characteristics. *International Journal of Educational Management*.
- Unda, S., Uribe, F., Jurado, S., García, M., Tovalín, H., & Juárez, A. (2016). Elaboración de una escala para valorar los factores de riesgo psicosocial en el trabajo de profesores universitarios. *Revista de Psicología del Trabajo y de las Organizaciones, 67-74*.
- Van der Meer, P. H., & Wielers, R. (2011). What makes workers happy?
- Wang, B., Liu, Y., Qian, J., & Parker, S. K. (2021). Achieving effective remote working during the COVID-19 pandemic: a work design perspective. *Applied Psychology: An International Review, 16-59*.
- Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: how good are single-item measures? *Journal of Applied Psychology, 59-82*.
- Ward, S. J., & King, L. A. (2017). Work and the good life: how work contributes to meaning in life. *Research in Organizational Behavior, 59-82*.
- Woods, M., & Miklencicova, R. (2021). Digital epidemiological surveillance, smart telemedicine diagnosis systems, and machine learning based real-time data sensing and processing in COVID-19 remote patient monitoring. *American Journal of Medical Research, 65-77*.

## **APPENDIX**

### **1. APPENDIX – USE CASE DESCRIPTION**

In this section, we provide a concise overview of consulting firms and their functions. Additionally, we delve into specific aspects of InnoWave Technologies, an IT consulting company, and outline InnoWave's teams and talent management procedures. The choice of InnoWave as the subject of this study was based on its suitability and relevance to the study's topic and scope as well as for ease of access and approval from the company to perform the study.

### **CONSULTING COMPANIES**

Consulting companies have been helping businesses improve their efficiency through expert advice since the late 19th century (Kipping & Engwall, 2002). Today, they offer a wide range of services in various fields such as management, technology, finance, marketing, and more. These services aim to solve specific customer problems by providing a unique skill set with experienced professionals who possess knowledge in different domains or technologies.

Consulting companies also offer different perspectives from other companies in the same industry, both in other geographical locations and different sectors. They can be engaged for short or long-term assignments, with the option of fixed or non-fixed scope projects. In fixed scope projects, the consulting company is hired to deliver artifacts within a set timeframe and cost, managing a full team to guarantee the end-to-end scope of the project delivery. In non-fixed scope projects, companies can hire consultants from the partner firm for a certain time frame based on their skill set, with scope and prioritization being the responsibility of the customer.

Overall, consulting companies provide alternatives to their clients, including the ability to externalize their workforce in operational areas and focus on the core of the business by creating new products and services for their end customers (Glückler & Armbrüster, 2003). By offering tailored solutions to meet their clients' needs and goals, consulting companies can help businesses achieve success in an ever-changing business landscape."

### **INNOWAVE TECHNOLOGIES**

InnoWave Technologies is a Portuguese consulting company that was founded in 2008 and is headquartered in Lisbon.

Since its inception, InnoWave has expanded its operations beyond Portugal, opening offices in Belgium, the Netherlands, the United Kingdom, the United States, and India. More recently, with COVID-19 and the proliferation of remote and hybrid work models, the company has also adopted

a proximity policy, opening additional offices throughout Portugal in Faro and Beja to better serve its employees. These strategic moves have helped InnoWave grow and scale its business and have led to the development of new services and products that reflect the company's increasing maturity.



Figure 4: InnoWave's Offices

As InnoWave evolved over time, its growth strategy, services, products, organizational chart, internal processes, and procedures have all been shaped by its increasing maturity as a company. Through these changes, InnoWave has remained committed to its mission of changing lives through innovation, and to providing its clients with the best possible service and products.

After more than 15 years in the market, InnoWave entered a new phase as an established and recognized company. At this stage, it became more critical than ever to hire, develop, and retain top talent to achieve the company's goals. With the recent global push for remote work and digitalization, the demand for IT professionals increased significantly, making talent even scarcer than before. This made InnoWave's commitment to being a people-centric organization even stronger. To provide more flexibility to employees, InnoWave opened smaller offices throughout Portugal and allowed employees to choose where they wanted to work from, with three different work models available: full remote, hybrid, or onsite.

To increase ownership and accountability for every employee, regardless of their job role, InnoWave introduced the 360° evaluation, where all employees can give feedback to everyone, they interact with in their work consistently. With the surge in demand, InnoWave's business grew significantly, and the company had to change its organization once again to a structure focused on strategic accounts. Each strategic account now has an Account Manager responsible for strategic thinking, sales, and long-term customer success, with a focus on capacity building and operational efficiency to drive margins.

At present, InnoWave is a relatively well-known player in the market with over 100 customers, 420 employees, several partnerships, and a global operation. One of the notable things about InnoWave's journey thus far is that its growth has been highly dependent on its ability to manage, grow, and retain top talent. As such, the message is clear - InnoWave's priority, sponsored by the CEO and board of directors, is towards employees' job satisfaction.

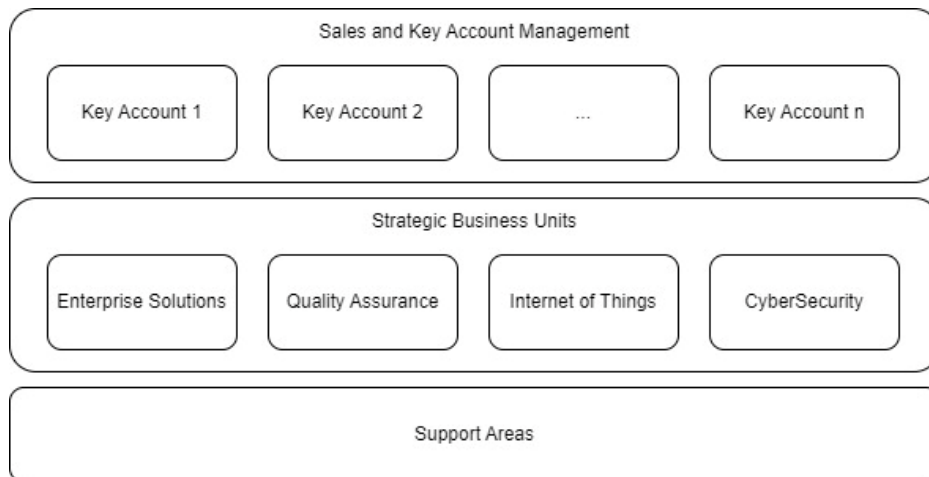


Figure 5: InnoWave Maturity Stage Organizational Structure

## Teams

InnoWave organized itself around Strategic Business Units (SBUs) with specific focuses on four different knowledge areas. Each SBU has its own management team, technical and functional resources that work on customer assignments, develop skills in the company's academies or create products. The teams within SBUs are multidisciplinary in nature, with technical and functional resources aiming to better suit the task at hands. For instance, a team may be comprised of management resources like project managers and scrum masters, technical resources that are responsible for applicational development and functional. Also, the team members may be from different cultures and geographically distant from each other, some of which may never even met each other in person, effectively making most teams at InnoWave virtual teams.

InnoWaver's when working on projects may work on mixed teams with team members from our customers and our customers 3<sup>rd</sup> party partners with an on premise, near shore or offshore setting. Employees are allocated to their assignment as per the fit in terms of knowledge and experience by the staffing team. During this time, InnoWave will try to source the best possible talent to deliver the project, given any context constraints. Those constraints can range from a specific technology that requires training the team before the assignment start, to willingness of employee to work on something different from what is originally intended. In larger teams, a team leader and as many team members as necessary will be selected to deliver the project.

Assignment staffing can source an employee from within the SBU, if available, or even from another Business Unit if a different fit is needed or they can go to the market. The team leader is selected based on the overall ability to lead a team and successfully delivery of the project. During project execution, if a new need for a team member appears or a replacement is necessary, it is also the role of the team leader, along with the staffing team, to staff it appropriately.

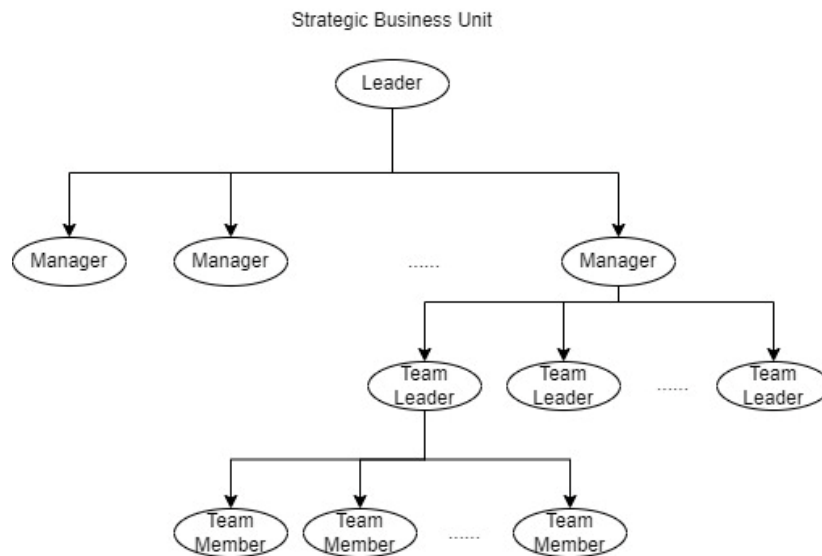


Figure 6: InnoWave Strategic Business Unit Teams Structure

### Employee Job Satisfaction

At InnoWave, the transversal policies, procedures and monitoring defined by the organization, through the People and Culture department, include:

- a) Corporate onboardings.
- b) Assignment debriefing.
- c) Performance review.
- d) 360 feedbacks.
- e) Employee satisfaction surveys.
- f) Check-ins.
- g) Leadership and development talks (for managers).
- h) Career paths and development plans.
- i) Succession planning.
- j) Employee promotion and recognition.
- k) Compensation & Benefits.
- l) Training and Development.

These policies and procedures are defined *a priori* and represent the framework that ensures companies operate in a consistent, fair, and legal manner. Although these procedures and policies are fundamental, it is their daily practical application that leverages how successful organizations are in managing talent and improving employee satisfaction. That practical application is headed by the team leaders who are responsible for managing their teams within this framework

and achieve the organizational goals and objectives while ensuring employees have the support and resources they need. As such, team leaders also have the responsibility of:

- a) Creating a positive and productive work environment.
- b) Inspire and motivate team members to reach their full potential.
- c) Define clear goals and objectives.
- d) Assuring that the team has the resources and support it needs to be successful.
- e) Ensuring that team members can work together effectively to achieve their goals.
- f) Providing support and guidance to team members.
- g) Manage conflicts and communication within the team.
- h) Holding team members accountable for their work.
- i) Communicate team's progress and achievements to other members of the organization.
- j) Promote team spirit.
- k) Provide feedback and present challenges to promote development.
- l) Nominate employees to promotion and/or other type of recognition (salary raise, public acknowledgement).
- m) etc.

InnoWave recognizes the significance of job design and flexible work models in enhancing employee satisfaction. Accordingly, InnoWave tries to adapt job design approach that prioritizes these elements. InnoWave employs a rigorous recruitment and selection process to identify candidates suitable for the consultant role, emphasizing the necessary skills, abilities, and interests. The company also facilitates skill development and acquisition of new competencies to ensure employees are well-aligned with their job structure. InnoWave achieves this by aligning employees with projects that match their skills and interests, as motivated and engaged employees contribute more effectively when working on projects aligned with their interests and skills.

Recognizing that employee needs are dynamic, the company offers opportunities for skill development through training and development programs, allowing employees to acquire new competencies and transition into different roles. This approach integrates job design into recruitment, selection, training, and development practices, promoting employee satisfaction and contributing to project success.

To measure the trends and become a better company, InnoWave assesses employee satisfaction using the Employee Satisfaction Survey, administered biannually to all regions, offices, and job roles. The survey covers categories such as autonomy, development opportunities, recognition, accomplishment, internal mobility, alignment with values, supervision, team relationships, and employee benefits. Notably, the latest survey conducted in April 2023 revealed that InnoWave employees primarily work in remote or hybrid arrangements. The company adapts its

employee pipeline to maintain a balanced mix of employees in both hybrid and remote work, reflecting the opportunities each model provides.

In summary, job design is a crucial element in employee satisfaction at InnoWave. The Employee Satisfaction Survey results for April 2023 indicate fluctuations tied to changes in work models, with satisfaction levels lower before COVID (onsite work), higher during COVID (remote and/or hybrid work), and a recent decrease with the resurgence of hybrid work. While ongoing measures address employee concerns, the predominant influence during this period was the shift to full remote work due to COVID lockdowns.

As depicted in Figure 7: April 2023 InnoWave Employee Satisfaction it is observed that before covid (entire workforce working onsite) the employee satisfaction levels were lower when compared to during covid (entire workforce working remote and/or hybrid) and now that hybrid work is starting to pick up again the Employee Satisfaction levels seem to be decreasing. Several measures are implemented every year to address employee concerns but the main differentiator in this period was full remote work due to covid lockdowns.



Figure 7: April 2023 InnoWave Employee Satisfaction Survey Trend

At the Employee Satisfaction Survey it is also queried to all employees their preferred work arrangement. With regards to the preferred work model, it is evident in the Figure 8: April 2023

InnoWave Employee Satisfaction Survey Work Arrangement Preference that 92.96% of the respondents want flexible work arrangements. Although, it is a mixed scenario without a one size fits all model.

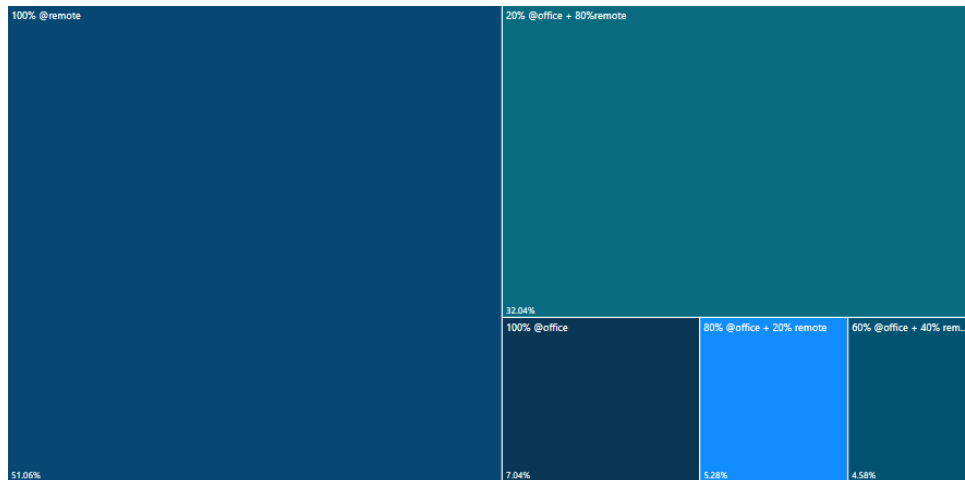


Figure 8: April 2023 InnoWave Employee Satisfaction Survey Work Arrangement Preference

InnoWave’s existing processes and measurement instruments are well structured and based on scientific principles instead of empirical data. Although, the analysis of the data is incomplete and focuses mainly in identifying trends and progress of the years through tools like excel and power BI. The analysis process doesn’t use a data analysis tool like SPSS and the significance of the findings are not checked which renders this analysis more driven from empirical experience or the sensory perception of the data observed by the People and Culture department. Additionally, due to GDPR and scope of these surveys the data cannot be shared for other purposes other than the ones clearly stated in the survey at InnoWave. As such, there is a need to administer a different survey for data gathering and data analysis.

## 2. APPENDIX – EMAIL SURVEY

Subject: Survey “Effect of Work Models in Psychological Dimensions of Work”.

Dear,

I am currently conducting a study as part of my master thesis in Applied Management. As such, I am reaching out to you asking for your participation in the survey, which will take you less than 5 minutes to complete.

The purpose of this survey is to understand the effect of work models in the psychological dimensions of work in a corporate setting.

Also, this research is **not part of any company survey or initiative and your participation is voluntary**. Any data gathered is to be used solely in the context of this research and will be kept anonymous and confidential.

To access this survey, [please click on this link](#). Instructions on how to answer the survey can be found in the survey itself.

Thank you in advance for your time and cooperation,

João Martins

### 3. APPENDIX – SURVEY

# Work Arrangements Influence in the Psychological Dimensions of Work

Welcome!

Thank you for participating! This survey is focused on trying to understand how work models influence the psychological dimensions of work.

This survey is done in the context of my master's degree dissertation in applied management.

Please read each question carefully and choose the answer that best describes your experience. If you are unsure of an answer, please choose the option that comes closest to your experience. This should take you less than 5 minutes.

Also, this survey is anonymous and, all data is confidential.

Once you have completed the survey, please submit your answers.

For classification purposes:

Q1 What is your gender?

- Male
- Female
- Prefer not to answer

Q2 What is your age group?

- 18-20
- 21-25
- 26-30
- 31-35
- 36-40
- 41-45
- >45

Q3 For how long are you on your current job?

- 0 - 2 years
- 3 - 5 years
- > 5 years

Q4 Which work model are you currently working in?

- On-Site Work (i.e. working from the Office exclusively)
- Hybrid (i.e. working from both the Office and Home)
- Remote (i.e. working from the Home exclusively)

Q5 Did you have a choice in deciding to work under the current work model?

- Yes
- No

Q6 Which region are you working in?

- Portugal
- United States
- India
- Benelux

Q7 Please indicate how much you agree or disagree with the following statements on your present job:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I am given the opportunity to do what I do best every day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job provides me with opportunities to use my skills and abilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a say in the decisions that affect my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job itself is very significant and important in the broader scheme of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The compensation I receive for the work that I do accurately reflects the value of my contributions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal values align with my role and responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work environment supports open and honest communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job is interesting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I feel a sense of accomplishment and purpose from my job.

The work I do is not important to the organization.

My job provides me with opportunities to learn and grow.

My job provides me with clear and specific feedback on how well I am doing.

I have a high degree of control over my work.

I have a positive working relationship between myself and those who oversee my work.

I have an active role in shaping and redefining my job.

My job provides with a good work-life balance.

I feel a sense of camaraderie with the people I work with.

I am not fairly rewarded for the work that I perform.

My job gives me the opportunity to interact and build meaningful relationships with my colleagues.

My work environment supports social interactions and relationships.

#### 4. APPENDIX – JOB DESIGN SATISFACTION SCALE IDENTIFICATION

In this research, Job Design Satisfaction is measured with a faceted approach and a composite measure of job design satisfaction is obtained by the sum of all the job design facets through the survey. To facilitate the presentation of some survey results throughout the thesis the following table contains the acronym and full facet it relates to:

Variable	Description
JDS_1	I am given the opportunity to do what I do best every day.
JDS_2	My job provides me with opportunities to use my skills and abilities.
JDS_3	I have a say in the decisions that affect my job.
JDS_4	The job itself is very significant and important in the broader scheme of things.
JDS_5	My personal values align with my role and responsibilities.
JDS_6	My job is interesting.
JDS_7	I feel a sense of accomplishment and purpose from my job.
JDS_8	My job provides me with opportunities to learn and grow.
JDS_9	My job provides me with clear and specific feedback on how well I am doing.
JDS_10	I have a high degree of control over my work.
JDS_11	I have an active role in shaping and redefining my job.
JDS_12	The work I do is not important to the organization.

Table 22: Job design satisfaction facets

**APPENDIX – PEARSON CORRELATION TABLE**

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	total_value_likert	
1. I am given the opportunity to do what I do best every day.	Pearson Correlation	1	.688**	.390**	.480**	.449**	.609**	.553**	.379**	.625**	.433**	.628**	.595**	.503**	.506**	.233*	.399**	.245*	0.213	0.044	-	.278*	.735**
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.036	0	0.028	0.056	0.696	0.012	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
2. My job provides me with opportunities to use my skills and abilities.	Pearson Correlation	.688**	1	.455**	.478**	.337**	.539**	.472**	.483**	.577**	.639**	.523**	.565**	.510**	.583**	0.141	.242*	.236*	.224*	0.04	.234*	.717**	
	Sig. (2-tailed)	0		0	0	0.002	0	0	0	0	0	0	0	0	0	0.21	0.029	0.034	0.044	0.726	0.036	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
3. I have a say in the decisions that affect my job.	Pearson Correlation	.390**	.455**	1	.320**	.308**	.411**	.297**	.265*	.434**	.277*	.402**	.485**	.385**	.621**	0.159	0.198	0.214	.255*	0.052	-	0.153	.571**
	Sig. (2-tailed)	0	0		0.004	0.005	0	0.007	0.017	0	0.012	0	0	0	0	0.156	0.077	0.055	0.022	0.645	0.173	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
4. The job itself is very significant and important in the broader scheme of things.	Pearson Correlation	.480**	.478**	.320**	1	.306**	.535**	.280*	.406**	.629**	.258*	.397**	.360**	.497**	.391**	0.026	0.125	0.174	0.048	0.072	0.144	.554**	
	Sig. (2-tailed)	0	0	0.004		0.005	0	0.011	0	0	0.02	0	0.001	0	0	0.819	0.266	0.12	0.67	0.521	0.201	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
5. The compensation I receive for the work that I do accurately reflects the value of my contributions.	Pearson Correlation	.449**	.337**	.308**	.306**	1	.594**	.487**	.237*	.500**	.450**	.442**	.231*	.334**	.408**	.315**	.259*	0.195	0.176	0.032	.673**	.666**	
	Sig. (2-tailed)	0	0.002	0.005	0.005		0	0	0.033	0	0	0	0.038	0.002	0	0.004	0.02	0.081	0.117	0.775	0	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81

	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
6. My personal values align with my role and responsibilities.	Pearson Correlation	.609**	.539**	.411**	.535**	.594**	1	.645**	.493**	.653**	.385**	.456**	.473**	.566**	.566**	0.153	.338**	.364**	.302**	0.149	.419**	.795**
	Sig. (2-tailed)	0	0	0	0	0		0	0	0	0	0	0	0	0	0.174	0.002	0.001	0.006	0.183	0	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
7. My work environment supports open and honest communication.	Pearson Correlation	.553**	.472**	.297**	.280*	.487**	.645**	1	.498**	.506**	.622**	.537**	.488**	.720**	.485**	.307**	.494**	.396**	.338**	0.046	.343**	.773**
	Sig. (2-tailed)	0	0	0.007	0.011	0	0		0	0	0	0	0	0	0	0.005	0	0	0.002	0.681	0.002	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
8. My job is interesting.	Pearson Correlation	.379**	.483**	.265*	.406**	.237*	.493**	.498**	1	.616**	.555**	.386**	.246*	.439**	.503**	0.087	0.146	.355**	.305**	0.12	.271*	.629**
	Sig. (2-tailed)	0	0	0.017	0	0.033	0	0		0	0	0	0.027	0	0	0.438	0.195	0.001	0.006	0.287	0.014	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
9. I feel a sense of accomplishment and purpose from my job.	Pearson Correlation	.625**	.577**	.434**	.629**	.500**	.653**	.506**	.616**	1	.534**	.631**	.390**	.443**	.630**	0.062	0.142	.249*	.255*	0.128	.295**	.761**
	Sig. (2-tailed)	0	0	0	0	0	0	0	0		0	0	0	0	0	0.58	0.206	0.025	0.021	0.254	0.007	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
10. My job provides me with opportunities to learn and grow.	Pearson Correlation	.433**	.639**	.277*	.258*	.450**	.385**	.622**	.555**	.534**	1	.624**	.342**	.509**	.507**	.288**	.237*	0.211	.259*	0.043	.347**	.694**
	Sig. (2-tailed)	0	0	0.012	0.02	0	0	0	0	0		0	0.002	0	0	0.009	0.033	0.058	0.02	0.702	0.001	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
11. My job provides me with clear and specific feedback on how well I am doing.	Pearson Correlation	.628**	.523**	.402**	.397**	.442**	.456**	.537**	.386**	.631**	.624**	1	.435**	.499**	.513**	.249*	0.214	0.158	0.183	0.109	.309**	.714**
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	0	0		0	0	0	0.025	0.055	0.16	0.103	0.332	0.005	0
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81

12. I have a high degree of control over my work.	Pearson Correlation	.595**	.565**	.485**	.360**	.231*	.473**	.488**	.246*	.390**	.342**	.435**	1	.636**	.560**	.294**	.345**	.335**	0.206	-	0.123	0.068	.629**	
	Sig. (2-tailed)	0	0	0	0.001	0.038	0	0	0.027	0	0.002	0		0	0	0.008	0.002	0.002	0.065	0.274	0.547		0	
	N	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81

## 5. APPENDIX – ANOVA DEMOGRAPHIC VALUES

In this appendix readers can find the results of the anova analysis as per gender, age group, choice of work model, region, and tenure.

### Gender

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Male	55	66.0182	9.13782	1.23214	63.5479	68.4885	31	83
Female	26	66.0385	10.27416	2.01493	61.8886	70.1883	44	82
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 23: Gender survey responses statistics

ANOVA					
SUM_JDS_VARIABLES					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.007	1	0.007	0	0.993
Within Groups	7147.943	79	90.48		
Total	7147.951	80			

Table 24: ANOVA test - Employee JDS and gender

### Age Group

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
21-25	17	67.4706	6.49151	1.57442	64.133	70.8082	58	80
26-30	18	64.4444	13.39105	3.1563	57.7852	71.1037	31	83
31-35	23	66.7826	9.47704	1.9761	62.6844	70.8808	46	82
36-40	10	62.9	11.04989	3.49428	54.9954	70.8046	42	74
41-45	6	68.1667	3.86868	1.57938	64.1067	72.2266	61	72
>45	7	66.7143	2.98408	1.12788	63.9545	69.4741	62	71
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 25: Age group survey response statistics

ANOVA					
SUM_JDS_VARIABLES					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	222.196	5	44.439	0.481	0.789
Within Groups	6925.755	75	92.343		
Total	7147.951	80			

Table 26: ANOVA test - Employee JDS and age group

## Generation

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Gen Z	17	67.4706	6.49151	1.57442	64.133	70.8082	58	80
Millenials	57	65.5088	10.66222	1.41225	62.6797	68.3378	31	83
Gen X	7	66.7143	2.98408	1.12788	63.9545	69.4741	62	71
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 27: Generation survey response statistics

ANOVA					
SUM_JDS_VARIABLES					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	54.041	2	27.021	0.297	0.744
Within Groups	7093.909	78	90.948		
Total	7147.951	80			

Table 28: ANOVA test - Employee JDS and generation

## Tenure

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
0-2 years	39	64.5128	10.85762	1.73861	60.9932	68.0325	31	82
3 - 5 years	22	68.5	6.87819	1.46644	65.4504	71.5496	58	82
> 5 years	20	66.25	8.73514	1.95324	62.1618	70.3382	50	83
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 29: Tenure survey response statistics

ANOVA					
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SUM_JDS_VARIABLES					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	224.957	2	112.479	1.267	0.287
Within Groups	6922.994	78	88.756		
Total	7147.951	80			

Table 30: ANOVA test - Employee JDS and tenure

### Choice of work model

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Yes	60	66	9.88407	1.27603	63.4467	68.5533	31	82
No	21	66.0952	8.31808	1.81515	62.3089	69.8816	50	83
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 31: Choice of work model survey response statistics

ANOVA						
SUM_JDS_VARIABLES						
	Sum of Squares	df	Mean Square	F	Sig.	
Between Groups	0.141	1	0.141	0.002	0.969	
Within Groups	7147.81	79	90.479			
Total	7147.951	80				

Table 32: ANOVA test - Employee JDS and choice of work model

### Region

Descriptives								
SUM_JDS_VARIABLES								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Portugal	71	65.4366	9.49396	1.12673	63.1894	67.6838	31	83
India	9	71.1111	8.40304	2.80101	64.652	77.5703	56	82
Benelux	1	62	.	.	.	.	62	62
Total	81	66.0247	9.45248	1.05028	63.9346	68.1148	31	83

Table 33: Region survey response statistics

ANOVA						
SUM_JDS_VARIABLES						

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	273.597	2	136.798	1.552	0.218
Within Groups	6874.354	78	88.133		
Total	7147.951	80			

Table 34: ANOVA test - Employee JDS and region

## 6. APPENDIX – ANOVA FACTOR ANALYSIS

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Jog Significance and Alignment	Between Groups	0.018	1	0.018	0.023	0.881
	Within Groups	62.286	79	0.788		
	Total	62.303	80			
Learning and Growth Opportunities	Between Groups	0.049	1	0.049	0.046	0.831
	Within Groups	84.152	79	1.065		
	Total	84.201	80			
Autonomy and Decision-Making	Between Groups	0.855	1	0.855	1.101	0.297
	Within Groups	61.309	79	0.776		
	Total	62.164	80			
Job Fit and Fulfillment	Between Groups	0.006	1	0.006	0.006	0.94
	Within Groups	82.446	79	1.044		
	Total	82.452	80			
Organizational Importance	Between Groups	0.002	1	0.002	0.002	0.967
	Within Groups	75.202	79	0.952		
	Total	75.204	80			

Table 35: ANOVA Factor Analysis

## 7. APPENDIX – SAMPLE DESCRIPTIVE STATISTICS

	N	Min	Max	Mean	Std. Dev
I am given the opportunity to do what I do best every day.	81	2	7	5.62	0.982
My job provides me with opportunities to use my skills and abilities.	81	3	7	5.84	0.981
I have a say in the decisions that affect my job.	81	1	7	5.26	1.273
The job itself is very significant and important in the broader scheme of things.	81	1	7	5.46	1.119
The compensation I receive for the work that I do accurately reflects the value of my contributions.	81	1	7	4.69	1.514
My personal values align with my role and responsibilities.	81	2	7	5.69	1.158
My work environment supports open and honest communication.	81	1	7	5.78	1.245
My job is interesting.	81	2	7	5.69	1.056
I feel a sense of accomplishment and purpose from my job.	81	1	7	5.42	1.182
My job provides me with opportunities to learn and grow.	81	2	7	5.72	1.063
My job provides me with clear and specific feedback on how well I am doing.	81	1	7	5.3	1.239
I have a high degree of control over my work.	81	2	7	5.28	1.257
I have a positive working relationship between myself and those who oversee my work.	81	2	7	6.2	0.914
I have an active role in shaping and redefining my job.	81	1	7	5.06	1.307
My job provides with a good work-life balance.	81	2	7	5.59	1.33
I feel a sense of camaraderie with the people I work with.	81	3	7	6	0.894
My job gives me the opportunity to interact and build meaningful relationships with my colleagues.	81	2	7	5.54	1.085
My work environment supports social interactions and relationships.	81	1	7	5.49	1.333
The Work I do it not important to the organization	81	1	7	5.69	1.61
I am not fairly rewarded for the work that I perform	81	1	7	4.17	1.759
Valid N (listwise)	81				

Table 9: Mean and Standard Deviation of Survey Answers

## 8. APPENDIX – ANOVA 20 JS FACTORS

Question	Sum of Squares	df	Mean Square	F	Sig.
I am given the opportunity to do what I do best every day.	.985	1	.985	1.021	.315
My job provides me with opportunities to use my skills and abilities.	.040	1	.040	.041	.839
I have a say in the decisions that affect my job.	3.291	1	3.291	2.059	.155
The job itself is very significant and important in the broader scheme of things.	.276	1	.276	.218	.642
The compensation I receive for the work that I do accurately reflects the value of my contributions.	2.621	1	2.621	1.146	.288
My personal values align with my role and responsibilities.	.004	1	.004	.003	.959
My work environment supports open and honest communication.	.324	1	.324	.207	.651
My job is interesting.	1.627	1	1.627	1.466	.230
I feel a sense of accomplishment and purpose from my job.	.432	1	.432	.306	.581
My job provides me with opportunities to learn and grow.	.031	1	.031	.027	.870
My job provides me with clear and specific feedback on how well I am doing.	1.942	1	1.942	1.269	.263
I have a high degree of control over my work.	1.912	1	1.912	1.212	.274
I have a positive working relationship between myself and those who oversee my work.	1.496	1	1.496	1.809	.182
I have an active role in shaping and redefining my job.	1.074	1	1.074	.626	.431
My job provides me with a good work-life balance.	3.566	1	3.566	2.042	.157
I feel a sense of camaraderie with the people I work with.	.446	1	.446	.555	.459
My job gives me the opportunity to interact and build meaningful relationships with my colleagues.	2.684	1	2.684	2.319	.132
My work environment supports social interactions and relationships.	4.227	1	4.227	2.420	.124
The work that I do is not important	.080	1	.080	.031	.862
I am not fairly rewarded for the work that I perform	12.014	1	12.014	4.029	<b>.048</b>

Table 13: Anova analysis of employee perceptions based on work arrangement.