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A Study on Employee Well-Being: Investigating the effects of implementing Artificial Intelligence in Human Resource Management practices.

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Abstract

The following study investigates the growing digitalization in a contemporary society and, particularly, how it is influencing the human resource management field. With burgeoning technology, we look to new solutions on how managers can measure and uphold employee well-being by introducing artificial intelligence as a means. The innovative company, Winningtemp, is set to be the benchmark of our study as they have provided organizations with new solutions, allowing managers continuous insight into their employees' work-life-cycle. The emergence of digitalization over the past decades and the continuous evolvement of technologies justifies the relevance of our study. Nevertheless, the critical phase organizations are currently facing due to Covid-19, requiring rapid change and digital solutions in order to keep operating.

Human resource scholars emphasise how employee well-being has not been a central research topic within the field (Ho & Kuvaas, 2019). Arguably though, employee well-being and performance are interconnected, supporting the fact that employees' health should be a topic of interest for managers. Kuvaas, Buch and Dysvik (2016) further emphasise how performance management should indeed be a continuous process, yet many organizations still rely on traditional methods, limiting performance management practices to once or twice per year. The present research, therefore, seeks to understand whether agile performance management tools might be a more sufficient solution in enhancing healthy and essentially prosperous workplaces.

A quantitative study of 93 individuals was conducted to compare companies utilising human resource tools assisted by artificial intelligence, with traditional tools. Specifically, the study found that by adopting agile tools to performance management practices, organizations generated higher levels of employee well-being in terms of social-psychological functioning. Further, the results show that employees exposed to new-technological tools report lower on economic leader-member exchange relationships. Nonetheless, managers and line-managers within these companies engage in human resource practices on a more frequent basis and are generally more satisfied with their tools to approach employees.

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1.0 INTRODUCTION

Over the past twenty years organizations have been exposed to significant changes in the environments in which they operate. Chiefly as a result of the shift from a manufacturing and production economy into a service sector asset-based economy, namely the *new economy* (Shipton, Sparrow, Budhwar, & Brown, 2017). Labour in the new economy can be characterized by high knowledge intensity, web-based organizing, internet connections and the integration of work design, technology and services (Porter, 1998). Today, organizations worldwide may be facing a new leap of change as a direct consequence of Covid-19. The year of 2020 has exposed businesses to unanticipated transformations, forcing organizations to adapt to new work-solutions in order to survive. It is inevitable that individual jobs are becoming even more digital than ever, as a direct consequence of the global crisis. Managers hence have an essential role both in the creation of opportunities and the protection of employees' health (Bernin and Theorell, 2003).

Iacovini (1993) defines changes as a "natural process – one that is carefully planned and orchestrated to move organizations from one capacity to another" (p. 65). Given the global uncertainty; enhancing, renewing and revitalizing existing work systems is vital for organizational survival (Shipton et al., 2017). The motivation behind change from an organization's perspective can thus generally be associated with the ambition to progress and exceed one's current position. Constantly fluctuating environments pose a threat to organizations if not handled right, as they need to adapt to changes more rapidly than before, in order to keep up with competition and the market in which it exists. The natural response during a major change is to hold on to the safe and familiar aspects of an otherwise confusing myriad of unknowns (Iacovini, 1993). Often, organizational inertia arises as a consequence of resisting change and failing to keep pace with the market (Jones, 2013, p. 300).

Change management, therefore, holds a central role in every organization with the intent to avoid resistance and to promote openness to change. One can assume that

change management plays an especially important role in organizations that are dependent on technological advances, as innovation is to a large extent associated with growth (Tidd & Bessant, 2018). Particularly, this may be more salient now than ever, and organizations exhibiting innovation, rather than remaining committed to what worked in the past, are more likely to thrive. Yet, innovation presents challenges for organizations as moving away from accepted ways of working into new domains is not straightforward, especially given people's commitment to what worked well in the past (Shipton et al., 2017). That being said, innovation is not purely about high technology, but also consists of several other aspects such as identifying or creating opportunities, offering new ways of serving existing markets, growing new markets, rethinking services, meeting social needs and last but not least, improving operations (Tidd & Bessant, 2018, p. 4-5). Together, these components of promoting innovation can provide any organization with a competitive advantage. Boxall and Purcell's (2003) thus points out organizational flexibility as an important organizational goal (as cited in Boselie 2014). This includes mental flexibility, which represents employees' ability and willingness to change without resistance, essentially linked to agility, reflecting the organization's capability of adapting easily to changes in its external environment (Chanda et al., 2007).

Nevertheless, in environments where many organizations have access to the same technology, *people* make the real difference (Mondy & Martocchio, 2015). When managing change and understanding the power of individual employees, much depends on the organizational culture. Paradoxically, changing or modifying a corporate culture means that an otherwise consistent and enduring culture has to adapt to its environment (Trompenaars & Prud'Homme, 2004, p.171). It is important to find the balance between what cultural factors to retain and which to implement as new. There are a multitude of evaluations that change managers and leaders in general need to consider when trying to run a change strategy as smoothly as possible. In order to accomplish a successful change, it is essential to be able to change people's attitudes, behaviour and cognition, through flexibility and good people management (Boselie, 2014). The changes currently taking place all around the world, affecting the everyday work-life of organizational members

are challenging organizations to create opportunities for well-being and efficacy. Especially, in order to minimize risks and find solutions to keep operating while at the same time securing employees' health.

The topic of human resource management (HRM) is hence more important than ever. In order to stay competitive, organizations must emphasise their human resources (HR) rather than traditional forms of competitive advantage (Ho & Kuvaas, 2019). Still, Ho & Kuvaas (2019) clarifies how there is a wide acceptance that employee well-being does not receive equivalent attention from HRM scholars. They further state that if we want to accurately quantify the benefits of HRM practices, we need to move beyond focusing on financial outcomes and increase the focus towards employee well-being. In 2014 the Swedish organization Winningtemp (WT) introduced a revolutionary system assisting managers with the measurement and improvement of organizational members well-being. Assisted by artificial intelligence (AI), WT provides a HR-technology system making it easier for managers to focus on employees' goals, challenges, and achievements. In turn, through continuous feedback sessions in addition to the annual performance appraisals, both managers and employees are given the opportunity to take responsibility and focus on development that creates results. Based on more than 600 scientific studies, the AI-based platform helps managers and leaders visualise employees' development in real-time and act on insights that strengthen engagement and improve performance. Ultimately, the system aims to create thriving workplaces, encouraging managers to focus on the entire lifecycle of the employee, from onboarding to offboarding, as job satisfaction and profitability are interconnected. This is realized through a system measuring the following nine indicators: leadership; job satisfaction; meaningfulness; autonomy; work situation; participation; personal development; team-spirit; and commitment. Organizational and individual development go hand in hand; hence the system provides continuous insight into how each individual feels and contributes along the way. Finally, recommended actions are provided to assist managers in leveraging the potential of their employees and essentially maximize the organization's bottom line (Winningtemp, 2020).

HRM is a broad field of study and we will for the purpose of this paper narrow the scope down to HR practices concerning performance management. Accordingly, the aim of this research is to study the effects of adopting HR-tools assisted by AI, with the purpose of increasing the quality of HR practices. This leads us to the following research question:

Will the implementation of Artificial Intelligence enhance managers utilisation of Performance Management practices, and enable employees' well-being?

2.0 THEORETICAL BACKGROUND AND HYPOTHESES

2.1 Human Resource Management

HRM involves management decisions aimed at achieving individual, organizational, and societal goals (Boselie, 2014). Paauwe (2004) elaborates how the emphasis of HRM is the exchange relationship between employers and their employees. The shaping of this employment relationship transpires in a continuous tension between added and moral values, whereas the former represents the organization's economic side, the latter views employees as human beings with feelings, emotions, opinions, norms and values. This illustrates how employees are more than just resources for creating organizational success, and consequently, HRM practices and policies are fundamental in any organization consisting of human beings (Boxall, Purcell and Wright, 2007). Schuler and Jackson (1987) explain how HRM practices are systems developed with the intent to attract, select, develop, motivate and retain employees, as well as induce organizational flourishment.

The mutual gain proposition builds on the notion that "what is good for the employee is also good for the employer, and the other way around" (Boselie, 2014, p. 106). Certainly, HRM is proven to be positively associated with outcomes such as satisfaction, as well as employee-employer relationship outcomes, which both in turn positively affect organizational performance and attitudinal outcomes. However, evidence also illustrates how this may not always

be applicable, specifically, when the employer's best-interest does not align with the employee's. The critical perspective, therefore, builds on the assumption that HRM is negatively associated with health indicators such as stress and strain, resulting in an increased probability of burnout tendencies (Van de Voorde, Paauwe & Van Veldhoven, 2012).

Beer, Spector, Lawrence, Quinn Mills, and Walton (1984) argues that employee well-being should be considered when evaluating the long-term consequences of any HRM system. Nevertheless, Legge (1989) suggests that HRM may result in morally problematic issues in situations where workers are being exploited. In spite of this, employee well-being has not been a central research agenda within the HRM field, as scholars have tended to focus on the link between HRM and performance instead (Boselie, Dietz, & Boon, 2005). Consequently, research examining the relationship between work stress and well-being has started to flourish (Ganster & Rosen, 2013).

2.2 Well-Being and Stress

2.2.1 Well-Being

Well-being is a complex construct that concerns optimal experience and functioning (Ryan & Deci, 2001). Broadly defined, *well-being* "refers to people's evaluations of their lives" (Diener, Suh, Lucas, & Smith, 1999, p. 213), or similarly, "all the things that are important to how we think about and experience our lives" (Rath & Harter, 2010, p. 137). Narrowing it down, *employee well-being* is suggested to be restricted to job satisfaction. Hence, today's most accepted and comprehensive conceptualization is suggested by Grant Christianson and Price (2007), who defines employee well-being as "the overall quality of an employee's experience and functioning at work" (p. 52). Accordingly, employee well-being is operationalized as the presence of dispositional positive affect and the absence of dispositional negative affect (Diener, 1994). Current research on well-being has been derived from two general perspectives: the hedonic approach and the eudaimonic approach. Whereas the former focuses on happiness, viewing well-being in terms of pleasure attainment and pain avoidance, the latter focuses on

meaning and self-realization, distinguishing well-being in terms of the degree to which a person is fully functioning (Ryan & Deci, 2001). In organizational science, the hedonic approach has been frequently studied in connection to job satisfaction and organizational commitment, while the eudaimonic approach in terms of meaning and engagement (Grant et al., 2007).

Moreover, scholars often concentrate on *psychological* and *subjective well-being*. Psychological well-being consists of the three dimensions: psychological, physical and social (Ho & Kuvaas, 2019). Firstly, high psychological well-being occurs if a person "experiences frequent positive emotions such as joy and happiness, and infrequent negative emotions such as sadness and anger" (Bakker & Oerlemans, 2011, p. 179). Secondly, the physical dimension is concerned with physiological indicators and subjective experiences of bodily health. In organization science, this has often been studied in terms of injuries, diseases, job-related anxiety, stress, burnout and exhaustion (Grant et al., 2007). Finally, the social dimension addresses the quality of relationships at work, which has been widely studied in terms of trust, social support, reciprocity, leader-member exchange, cooperation, coordination, and integration (Grant et al., 2007). Good social relationships are traditionally defined as having the support of others, though recent work has emphasized that humans also need to support others. Indeed, findings show how helping others can be more important to health than receiving help, as people gain more from giving to others than receiving from them (Diener et al., 2009).

Further, Diener (1984) suggests that subjective well-being (SWB) consists of three major components, including life satisfaction, positive experiences, and negative experiences. Evidence indicates that these components are independent and are influenced by different causes, yet, SWB has proved overall beneficial on health and longevity, social relationships, and productivity. Essentially, SWB is likely to exert a causal role in good health. Seligman (2002) argues that individuals possess desirable feelings in addition to pleasant ones, these include, engagement or interest, and involvement in activities that are meaningful and purposeful. Indeed, there is found support that purpose and meaning are beneficial

to human functioning and well-being (Seligman, 2002). Research explains how people who feel satisfied and experience positive feelings most of the time, act differently from those who are unhappy. Besides, studies illustrate that positive feelings can have desirable physiological effects, while negative experiences have undesirable effects (Diener, 2013). As living entities, we are born to flourish, meaning, within all individuals there is a natural propensity to actively engage, assimilate, and master one's environments. Moreover, there is a desire to learn, grow, and where possible, to develop and express capacities, talents, and interests. (Diener et al., 2009).

It is important to note, however, that there are universal differences in causes of SWB across the globe since the substance of having one's basic needs met and experiencing supportive social relationships varies between societies. For instance, there are found differences between individualistic and collectivistic cultures in regard to life satisfaction. On the one hand, people in individualistic societies, such as Norway and Sweden, pay more attention to their emotions when making life satisfaction judgments. This is due to the fact that personal emotions are considered to be a core component of individual identity. Hence, dimensions such as self-esteem and emotional feelings have a stronger correlation with life satisfaction in these cultures. On the contrary, people in collectivistic cultures pay more attention to their social relationships and whether others view their lives as successful. In other words, culture influences not only people's levels of SWB but the factors that mainly affect it, meaning, what individuals consider to be most important concerning life satisfaction. Accordingly, people are generally happier and tend to have higher SWB if they have characteristics consistent with cultural norms (Diener, 2013).

2.2.2 Stress

In a constantly fluctuating world, where people are under continuous pressure to perform and to exceed expectations, stress has become a global condition, and a harmful one. Scholars struggle to form consensus on the conceptualization of stress because of its ambiguous and vague nature. For that purpose, numerous studies have been conducted, as well as a myriad of composed definitions in an

attempt to encompass a precise formula of its complexity and multi-faceted origin. This study will first and foremost concentrate on *occupational stress*, also known as *work stress*. Ganster and Rosen (2013) define work stress as the process by which workplace psychological experiences and demands produce both short-term and long-term changes in mental and physical health. Stress is embedded in an ongoing process that involves individuals transacting with their environments, making appraisals of those encounters, and attempting to cope with the issues that arise (Cooper, Dewe & O'Driscoll, 2001, p. 12).

Lazarus (1991) emphasizes that our well-being may be threatened when stress arises. In fact, stress makes people almost three times as likely to leave their jobs and can harm strategic thinking and creative abilities. Essentially, this can lead to burnout, which can generate absenteeism, turnover, declined productivity, in addition to medical, legal, and insurance costs. The consequences of this when unacknowledged, are detrimental for employee well-being and business performance which could, in turn, threaten an organization's bottom line (Peart, 2019). This emphasises how leaders must commit to workplace wellness, in order to create healthier work environments (Peart, 2019). In fact, managers play a pivotal role by perpetuating employees' work efforts in settings with high competence-related stress (Dysvik, Kuvaas & Buch, 2014). A study conducted by Motowidlo, Packard and Manning propose that job-related stress often will lead to depression in employees which in turn impede their interpersonal and cognitive/motivational performance (Motowidlo et al., 1986, p. 626). Another study suggests that stressors expedite cognitive fatigue and impair task performance as a result of information overload and lower energy levels (Cohen, 1980).

The stress paradigm is vast, even when concentrated on occupational stress alone. Thus, the focal point of this paper will be the postulation of stress as introduced by House (1979; 1980), which comprises the following elements of perceived job pressure; quality concern, responsibility pressure, workload and role conflict. Firstly, House, Wells, Landerman, McMichael and Kaplan explain *quality concern* as "having concern about not being able to do as good work as one could

or should" (1979, p.141). Further, they interpret *responsibility pressure* as having "too much responsibility for people, process, or products and insufficient human or material assistance" (House et al., 1979, p. 141). The third element, *workload,* involves reporting a large quantity of work and frequent time pressure (House et al., 1979, p.141). Hart and Staveland define workload as "the perceived relationship between the amount of mental processing capability or resources and the amount required by the task" (1988). Besides, previous studies have addressed findings revealing high levels of occupational stress as a result of excessive overtime, amongst high-level managers and administrators as well as younger well-educated employees (Krantz, Berntsson & Lunberg, 2005). Finally, *role conflict* concerns receiving ambiguous and/or conflicting expectations from others at work (House et al., 1979, p.141). Another definition as proposed by House, Schuler and Levanovi, described in terms of incompatibility of expectations, implying that role conflict "occurs in response to the focal person's perception of aversive (conflicting) stimuli (demands) in the environment" (1983, p. 337).

2.2.3 Self-Determination Theory

In today's organizations, profitability alone is not enough as employee motivation and well-being are crucial contributors to long-term organizational success (Deci, Olafsen & Ryan, 2017). Self-determination theory (SDT) involves human motivation and personality, and how people's inherent growth tendencies and psychological needs are the foundation for self-motivation. The theory focuses on what facilitates high-quality, sustainable motivation, and also, what initiates engagement within employees (Ryan & Deci, 2000; Deci et al., 2017). Specifically, the theory proposes that employees' performance and well-being are affected by their level of motivation towards their job. With the focus on differentiating approaches to motivation, SDT has identified various types of motivation, each with different consequences for learning, performance, and well-being (Ryan & Deci, 2000).

First, essential to SDT is the difference between autonomous motivation and controlled motivation. Whereas the former involves acting with a sense of choice, the latter entails engaging in activities because one has to (Gagné & Deci, 2005).

SDT proposes that by fostering autonomy and support in the workplace, increased employee satisfaction and thriving may occur, in addition to collateral benefits for organizational effectiveness. Surely, more autonomous forms of motivation are associated with higher performance quality and employee well-being over time, as opposed to controlled motivation (Deci et al., 2017). Further, the theory differentiates between intrinsic motivation; doing an activity because it is interesting and for the inherent satisfaction of the activity, and extrinsic motivation; doing an activity to attain a consequence, such as tangible or verbal rewards (Gagné & Deci, 2005; Deci et al., 2017).

The impact of varied environment factors such as job design, pay contingencies, managerial styles on experiences and motivation are mediated by a set of basic psychological needs essential for all people, namely belongingness, competence, and autonomy (Deci et al., 2017). SDT research concerns the outcomes of the extent to which people are able to satisfy these needs in social environments (Gagné & Deci, 2005). Indeed, research implies that commitment and authenticity reflected in intrinsic motivation are more likely to be evident when people experience support in these components (Ryan & Deci, 2000). In addition, researchers have found that workplaces that focus their attention towards satisfying the psychological needs of individuals, facilitate autonomous motivation, psychological and physical well-being, and essentially enhanced performance (Deci & Ryan 2000, in Deci et al., 2017).

2.3 Performance Management

Performance management (PM) is by DeNisi and Pritchard defined as "a broad set of activities aimed at improving employee performance" (2006, p. 255). The overall objective is to improve performance, productivity and effectiveness at the organizational level by motivating employees at the individual level. Moreover, the organization should aim to provide information that will assist managers in improving employee performance (DeNisi & Pritchard, 2006). Activities typical for PM include goal setting, evaluating goal attainment, and providing feedback (Kuvaas, Buch & Dysvik, 2016). These activities are often organized as formal meetings or as performance appraisals that are held once or twice per year.

However, it is postulated that such evaluations, and PM in general, should be implemented as a continuous process (Kuvaas et al., 2016).

The effectiveness of PM is disputed in organizational theories. Among researchers that raise doubt about its effectiveness is Adler, Campion, Colquitt, Grubb, Murphy, Ollander-Krane and Pulakos (2016), who suggest that methods such as performance ratings should be disregarded entirely. They propose that formality is what impedes traditional PM approaches. Furthermore, Pulakos and O'Leary (2011) supplement this argument by positing that the main issue of PM is that it has "been reduced to prescribed, often discrete steps within formal administrative systems that are disconnected from the day-to-day activities that determine performance management's effectiveness" (p. 146). This, in turn, causes the actuality and timing of the feedback to be problematic in that it lacks both flexibility and dynamism (Pulakos & O'Leary, 2011). Kuvaas and colleagues (2016) recognize that when performance-related evaluations such as goals, objectives, targets, key performance indicators, and performance standards, are reduced to once or twice a year, they are often inaccurate and obsolete, sometimes even plain wrong. Furthermore, these methods are often incompatible with the new and modern jobs, such as. virtual work, remote work, temporary work, semi-autonomous teams, freelancing and so forth, stemming from the continuously and ever-evolving nature of work (Pulakos and O'Leary, 2011).

PM, which at first was incorporated with the intention of motivating employees, has claimed to be counterproductive. In fact, most employees deem PM systems and performance appraisals as "frustrating, too bureaucratic, and often not relevant to their job" (Adler et al., 2016, p. 221). Despite its adverse effects, PM is indeed very much utilized in organizations. Surely, one cannot ignore PM completely, as performance, skills, attributes and assets inevitably will be judged or evaluated, either consciously or unconsciously by leaders or colleagues. Still, leaders and organizations need to look at new ways to achieve this. Amongst the various types of measurements of performance, it is crucial that the organization creates a starting point metric in which the populations share a common

understanding of what is important for individual and collective performance (Adler et al., 2016, p. 234).

2.4 The Digital Transformation of HRM

In line with digital changes organizations have endured over the past decades, digital technologies play an increasingly prominent role for both employees and HRM (Parry, Strohmeier & Nickson, 2014). The relationship between technology and human interaction is considered authentic and necessary, as this alliance emerges as a means of supporting and enhancing strategic goals and objectives. Hence, technology can be utilised as a tool of support and development of management and decision-making systems, essentially, contributing to the remodelling of organizational practices (Jatoba, Gutierriz, Fernandes, Teixeira, & Moscon, 2019).

Ruel and colleagues (2007) define e-HRM practices as "a way of implementing HR strategies, policies and practices in organizations through conscious and direct support of and/or with the full use of web-based technology channels" (as cited in Bissola & Imperatori, 2014, p. 378). This constitutes new management systems that enable relationship opportunities between employees and organizations. Yet, little attention has been devoted to relational e-HRM practices, which concerns systems specifically designed and implemented with the purpose of managing and sustaining relationships with employees (Bissola & Imperatori, 2014). Bissola and Imperatori (2014) found that new e-HRM practices can, in fact, influence the relationship between employees and HR departments. Moreover, the approach can be significant in sustaining employee trust towards the HR department, building more direct, individualized and regular relationships between employees and HR professionals.

Surely, cognitive technology has redesigned HR solutions, allowing HR professionals access and disseminate information more rapidly (Manuti & De Palma, 2017). A survey conducted by "Sungard Availability Services and Tame" on British, American and European employees revealed that 81 percent of the employees consider having access to the latest digital tool as important.

Moreover, 36 percent would leave their current employer for an organization more progressive to digital adoption. Nevertheless, digital transformation brought 42 percent greater staff retention, 56 percent improved workplace satisfaction and 60 percent increased productivity (Chakraborti, 2016).

2.4.1 Artificial Intelligence

According to Bellman (1978, in Jatoba et al., 2019), AI is the process of activity automation associated with human thinking activities such as decision making, problem-solving and learning. The technology enables faster and more efficient decision making, contributing to organizational development, by bringing people closer together. If applied properly, AI practices are assumed to make HRM more effective. Hence, AI is increasingly playing a significant role in HRM, for instance within recruitment and employee development processes (Jatoba et al., 2019).

Nonetheless, AI may also be used to predict employee attrition, since employee turnover may be both costly and challenging. Here, the technology is used to accurately predict employee exit based on transactions generated by the employees and machine learning. This real-time data insight assists managers with employee satisfaction levels and future predictions of potential turnover. As to engagement, AI finds patterns and reasons that cause stress to employees which essentially affects their performance level. In this way, managers can identify potential issues and address them in a timely manner. Evidence shows how employee experience is becoming a priority for employers to keep their workforce engaged, hence, AI may be used for virtual assistance, making it easier to meet the needs of every single employee (Bhatia, 2018).

Indeed, expectations on AI within the HRM field are sky-high, offering platforms to engage employees as co-creators of strong, smart and advanced workplace cultures. This progress has transformed the way employees perceive their jobs, work relationships with colleagues, and essentially their contribution to organizational growth (Bhatia, 2018).

2.5 Leadership and HR Tools

HR professionals should be competent in staffing, development, compensation and employee labour relations. Though, their competence goes beyond this, as it is also required that they have the ability to communicate and operate HR practices to organizational members (Manuti & De Palma, 2017). Line managers (LMs) are becoming increasingly more involved in the implementation of HR practices as they play a vital role in bringing organizational policies and practices to life. In HRM, particular attention has been given to how LMs perceive and make sense of organizational policies, practices and strategies, in addition to how they influence the success or failure of the implementation of these practices. However, research suggests that there may be dispute between employees, LMs' and managers' perceptions of HR practices within organizations (Kuvaas, Dysvik & Buch, 2014). Dysvik and Kuvaas (2012) have revealed a positive relationship between employees' perceptions of supportive or relational LMs, and employees' perception of HR practices. In other words, the relationship between LMs and HR is crucial for efficient implementation of practices (Kuvaas et al., 2014). Kuvaas and colleagues (2014) suggest that a possible approach for improving the efficiency of HR implementation may be to make the process more motivating for LMs, by increasing the ease of implementation and making them more "user-friendly".

2.5.1 Enabling HR

Kuvaas, Dysvik and Buch's (2014) define enabling HR (EHR) as "LMs perception of the extent to which their organization's HR practices assist them in their managerial responsibilities, and the degree to which LMs are provided with the discretion/autonomy and flexibility to take local and individual needs into account when implementing HR practices" (p. 848). Being provided with sufficient autonomy can hence be contemplated as a symbol of trust in LMs competence. This, in turn, may enhance a sense of responsibility for outcomes and willingness to work for organizational goals. Essentially this should increase LMs' intrinsic motivation to take local and individual needs into account through

a proper HR implementation and profoundly grasping the responsibility for people issues (Kuvaas et al., 2014).

Guest (2011) emphasises how failure to implement HR policies as intended is a well-documented challenge. It is recognized that the effectiveness of HR practices is indeed influenced by the extent to which supervisors adopt those practices. Although most managers intend to undertake HR activities; limited time, unclear policies and procedures, as well as lack of competence and support may impede implementation (Nehles et al., 2006; Evans, 2015, as cited in Williams, 2019). Clearly, LMs do not have the same knowledge as HR professionals, thus support and guidance from HR departments in regard to implementation and their people management responsibilities is necessary. This may comprise policies and procedures, information and advice, tools and training to develop knowledge and skills, and technology in regard to the quality of HR systems. The outcomes may be that supervisors perceive HR tasks to be less of a burden (Williams, 2019).

In essence, autonomy and discretion are not just critical components of perceived enabling HR, but also influence the overall evaluation of the extent to which LMs think that their organization's HR practices assist them in their managerial responsibilities. Surely, LMs are likely to play an essential role in employees' sensemaking of their work environment, hence the more they themselves perceive HR practices as enabling, the more they should be prosocially motivated to support their employees through HR implementation (Kuvaas et al., 2014). As such, we formed the following hypotheses for our study:

Hypothesis 1: Leaders perception of enabling HR will be positively related to employee well-being, while at the same time negatively related to stress.

Hypothesis 2: Leaders' level of engagement in HR tools will affect well-being; a more frequent use will have a positive effect on well-being, while an infrequent use will have a negative effect on well-being.

2.6 Leader-Member Exchange Theory

The leader–member exchange (LMX) theory is a relationship-based, dyadic theory of leadership based on the assumptions that leaders influence their employees through the quality of the relationships they develop with them (Erdogan & Bauer, 2015). According to the theory, leaders develop unique exchange relationships of varying quality with individual followers (Kuvaas, Buch, Dysvik, & Haerem, 2012). This exchange relationship shapes the expected behaviours of both parties (Furst & Cable, 2008), and are assumed to fall on a range from low-quality transactional-based relationships to high-quality relationships (Kuvaas et al., 2012). Interactions in low LMX relationships are transactional and impersonal (Furst & Cable, 2008). In this relationship, both the leader and the follower expect direct reciprocity characterized by short-term economic exchanges of behaviours (Kuvaas et al., 2012). On the contrary, interactions in high-quality LMX relationships represent a social exchange relationship, characterized by loyalty, emotional support, mutual trust, liking and professional respect (Furst & Cable, 2008; Erdogan & Bauer, 2015). Additionally, in these relationships, leaders typically provide support, developmental opportunities, mentoring, and other benefits to the employee. The advantage of this can be increased member motivation to reciprocate to the leader, through loyalty and higher levels of voluntary behaviours (Erdogan & Bauer, 2015). In spite of this, Sparrowe and Liden (1997) point out one particular challenge in relation to applying social exchange theory to LMX research. Specifically, they state how "the dimensions of actual exchange behaviour that differentiate economic from social exchange, have not been specified in a way that facilitates empirical verification" (p. 524).

2.6.1 Social and Economic Leader-Member Exchange

Kuvaas and colleagues (2012) argue that social leader-member exchange (SLMX) and economic leader-member exchange (ELMX) relationships represent different forms of relationships. Hence, they propose that instead, the exchanges are to be considered as two distinct constructs and not merely as one continuum (Kuvaas et al., 2012). Whereas, SLMX represents the quality of social and relational

interactions where long-term orientation, trust and investment are essential aspects of the exchange, aligning with a high-quality LMX relationship, ELMX is typically represented by exchange relationships where employees reciprocate to their leader based on formal requirements, rather than mutual respect and interest (Kuvaas et al., 2012). An ELMX relationship may, therefore, be considered as more short-term and impersonal, resting on formal status differences (Buch, Martinsen & Kuvaas, 2015). Buch (2012) asserts that this does not entail a lack of leadership though, but rather specific patterns of interaction among leaders and employees directed towards a more transactional and calculative exchange relationship. ELMX relationships can, in fact, encourage subordinates to engage in behaviours that meet, but not exceed, the organization's expectations (Shore, Tetrick, Lynch & Barksdale, 2006).

Moreover, Dulebohn, Bommer, Liden, Brouer and Ferris (2011) found that social relationships could indeed contain factors which are normally associated with a low-quality exchange relationship. Surely, economic or instrumental behaviours linked with a low-quality relationship can exist over time and remain as the relationship flourishes into a higher quality relationship (Goodwin, Bowler & Whittington, 2009). This justifies how leadership styles may hold different qualities, rather than different levels of quality (Kuvaas et al., 2012). Judge and Piccolo (2004, as cited in Kuvaas et al., 2012) argue that essentially both ELMX and SLMX may motivate productive behaviours. Still, Kuvaas and colleagues (2012) research found that SLMX relationships were positively related to work performance and organizational citizenship behaviour within employees, while ELMX relationships, on the contrary, were negatively related to these outcomes. Hence, there still seems to be some dispute in the existing literature on the topic of ELMX.

Nevertheless, prior studies have investigated how the relationship with one's immediate leader may be a core indicator in reducing subordinates' influence of stressors such as high job demands, and essentially increase aspects of psychological well-being (Cohen, 2004). Specifically, supervisors may do this through social support, which is by Cohen (2004) defined as "a social network's

provision of psychological and material resources intended to benefit an individual's ability to cope with stress" (p. 676). This can be done by clarifying tasks, communicating goals and professional development opportunities, and by providing job resources and feedback (Northouse, 2007). Based on the notion that social support reduces occupational stressors and strain, while having an overall positive relationship with well-being (Cohen, 2004), we suggest the following hypotheses for our study:

> *Hypothesis 3:* SLMX will be positively related to well-being, while negative related to stress.
>
> *Hypothesis 4:* ELMX will be negatively related to well-being, while positively related to stress.

Organizations are essentially cooperative systems that rely on the willingness of members to behave in certain ways that support the organization (Furst & Cable, 2008). As individual goals often differ from those of the organization, a primary responsibility of managers should be to persuade members to direct their efforts towards the organization's goals. During organizational change, the importance of this may be particularly salient (Erdogan & Bauer, 2015). Certainly, empirical evidence shows how members' perceptions of the relational qualities towards their immediate leader are essential to their perception and responses towards HR practices (Kuvaas et al., 2012). Hence, we hypothesise that the relationship between leaders perceived enabling HR and employee well-being and stress, will be moderated by the degree of SLMX and ELMX relationship:

> *Hypothesis 5:* The relationship between enabling HR and well-being will be moderated by a) SLMX and b) ELMX; a) the higher SLMX, the more positive the relationship, while b) the higher ELMX, the more negative the relationship.

> *Hypothesis 6:* The relationship between enabling HR and stress will be moderated by a) SLMX and b) ELMX; a) the higher SLMX, the more negative the relationship, while b) the higher ELMX, the more positive the relationship.

In sum, the presented research shows that there is a clear gap in the literature in relation to HR-tools assisted by AI. To our knowledge, there are no previous studies examining the efficiency of using such tools, in regard to well-being and stress. Hence, we seek to extend the HRM literature by studying the effects of using AI-assisted HR-tools in HR practices, in comparison to traditional tools. This leads us to the final hypothesis of our study and essentially our proposed model:

Hypotheses 7: The use of HR tools assisted by AI will have a more favourable effect on well-being and stress, than the use of Traditional HR tools.
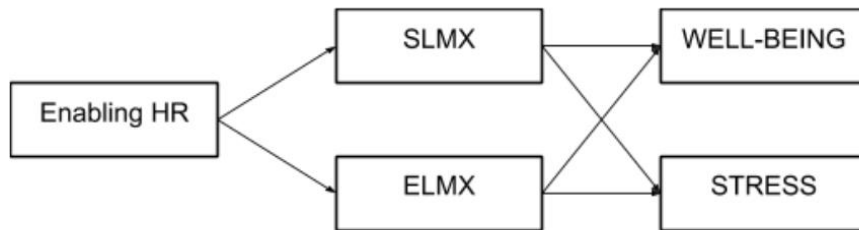
Figure 1. Proposed model

3.0 METHODOLOGY

The following section will cover the research methodology used to conduct our study. Leedy and Ormrod (2001) define research methodology as "the general approach the researcher takes in carrying out the research project" (p. 14). In order to answer the initial research question we conducted a quantitative study which "involves the utilization and analysis of numerical data using specific statistical techniques to answer questions like who, how much, what, where, when, how many, and how. It is also described as the methods of explaining an issue or phenomenon through gathering data in numerical form" (Apuke, 2017, p. 46).

3.1 Research Design

A cross-sectional design is by many considered to be the preferred research design in quantitative studies. This method entails "collection of data on more than one case and at a single point in time, in order to collect a body of quantitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of association" (Bell, Bryman & Harley, 2019, p. 53). Moreover, the study follows a descriptive research approach within the quantitative field, which involves the "identification of attributes of a particular phenomenon based on an observational basis, or the exploration of correlation between two or more phenomena" (Williams, 2007, p. 66). As quantitative studies encompass numbers and aggregated data, it is crucial for the accuracy of the results that the data collection and processing is done correctly.

3.2 Sampling

For the purpose of this study, we utilised a convenience-based sampling as we needed organizations using, specifically, WT services. The organizations included in our sample thus represent a wider range of companies using HR tools assisted by AI. The sample consisted of 48 individuals from three companies, where 13 (27,1 percent) of these had a leader responsibility. Moreover, among the total respondents, 19 (39,6 percent) were women and 29 (60,4 percent) were men, with an average age of 26-35 years (50 percent). A second sample was introduced in the study as a control group for the companies using HR tools assisted by AI. This sample was included in the study to increase the validity of our findings. Specifically, it is composed of three companies using traditional HR tools, and comprised 45 individuals, where 22 (48,9 percent) of these had a leader responsibility. Furthermore, the entire sample consisted of 30 (66,7 percent) women and 15 (33,3 percent) men, with also here an average age of 26-35 years (42,2 percent).

3.3 Data Collection

To test our hypotheses and essentially the initial research question, two web-based questionnaires were designed through Qualtrics. Surely, within a descriptive research approach, surveys are the most common methodology for data collection (Williams, 2007). Hence, our data was collected through a standardized questionnaire and was distributed electronically through email. To avoid any linguistic misinterpretations, the questionnaires were written and conducted in English. This to strengthen the construct validity.

3.3.1 Participants

The questionnaire designed for companies utilizing HR tools assisted by AI (WT) were distributed to 95 email addresses within three Swedish companies, in June 2020. The complete responses we collected after sending out two reminders consisted of 50,53 percent. To anonymize the participants and their corresponding company, we will be referring to them as 'AI Companies' in the following analysis. The questionnaire to companies using traditional HR tools, on the other hand, were distributed in July 2020. This because the control group was included as an extension of our research to secure sufficient data. Here we distributed 155 emails to three Norwegian companies, where a total of 29 percent responded. These companies will further on be referred to as 'Traditional Companies'.

3.3.2 Measures

Leader-Member relationship

First, to measure the employees' perceived relationship to their immediate leader, we used the LMX-measure presented by Kuvaas and colleagues (2012). Here, participants were asked eight questions, where four were related to SLMX, and the respective four ELMX. The variables were measured on a 7-point Likert scale ranging from "strongly disagree" = 1, to "strongly agree" = 7. The questions concerning ELMX comprised: "The most accurate way to describe my relationship with my immediate leader is that I do what I am told to do"; "I do

what my immediate leader demands from me, mainly because he or she is my formal boss"; "My relationship with my immediate leader is mainly based on authority, he or she has the right to make decisions on my behalf and I do what I am told to do"; and "All I really expect from my immediate leader is that he or she fulfils his or hers role as a supervisor or boss" (Kuvaas et al., 2012, p. 763). While SLMX, on the other hand, include: "My relationship with my immediate leader is based on mutual trust"; "My leader has made a significant investment in me"; "I try to look out for the best interest of my immediate leader because I can rely on him or her to take care of me"; and "The things I do on the job today will benefit my standing with my immediate leader in the long run" (Kuvaas et al., 2012, p. 763).

Enabling HR

Leaders' perception of enabling HR (EHR) was measured through Kuvaas and colleagues (2014) measure of generic user-friendly HR-tools for leaders. On a 7-point Likert scale ranging from "strongly disagree" = 1 to "strongly agree" = 7, leaders were asked five questions concerning their company's HR tools. However, in the questionnaire distributed to companies using HR tools assisted by AI we rephrased the questions from generally including traditional HR tools and systems, to specifically covering WT (Appendix 2).

Well-being

We assessed the measure of subjective well-being using Diener and Biswas-Diener's (2009) Scale of Positive and Negative Experience, further referred to as SPANE. The scale assessed positive (SPANE-P) and negative (SPANE-N) feelings on a 12-item questionnaire, with six positive and six negative measures. Specifically, respondents were asked to think about what they had been doing and experiencing the past four weeks, before reporting on a 5-point Likert-scale ranging from "very rarely or never" = 1 to "very often or always" = 5. Because the scale includes general positive and negative feelings, it assesses the full range of positive and negative experiences, including any specific feelings that could be unique in particular cultures. Due to the general items included, the scale can

assess not only the pleasant and unpleasant emotional feelings, but also reflect other states such as interest, flow, positive engagement, and physical pleasure (Diener et al., 2009).

Further, we measured social–psychological prosperity (SPP), to complement existing measures of subjective well-being, through Diener and Biswas-Diener (2009) Flourishing Scale. This scale was used since it includes content that goes beyond psychological well-being narrowly defined (Diener et al., 2009), capturing a more accurate picture of the measure. The scale is an eight-item scale encountering social relationships; having supportive and rewarding relationships, contributing to the happiness of others, and being respected by others. In addition to having a purposeful and meaningful life and being engaged and interested in one's activities. Items tapping into self-respect and optimism were also included. Finally, the scale measured an item of feeling competent and capable in the activities that are important to the respondent. Hence, the brief scale assesses major aspects of social–psychological functioning from the respondent's own point of view (Diener et al., 2009). Through a 7-point Likert scale, respondents were then asked to range their answers concerning the items from "strongly disagree" = 1, to "strongly agree" = 7.

Stress

It is important to note that one of the greatest challenges when measuring and studying the effects of stress upon performance, is to isolate stress from all other variables, as stress varies significantly amongst people and situations. Hence, it is almost impossible to measure stress perfectly due to its multidimensionality. A complete measurement of performance under stress on an individual level would require an assessment of each subject, their personality and abilities, as well as other influencing aspects (Lazarus, Deese & Osler, 1952). Due to limited time and resources, this extensive method will not be manageable for this study. Hence, stress was measured through the instrument of House (1980), though, for the purpose of this study, the perceived occupational stress measures have been adapted to fit the environment of white-collar workers. The respondents were thus asked four questions related to the four different measures of job pressure (House,

1979; 1980): quality concern; "the amount of work you do interferes with how well the work gets done", responsibility pressure; "you do not have enough help and resources to do the job well", workload; "you do not have enough time to get the job done well", and role conflict; "you have to try to satisfy too many different people". Essentially the respondents reported on a 5-point Likert scale ranging from "never" = 1, to "always" = 5 their level of agreement.

Dependent variables

We included the two dependent variables to the study. First, HR-Engagement "how often do you engage in your company's HR tools" was measured on a 5-point Likert scale ranging: daily, weekly, monthly, yearly, to never. This was to uncover how frequently leaders and LMs actually engage in HR tools. However, we realize in after hand that the timeline between "monthly" and "yearly" is quite broad. It could hence have been a more sufficient measure if we had captured the item "quarterly" as well. Further, we also wanted to address to which degree leaders and LMs are satisfied with their HR tools through the measure of "HR-Satisfaction". This was encountered by asking the following question: "would you recommend your company's HR tools to other companies". The respondents were also here asked to indicate their level of agreement on a 5-point Likert scale ranging: definitely yes, probably yes, may or may not, probably not, to definitely not.

Control variables

Control variables were included in the study to outsource alternative explanations for the observed relationships. Cogliser, Schriesheim, Scandura, & Gardner (2009) suggests how this can increase internal validity as they might confound results. Hence, our control variables included age, gender, tenure, working hours and leader-responsibility. Age and gender were included in the study to control for potential demographic variance, whereas gender was measured as a dichotomous variable (male = 1, female = 2), age was measured by six grouped categories (25 or less = 1, 26-35 = 2, 36-45 = 3, 46-55 = 4, 56-65 = 5, 66 or more = 6). Moreover, the participants' tenure and working hours per week were also

included as control variables. Buch, Kuvaas, Dysvik and Schyns (2013) suggests how followers with a longer period of employment might respond differently to ELMX and SLMX relationships. Thus, tenure was included and measured through five grouped categories ranging (less than one year = 1, 1-3 years = 2, 4-6 years = 3, 7-9 years = 4, ten years or more = 5). Working hours were also accounted for as it could be interesting to see, specifically, if this potentially had any correlation to, for instance, higher levels of stress or lower levels of well-being. The variable was measured through the following categories (less than the average = 1, average = 2, more than the average = 3). Additionally, the respondents working more than the average of 37,5 hours in Norway and 40 hours in Sweden, were asked how many additional hours per week they spend on work to account for eventual extreme values. Finally, we include leader-responsibility as a control variable due to its relationship with the variables enabling-HR, SLMX and ELMX. This variable was coded as a dichotomous variable (yes = 1, unsure =2, no = 3).

3.4 Ethical Considerations

Naturally, there are several ethical considerations that are important to address in regard to the study (Johannessen et al., 2016). First of all, we informed the participants about the purpose of the research project, to ensure that they were fully aware of how the collected data was to be used. Furthermore, it was important to stress that we treat all personal data with full confidentiality and anonymity in accordance with General Data Protection Regulation, as the research should not be detrimental to the participants. Also, by developing a consent form which participants had to fill out before initiating the study, we emphasised how the participation was voluntary, and how the participant had the right to withdraw from the study at any time. Finally, in accordance with the Norwegian Center of Data regulations, the participants were informed about the collected data being deleted once the thesis has been submitted, September the 1'st 2020.

4.0 ANALYSIS

The data analysis stage fundamentally concerns reducing the large scope of information gathered, in order to make sense of it. The raw data was hence processed, coded and analysed in the statistical software program SPSS Statistics. In accordance with a cross-sectional design, we examined the data collected across units, or in this circumstance companies, to detect patterns of association (Bell et al., 2019). The data was hence analysed in several stages.

First, we tested for multicollinearity, normality and homoscedasticity as we wanted to ensure that our data was not impaired by outliers, errors or other insufficiencies. The data did not indicate any issues of multicollinearity as the coefficient's highest VIF value was 4.28, while the lowest was 1.1 which is above the commonly used cut-off point of .10 (Hair et al., 2010). Further, we did not detect any missing values, however, we did observe how five individuals report that they are "unsure" as to whether they have a leadership responsibility or not. Hence, we might be missing out on valuable data in regard to "enabling HR". Moreover, we detected several outliers, specifically in regard to "working overtime". Some respondents have reported working 45, 50 and 60 hours more than average working hours in their respective country. This shows a clear gap from other responses and hence we can assume that the question has been misinterpreted as to perhaps how many hours in total they work during a week. Hence, we chose to remove these values from the data set. Though four respondents still report working 15, 19, 25 and 30 hours overtime per week, yet we chose to retain these values as one can assume that individuals with a leader responsibility, within industries such as finance and sales, do indeed work this much overtime. Remaining outliers in other variables were retained to avoid causing any potential interference and misrepresentation of our results.

Secondly, we performed an exploratory principal component analysis with varimax rotation on all multiple-scale items in the measurement model, in order to determine item retention (Medsker, Williams, & Holahan, 1994). Besides, this analysis is arguably a well-suited approach for evaluating and increasing both convergent and discriminant validity (Hurley Scandura, Schriesheim, Brannick,

Vandeberg & Williams, 1997). Moreover, given that our study relies on self-report measured, we applied a conservative rule of thumb in the analysis and only retained items equal to a loading of .40 or higher. This was done to avoid confounded measures and to address the concern of discriminant validity (Hair, Black, Babin, Anderson, & Tatham, 2010). Further, we only retained items with cross-loadings of less than .35 between observed factors (Kiffin-Petersen, & Cordery, 2003), and a differential of .20 or higher between the included factors (Van Dyne, Graham, & Dienesch, 1994). Lastly, in order to get more comprehensive information about our data, we computed the descriptive analysis and correlations for the finalized data.

 Third, in order to test the studies hypotheses, we performed a hierarchical moderated regression (Cohen West, Aiken, & Cohen, 2003). Before computing the interaction terms, however, we centred the variables SLMX, ELMX and EHR by subtracting the mean of each variable from their corresponding score (Aiken & West, 1991). This was done since interaction terms often create multicollinearity problems as a result of their correlations with main effects (Kuvaas, Buch, & Dysvik, 2012). According to Aiken & West (1991), this procedure reduces the potential for these issues, in addition to facilitating the interpretation of the interaction (as cited in Buch, 2012). We also created dummy variables for the following nominal variables: gender; age; tenure; working-hours; leader responsibility; HR satisfaction; and HR engagement in order to conduct the analysis. Furthermore, in the regression analysis we followed the recommended practice by Aiken and West (1991) and first entered the control variables in step one. Further, the independent variable EHR was included together with its dependent variables HR satisfaction and HR engagement in step two, before the moderation variables ELMX and SLMX were inserted in the third step. Finally, the interaction terms EHRxELMX and EHRxSLMX were added in step four. The variables in the hierarchical moderated regression model accounted for 36,5 percent of the variance in well-being (R^2 = .365) and 42.4 percent of the variance in stress (R^2 = .424), with a significance of ($p < .001$). Fourth, to test the final hypothesis of our study, we conducted an independent t-test on our two samples:

AI companies and Traditional companies, in order to test if there was a significant difference between the two samples' mean scores.

5.0 RESULTS

5.1 Exploratory Factor analysis

Based on the exploratory factor analysis, nine of our items did not fit the inclusion criteria of .40. Three items of stress were removed, namely "The amount of work you do interferes with how well the work gets done"; "You do not have enough help and resources to do the job well"; and "You have to try to satisfy too many different people". Further, neither of the following items of SPP met the inclusion criteria either: "I am engaged and interested in my daily activities"; "I actively contribute to the happiness and well-being of others"; "I am a good person and live a good life"; "people respect me". Nevertheless, the item "contended" and "pleasant" from the measure of positive experiences was removed for the same reason. Further, the three SLMX items: "my immediate leader has made a significant investment in me"; "I try to look out for the best interest of my immediate leader because I can rely on him or her to take care of me"; and "the things I do on the job today will benefit my standing with my immediate leader in the long run" had cross-loadings above .35, in addition to a differential of less than .20 between its target construct and one of the other constructs. Also, the SPP item "my social relationships are supportive and rewarding" had a cross-loading of more than .35. These items were thus removed in order to increase convergent and discriminant validity. The rotated component matrix (Appendix 1) shows an overview of factor loadings above .40 after rotation, which could be considered significant (Field, 2009).

In order to determine discriminant and convergent validity, we deliberate on the results from our descriptive statistics reported in Table 1, together with the factor loadings from our analysis, with what we expected to find based on theory (Buch, Kuvaas, & Dysvik, 2011). Firstly, in accordance with Buch and colleagues (2011) findings, we expected a negative correlation between ELMX and SLMX, as these measures should be theoretically distinct from each other. However, we did not

find any significance to this (-.042, p > .05) as shown in Table 1. In extended studies, Kuvaas and colleagues (2012) found that ELMX was significantly predicted by gender. Specifically, that male subordinates are more inclined to develop ELMX relationships than female subordinates. Hence, we sought to find whether there was any truth to this in our study, as our two samples were skewed in regard to gender representation, possibly affecting our results. Still, our findings show no significance in relation to this (.211, p > .05). Interestingly though, there was instead a significance between ELMX and age (-.322, p < .01), as the younger generation reports higher levels of a transactional relationship with their immediate leader. It is reasonable to assume that younger employees, newer to the labour-market may view their superiors in a sense of formality, as one may get more assertive with age.

Additionally, Kuvaas and colleagues (2014) found that the more LMs' perceive HR tools as enabling, the more open they are to implement them. Accordingly, we assume a stronger perception of enabling HR should be positively related to how frequently LMs' utilise HR tools, in addition to how satisfied they are with the corresponding tools. Our factor analysis does indeed show that these items are related, falling under the same factor. Yet, as we see no significance in the relationship EHR and HR engagement (.264, p > .05), we can only confirm a significant correlation between EHR and HR satisfaction (.456, p < .01). Nonetheless, we can also establish a positive correlation between HR tool satisfaction and engagement (.750, p < .01). Moreover, previous research shows that the more autonomy LMs are given, the more likely they are to implement HR tools (Kuvaas et al., 2014). Thus, we assume that SLMX should be positively related to both enabling HR and the frequency of HR tool utilization. Based on our results we can indeed establish a positive relationship between SLMX and perceived enabling HR (.451, p < .01). Furthermore, our factor analysis shows that the SLMX item "my relationship with my immediate leader is based on mutual trust" falls into the same continuum as HR engagement, yet there was not enough evidence for any significance in the relationship (.147, > .05). On the contrary, our findings do suggest a significant negative relationship between

ELMX and HR engagement (-.418, p < .01), indicating that LMs who report a more transactional relationship has a more infrequent use of HR tools.

In accordance with the mutual gains perspective, Ho (2018) established that HRM systems at lower levels of implementation are associated with lower employee well-being, while at higher levels of implementation, are associated with higher employee well-being. Further, Kuvaas and colleagues (2014) confirm that the higher perceived enabling HR, the more likely LMs are to implement HR and support subordinates. Based on this, we expect LMs perception of EHR to be positively correlated with well-being, while negatively with stress. Indeed, our findings show a significant positive relationship between LMs' perceived enabling HR and employees' well-being in terms of social psychological prosperity (.366, p < .05), yet no significance towards positive and negative experiences (.167, p > .05). Moreover, EHR and stress have a significant negative relationship (-.482, p < .01). Based on the findings that social support has a positive relationship with well-being, while at the same time reducing stressors and strain (Cohen, 2004), we expect that SLMX will be positively related to well-being and essentially negatively with stress. Confirming our assumptions, we found that SLMX is indeed positively related to well-being with a significant relationship (p < .01); SPP (433) and SPANE (.425), while at the same time negatively related to stress (-.306, p < .05). Furthermore, a surprising finding from our factor analysis was that the item "afraid" from the variable SPANE, falls under the same factor as ELMX. Our further analysis, however, did not show any significance in the relationship between ELMX and well-being, although ELMX was significantly related to stress (.045, p < .05). This might highlight Cohens' (2004) findings regarding the importance of supervisor social support in relation to well-being and stress.

Further, we notice how there is a significant relationship between age and well-being; SPP (.228, p < .05) and SPANE (.277, p < .01). Indeed, younger people report lower levels of well-being than our older participants. As both components of well-being are correlated (.380, p < .01) our results may be transferred to Dieners' (2013) findings, indicating that people in individualistic societies pay

more attention to their emotions when making life satisfaction judgments, as personal emotions are considered to be a core component of the individual identity. Nevertheless, previous research has found that overall life satisfaction follows a curvilinear pattern, not showing tendencies of declining with increasing age, since certain domains in life improve with age (McAdams, Lucas & Donnellan, 2011).

Additionally, our findings indicate a positive relationship between gender and stress (.218, $p < .05$), as we can observe how females report higher on the various stress items. According to previous research, women are found to experience a larger number of work and family related stressors in comparison to their male counterparts. Hence, different coping styles have been reported for different gender roles. Specifically, in the Swedish population, covert coping such as letting things pass without saying anything has been considerably more common for women than men (Theorell & Härenstam, 2000, as cited in Bernin, Theorell, Cooper, Sparks, Spector, Radhakrishnan, & Russinova, 2003). We assume this research can be applicable in the Norwegian population as well.

Finally, an interesting finding from our data collection was that some respondents report working more overtime during Covid-19, hence we seek to understand whether this has had any effect on our results. The proportion of individuals working overtime are leaders (.255, $p < .01$), though our results emphasise that these participants do not experience any significant level of stress (.199, $p > .05$). Assumingly, this can be explained by the nature of leadership and everything it encompasses such as inhibiting certain personality traits, trained coping-mechanisms, motivation, and expectations associated with the role. Particularly, working overtime may be an expectancy within such positions, explicitly during times of change. Nonetheless, the measures of stress used for the purpose of this study may be more applicable to subordinates. Descriptive statistics and correlations are reported in Table 1.

Table 1.

Descriptive Statistics, correlations, and scale reliabilities.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Gender	1.53	.502	1													
Age	2.34	.903	−.117	1												
Tenure	2.17	1.04	.074	.168	1											
Working-Hours	2.39	.692	-.187	.237*	.179	1										
Overtime	6.77	6.29	-.088	.137	.216*	.897**	1									
Leader Responsibility	2.16	.947	-.103	.153	.267*	.431**	.455**	1								
HR Engagement	2.34	.906	.162	-.243	-.276	.415*	.543**	-	1							
EHR	5.24	1.31	−.09	−.103	.063	.024	-.072	-	.264	1						
HR Satisfaction	2.06	1.16	.155	.189	.076	.183	.119	-	.456**	.750**	1					
SLMX	5.53	1.07	−.004	.176	.074	.068	-.001	.031	.147	.451**	.081	1				
ELMX	3.75	1,52	.211	-.322**	-.052	-.252*	-.234*	-.175	-.418*	.047	-224	-.042	1			
SPP	47.64	4,66	.025	.228*	.018	.107	.022	.021	.270	.366*	.265	.433**	-.157	1		
SPANE	9.19	5,75	−.006	.277**	-.011	.097	.018	.086	.125	.167	-.056	.425**	-.120	.380**	1	
STRESS	3.17	.726	.218*	−.036	.167	.139	.199	.103	-.045	-.482**	-.303	-.306**	.045*	-.258*	-.286**	1

Note: N=93.

*. Correlation is significant at the 0,05 level (2-tailed); **. Correlation is significant at the 0,01 level (2-tailed)

5.2 Hierarchical Moderated Regression Analysis

The first step in the regression analysis revealed that age had a significant relationship to well-being (β = .345, p < .01), while gender had a significant effect on stress (β = -.243, p < .05). Furthermore, the second step revealed that EHR had a positive effect on well-being (β = .321, p < .05), however, we further suggested that EHR should reduce stress, which not be established in this of the analysis (β = -.277, p > .05). Hence, we found partial support for Hypothesis 1. Moreover, our findings did not reveal any significance to support Hypothesis 2, suggesting that more frequent use of HR tools would be positively related to well-being (β = .009, p > .05). Neither did we see any significance towards HR engagement being negatively related to stress (β = .028, p > .05). The third step of the regression model confirms Hypothesis 3, SLMX is indeed positively related to well-being (β = .394, p < .001), while negatively related to stress (β = -.284, p < .05). On the contrary, we proposed that ELMX was negatively related to well-being and positively related to stress. Our findings, however, show no significance between neither ELMX and well-being (β = .081, p > .05) nor ELMX and stress (β = -.021, p > .05), hence we disconfirm Hypothesis 4. The fourth and final step of the model revealed that interaction terms for a) EHR and SLMX on well-being was non-significant (β = .062, p > .05). Though, b) EHR and ELMX (β = -.270, p < .05) was significant, indicating that the relationship between EHR and well-being is moderated by ELMX, and we thus find partial support for Hypothesis 5. Likewise, there was a non-significant relationship between the interaction term a) EHR and SLMX (β = .027, p > .05) on the dependent variable stress, yet interaction between b) EHR and ELMX (β = .438, p < .001) was significant. We, therefore, find partial support for Hypothesis 6 as the relationship between EHR and stress is moderated by ELMX. In sum, we found support in Hypothesis 3, though only partial support for Hypotheses 1, 5 and 6, Hypotheses 2, and 4, however, were not supported. The summarized results of the regression analyses are presented in Table 2.

Table 2.

Regression analyses

Variable	WELLBEING				STRESS			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Gender [a]	-.114	-.123	-.101	-.085	-.243*	-.238*	-.260*	-.270**
Age [b]	.345**	.322**	.243*	.263*	-.182	-.192	-.145	-.176
Tenure [c]	-.072	-.095	-.088	-.161	.173	.196	.189	.322**
Working-Hours [d]	.054	.064	.037	.026	.087	.080	.097	.105
AI Companies	.032	.086	.039	.064	.170	.207	.236	.187
Traditional Companies								
Leader Responsibility [e]	.047	.066	.049	.066	.113	.120	.128	.096
EHR		.321*	.148	.346		-.277	-.143	-.428**
HR Engagement		.009	.041	.026		.028	.001	.024
HR Satisfaction		.242	.112	.261		-.001	.106	-.113
SLMX			.394***	.376***			-.284**	-.254*
ELMX			.081	.132			-.021	-.103
EHR*SLMX				.062				.027
EHR*ELMX				-.270*				.438***
R	.367	.422	.563	.604	.357	.456	.526	.651
R2	.135	.178	.317**	.365***	.128	.208*	.276**	.424***
R2	.072	.086	.221	.257	.065	.119	.174	.325
F	2.15	1.93	3.29	3.65	2.02	2-33	2.70	4.29

Note: N = 93; Standardized regression coefficients are shown. *p<.05; ** p<.01; *** p<.001

[a] Gender; Men =1, Women = 0

[b] Age; Coded from -1 (25 years or less) to 4 (66 years or more).

[c] Tenure; Coded from -1 (less than 1 year) to 4 (more than 10 years).

[d] Working-hours; Coded from -1 (less than average) to 1 (more than average).

[e] Leader Responsibility; Leader responsibility = 1, No leader responsibility = 0.

5.3 Independent Samples T-test

In Hypothesis 7 we suggested that the use of HR tools assisted by AI would have a more favourable effect on well-being, than the use of traditional HR tools. In other words, our study seeks to uncover whether companies who utilise AI assisted HR tools have healthier organizational environments. The results of the independent samples t-test illustrates that there was a significant difference between our two groups in the following variables; Gender ($p < .01$), HR engagement ($p = .001$), HR satisfaction ($p < .001$), ELMX ($p < .05$), and lastly SPP ($p < .01$).

From this, we can confirm that AI companies do engage more frequently in HR tools (M=1.77), in comparison to traditional companies (M=2.68). Also, AI companies are generally more satisfied with their companies HR tools (M=1.23), compared to traditional tools (M=2.55). Indeed, 92,3 percent of the AI-users would recommend their HR tool to other companies. Moreover, in regard to well-being, employees in AI companies report a higher level of SPP (M=48.9) than traditional companies' employees (M=46.2). However, the analysis indicates no significant findings in the measurement of positive and negative experiences or stress between the two samples. Hence, we find only partial support for Hypothesis 7. The summarized results of the t-test are reported in Table 3.

Table 3.

Independent Samples T-test

Variable	t	Mean Difference
Gender	**-2.687****	-.271
Age	1.981	.365
Tenure	-1.437	-.312
Working-Hours	1.625	.233
Leader Responsibility	1.371	.269
User friendly HR	1.145	.52378
HR Engagement [a]	**-3.876****	-.913
HR Satisfaction [b]	**-3.831*****	-1.315
ELMX	**-2.494***	-.78735
SLMX	,722	.16596
SPANE	-.440	-.53050
SPP	**2.779****	2.61944
STRESS	.095	.014

Note: n1 = 48, n2 = 45. *p<.05; ** p<.01; *** p<.001

SLMX = Social leader member exchange; ELMX = Economic leader member exchange; SPANE = Scale of Positive and Negative Experiences, SPP = Social Psychological Prosperity.

[a]. HR Engagement: Daily = 1, Weekly = 2, Monthly = 3, Yearly = 4, Never = 5

[b]. HR Satisfaction: "would you recommend your company's HR tools to other companies": Definitely yes = 1, Probably yes = 2, May or may not = 3, Probably not = 4, Definitely not = 5.

6.0 DISCUSSION

The aim of the current study was to examine the relationship between leaders' use of AI-assisted HR tools and employees' level of well-being and stress. Specifically, we wanted to see whether there were any significant differences in leaders' perception of enabling HR, in addition to leader-member exchange relationships within companies using AI tools in comparison to AI traditional ones. In short, we found that AI organizations do indeed engage in HR tools on a more frequent basis, in addition to being more satisfied with their tools. Also, employees in these companies report higher on social-psychological functioning and lower on economic leader-member exchange relationships than employees exposed to traditional tools.

With this study, we challenge the traditional ways of executing PM. The aforementioned statement by Kuvaas and colleagues (2016), postulating that PM in general, should be implemented as a continuous process is supported by our empirical findings. It was established that companies leaning on traditional systems show more inconsistent results in regard to HR engagement and satisfaction, in comparison to those applying AI tools. This may indicate a dispute in HR practice implementation. It is noteworthy to mention, that Sample 1 measures one single HR-system, while Sample 2 encompasses three different systems, which indeed can lead to manifold results within the sample. Still, these findings provide several implications on both managerial and subordinate levels. Firstly, companies could benefit from incorporating AI to their HRM practices as AI allows otherwise time-consuming systems to be streamlined and improved through the acquisition of real-time information regarding individual employee wellbeing. Secondly, by obtaining real-time information on each staff member, employees are ensured steady follow-ups and relevant feedback. When dealing with humans there are numerous factors that come into account. For instance, one can imagine that some employees would feel reluctant to initiate a dialogue with their leader for guidance or feedback for several reasons, such as feeling disconnected with their leader, anxious about disrupting their leader's schedule or taking up valuable time. As opposed to keeping annual performance appraisals

where the issues raised can date as far back as the previous year, real time information may facilitate a more proactive approach, allowing the manager to engage in the problem as soon as it occurs. This might be of particular salience during organizational change, such as one's organizations are faced with due to Covid-19, to keep track of employees' reactions. For instance, adapting to home-office solutions may disrupt social aspects of employees' everyday work-life, nevertheless, some individuals may find adjusting their work-routines challenging. This justifies how employee health should be on managers agenda to ensure that all organizational individuals are coping with the change process. By adapting agility to PM, managers could mitigate these inhibitions, enabling the enhancement of subordinate wellbeing and stress-coping, which in turn could promote a sense of support from management.

Our findings, nonetheless, supplement the limited literature that exists in regard to relational e-HRM practices, by specifically studying the effects of utilising a system designed and implemented with the intent of managing and sustaining relationships with employees (Bissola and Imperatori, 2014). Assessing the findings that new e-HRM practices can influence the relationship between employees and HR departments, our inclusion of enabling HR and leader-member exchange relationships sought to test the theory in practice. To our knowledge, there is no current research in the field on the interaction terms of these variables. Specifically, the contribution of our study illustrates that enabling HRs' effect on well-being and stress, was moderated by ELMX relationships. This indicates that perceiving one's supervisor in a sense of formality and authority, may influence leaders' implementation of HR and essentially employee well-being. Although ELMX was only found to be directly linked to an increased amount of stress, SLMX was proven to have positive effects on both well-being and stress. Hence, this study contributes to existing work by moving researchers closer to an explanation of leader-member exchange relationships' effects on enabling HR, and nonetheless well-being and stress. With that said, a current gap in the ELMX literature prevents us from fully understanding its cause-effect, thus remaining a topic of interest for scholars.

Moreover, it was disclosed that social-psychological functioning was higher for employees exposed to AI tools by their managers. It is noteworthy that more extensive research covering motivational aspects would capture a complete understanding of the proposed model, however, we build on the notion of existing literature on self-determination theory. Deci and colleagues (2017) verify how subordinates who receive support in psychological needs facilitate autonomous motivation, psychological and physical wellness, in addition to enhanced performance (Deci et al., 2017). Hence, our research indicates that there may be a greater level of autonomous motivation when managers approach employees through virtual tools.

To answer the initial research question, we have come to the following conclusion. It is a common misconception that AI will impede the interpersonal characteristics and human interaction of HR. Although technology and humanity may seem like polarities, they are not mutually exclusive in nature. Moreover, as confirmed by this study, AI is not the antithesis to PM. Instead, these schemes coordinate well with each other and have proved to coexist harmoniously in multiple organizations. Thus, traditional PM tools should not be discarded, but rather advanced in proportion to the global digitalization. As shown by our study, the implementation of AI- assisted tools does indeed enhance managers utilisation of PM practices. Our findings further support how this, in turn, increases employee well-being in terms of social psychological functioning. Ultimately, AI and digitalization might be inevitable for the future of HR practices.

6.1 Limitations and Practical Implications

The study has encountered more limitations than initially anticipated. Firstly, the most noteworthy limitation is the study's modest sample size. Preferably, it would be advantageous if the number of participants were somewhat higher to upsurge the validity and to identify more complex social and organizational patterns within the two groups. The number of potential participants in Sample 1 depends on their connection to WT's HR services, the size of the study group will be delimited by the population size. Nonetheless, it should be mentioned that with the aftermath of Covid-19 filling up HR departments' work-schedules, many

organizations did not have the resources to prioritize participating in the study, justifying a somewhat limited sample. To diminish biases, the control group is set up to be almost identical to the study group. Yet, there are some notable differences that may have an effect on the results, one being the location of the two samples and another being the different nature of each company as they are all representing different industries, such as finance, IT, innovation, retail and pedagogy. Further, whereas Sample 1 is located in Sweden while Sample 2 is based in Norway, we cannot establish for certain whether the study has been affected by any cultural or labour differences between the two samples, leading to questioning of the ecological validity of our study. Although dissimilarities can exist between the two nations, we assume that the Scandinavian markets bear resemblance to each other in that both Sweden and Norway share much of the same perceptions and customs in business, as well as both taking an individualistic societal stance. Arguably, following up the questionnaire survey with interviews would indeed increase the ecological validity of the study (Bryman & Bell, 2011). However, due to a narrow time frame, interviews were not prioritized and hence time management was an issue in the study. Additionally, measures of well-being and stress should be measured over time to enhance validity. However, for the purpose of this study, existing literature has been used as a theoretical background to explicate our findings.

Finally, one can surmise that other unmeasured variables can hinder a pure causality to be deduced in relation to LMX and well-being and stress. As a member of an organization, you are not solely tied by your relation to your leader, but you are also likely to build relationships with other team members and colleagues, so-called *team-member exchange relationships.* This is a natural process as means to create and maintain a sense of belongingness within a group (Farmer, Van Dyne & Kamdar, 2015). We, therefore, acknowledge that leader-member exchange relationships alone may not give a full representation of employees' well-being at work, as team relationships are essential in today's organizations.

6.2 Covid-19 and Future Research

The unfolding and aftermath of Covid-19 came abruptly and unanticipatedly. The repercussions were massive on multiple levels. The most salient and direct effect of the pandemic was profound procedural delays in regard to data collection. By plan, data collection was scheduled to take place in March but was forcibly postponed until the end of June, coinciding with summer annual leave. Due to the recent events, the study was extended to include organizations that use only traditional HR practices and systems with the intent to create a comparison between organizations that utilize artificial intelligence and those who do not.

Further, we consider whether Covid-19 could have any negative effect on participants' psychological well-being and the level of experienced stress, which in turn, could lead to an increase in employee sick-leaves. Unfortunately, our study does not distinguish the specific stressors behind the four parameters; quality concern, responsibility pressure, workload and role conflict. Only the level of stress experienced is measured, which confirms the aforementioned challenges around measuring stress. The ideal during this major period of change for many organizational members would clearly have been to do a comparison of our study before and during the outburst of the pandemic, in order to detect the significant effects of Covid-19. An interesting inclusion to the study and future research would, therefore, be to add the work-family conflict scale. Numerous factors, such as home office, layoffs, unstable economy, and change in general due to Covid-19 implications, may have significant effects on stress and psychological well-being, including depression, loneliness, uncertainty. Most employees have been forced to restructure their everyday work routines and juggle work with family life.

An interesting aspect of our research reveals how numerous employees in AI-companies are unsure as to whether they have a leader-responsibility or not. We draw attention to this, considering whether new-technology organizations adopt an increased level of autonomy and self-management to their employees' responsibilities, in contrast to top-down approaches. Though this moves beyond our topic of interest, it is an observation which could be interesting to look further into.

Surely, there might be some positive effects of Covid-19 to account for as well, specifically in regard to autonomy. As many have adopted home office solutions, employers may have given more freedom to employees in regard to working hours and problem-solving. Individuals may perceive this as being enhanced with more autonomy in their work, which is positively associated with well-being. Indeed, employees provided with autonomy in their work experience an increase in job satisfaction which in turn is positively related to organizational commitment (Boselie, 2014). Nevertheless, it would be interesting to evaluate the causality between the consequences of Covid-19 and any changes concerning leader-member exchange relationships and the utilization of HR tools.

7.0 CONCLUSION

In a time of global and national crisis, with less face-to-face interactions, lay-offs and home office solutions, organizations have been forced to restructure their ways of operating by thinking more digital than ever. The present study challenges traditional ways of executing performance management, suggesting a more digital approach to efficiently carry out human resource practices, while simultaneously having pivotal interest in employee well-being. Our research findings support this postulation, illustrating how the embracement of new technological tools assisted by artificial intelligence, do in fact, enhance managers utilisation of performance management practices. Additionally, we prove that when managers take individual needs into account, employee well-being thrives. As we see it, its not a question about whether technological solutions should be implemented, but rather when. Inevitably, in order to survive as a company during extensive times of change which the world is currently faced with, digital adoption is a necessity. In turn, human resource management may not only achieve healthy workplaces, but also foster prosperity.

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APPENDIX

Appendix 1

Rotated Component Matrix

	Component		
	1	**2**	**3**
ELMX_1			**.789**
ELMX_2			**.770**
ELMX_3			**.758**
ELMX_4			**.813**
SLMX_1		**.534**	
SLMX_2	.453	.453	
SLMX_3	.653		.456
SLMX_4	.461		.559
EHR_1		**.805**	
EHR_2		**.744**	
EHR_3		**.869**	
EHR_4		**.913**	
EHR_5		**.886**	
EHR_6		**.818**	
EHR_7		**.464**	
SPANE_P1	**.645**		
SPANE_P2	**.486**		
SPANE_P4	**.677**		
SPANE_P5	**.753**		
SPANE_N1	**.653**		
SPANE_N2	**.640**		

SPANE_N3	**.511**	
SPANE_N4	**.768**	
SPANE_N5		**.547**
SPANE_N6	**.597**	
SPP_1	**.504**	
SPP_2	.535	-.522
SPP_5	**.516**	
SPP_7	**.735**	
STRESS_3	**.517**	

Note: Coefficients smaller than .40 have been suppressed. ELMX = Economic leader-member exchange; SLMX = Social leader-member exchange; EHR = Enabling HR; SPANE_P = Scale of Positive Experience; SPANE_N = Scale of Negative Experience; SPP = Social Psychological Prosperity. Removed items: SPP_2 due to a cross-loading of more than .35; SLMX_1, SLMX_ 2 and SLMX_3, due to cross-loadings of more than .35 and differential of less than .20; SPP_3, SPP_4, SPP_6, SPP_8, STRESS_1, STRESS_2, STRESS_3, SPANE_P3 and SPANE_P6, due to loadings of less than .40. Reversed items: SPANE_N2, SPANE_N3, SPANE_N4, SPANE_N6, EHR_6, EHR_7 and STRESS_3. **Bold and underlined loadings are included in the final scale.**

Appendix 2: Questionnaire for Companies using Winningtemp

Gender
- Male
- Female
- Other

Age
- 25 years or less
- 26-35 years
- 36-45 years
- 46-55 years
- 56-65 years
- 66+

What is the name of the Company where you work?

_____

How long have you been employed in this company?
- Less than 1 year
- 1-3 years
- 4-6 years
- 7-9 years
- 10 years or more

Which unit of the company do you belong to?
- HR
- Sales
- Investment
- Marketing
- Customer relations
- Finance
- Other

If other is selected:
What is the name of your unit?
_____

An average working week is 40 hours in Sweden, and 37,5 in Norway. Based on this, how many hours per week do you work?
- Less than average
- Average
- More than average

If more than average is selected:
How many hours per week do you estimate working overtime during a year?
Type answer here: _____

Leader-Member Exchange relationship

Do you have an immediate leader whom you report to?
- Yes
- Unsure
- No

If yes is selected:

The following statements are about how you experience your relationship with your immediate leader. Please indicate the extent to which you agree with the following statements on a scale from "strongly disagree" to "strongly agree"

The most accurate way to describe my relationship with my immediate leader is that I do what I am told to do.
- Strongly Disagree

- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I do what my immediate leader demands from me, mainly because he or she is my formal boss.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My relationship with my immediate leader is mainly based on authority, he or she has the right to make decisions on my behalf and I do what I am told to do.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All I really expect from my immediate leader is that he or she fulfils his or hers formal role as supervisor or boss.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My relationship with my immediate leader is based on mutual trust.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My immediate leader has made a significant investment in me.
- Strongly Disagree

- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I try to look out for the best interest of my immediate leader because I can rely on my him or her to take care of me.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

The things I do on the job today will benefit my standing with my immediate leader in the long run.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

<div align="center">Enabling HR</div>

Do you have a leadership responsibility?
- Yes
- Unsure
- No

If yes is selected:
How many employees report to you?
- 1-4
- 5-8
- 9-12
- 13-16
- 17+

How often do you engage in Winningtemp's services?
- Daily
- Weekly
- Monthly
- Yearly
- Never

The following statements are about how you experience Winningtemp in regards to user friendliness. Please indicate the extent to which you agree with the following statements on a scale from "strongly disagree" to "strongly agree"

All in all, the use of Winningtemp in my organization is adjusted to the local and specific needs I have as a leader when it comes to getting the 'best' out of my employees.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of Winningtemp in my organization is flexible enough to be adapted to my personal leadership style.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of Winningtemp in my organization is flexible enough to be adapted to the individual needs of my employees.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of Winningtemp in my organization helps me perform my leadership duties in a successful way.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of Winningtemp in my organization has increased my satisfaction with my managerial responsibilities.
- Strongly Disagree
- Disagree

- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I would recommend Winningtemp to other companies
- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

Well-being and Stress

Please indicate the extent to which you agree/disagree with the following statements.

I lead a purposeful and meaningful life
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My social relationships are supportive and rewarding
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am engaged and interested in my daily activities
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I actively contribute to the happiness and well-being of others
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree

- Somewhat Agree
- Agree
- Strongly Agree

I am competent and capable in the activities that are important to me
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am a good person and live a good life
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am optimistic about my future
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

People respect me
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Please think about what you have been doing and experiencing during the past four weeks. Then report how much you experienced each of the following feelings, using the scale below.

Positive
- Very Rarely or Never
- Rarely
- Sometimes

- Often
- Very Often or Always

Negative
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Good
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Bad
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Pleasant
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Unpleasant
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Happy
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Sad
- Very Rarely or Never
- Rarely
- Sometimes

- Often
- Very Often or Always

Afraid
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Joyful
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Angry
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Contented
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

How often do you do you feel that:
The amount of work you do interferes with how well the work gets done
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

You do not have enough help and resources to do the job well
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

You do not have enough time to get the job done well
- Never

- Only Rarely
- Sometimes
- Quite Often
- Always

You have to try to satisfy too many different people
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

Appendix 3: Questionnaire for Companies using Traditional HR tools

Gender
- Male
- Female
- Other

Age
- 25 years or less
- 26-35 years
- 36-45 years
- 46-55 years
- 56-65 years
- 66+

What is the name of the Company where you work?
_____

How long have you been employed in this company?
- Less than 1 year
- 1-3 years
- 4-6 years
- 7-9 years
- 10 years or more

Which unit of the company do you belong to?
- HR
- Sales
- Investment
- Marketing
- Customer relations
- Finance
- Other

If other is selected:
What is the name of your unit?

_____

_____

An average working week is 40 hours in Sweden, and 37,5 in Norway. Based on this, how many hours per week do you work during one year?

- Less than average
- Average
- More than average

If more than 40 hours per week is selected:
How many hours per week do you estimate working overtime during a year?
Type answer here: _____

Leader-Member Exchange relationship

Do you have an immediate leader whom you report to?

- Yes
- Unsure
- No

If yes is selected:

The following statements are about how you experience your relationship with your immediate leader. Please indicate the extent to which you agree with the following statements on a scale from "strongly disagree" to "strongly agree"

The most accurate way to describe my relationship with my immediate leader is that I do what I am told to do.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I do what my immediate leader demands from me, mainly because he or she is my formal boss.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My relationship with my immediate leader is mainly based on authority, he or she has the right to make decisions on my behalf and I do what I am told to do.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All I really expect from my immediate leader is that he or she fulfils his or hers formal role as supervisor or boss.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My relationship with my immediate leader is based on mutual trust.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My immediate leader has made a significant investment in me.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I try to look out for the best interest of my immediate leader because I can rely on my him or her to take care of me.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

The things I do on the job today will benefit my standing with my immediate leader in the long run.
- Strongly Disagree

- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Enabling HR

Do you have a leadership responsibility?
- Yes
- Unsure
- No

If yes is selected:
How many employees report to you?
- 1-4
- 5-8
- 9-12
- 13-16
- 17+

How often do you engage in HR tools?
- Daily
- Weekly
- Monthly
- Yearly
- Never

The following statements are about how you experience the various HR tools in your company in regards to user friendliness. Please indicate the extent to which you agree with the following statements on a scale from "strongly disagree" to "strongly agree"

All in all, the use of the various HR tools in my organization is adjusted to the local and specific needs I have as a leader when it comes to getting the 'best' out of my employees.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of the various HR tools in my organization is flexible enough to be adapted to my personal leadership style.
- Strongly Disagree

- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of the various HR tools in my organization is flexible enough to be adapted to the individual needs of my employees.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of the various HR tools in my organization helps me perform my leadership duties in a successful way.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

All in all, the use of the various HR tools in my organization has increased my satisfaction with my managerial responsibilities.
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I would recommend my company's HR tools to other companies.
- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

<center>Well-being and Stress</center>

Please indicate the extent to which you agree/disagree with the following statements.
I lead a purposeful and meaningful life

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

My social relationships are supportive and rewarding
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am engaged and interested in my daily activities
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I actively contribute to the happiness and well-being of others
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am competent and capable in the activities that are important to me
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

I am a good person and live a good life
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree

- Somewhat Agree
- Agree
- Strongly Agree

I am optimistic about my future
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

People respect me
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree or Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Please think about what you have been doing and experiencing during the past four weeks. Then report how much you experienced each of the following feelings, using the scale below.

Positive
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Negative
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Good
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Bad

- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Pleasant
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Unpleasant
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Happy
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Sad
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Afraid
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Joyful
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Angry

- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

Contented
- Very Rarely or Never
- Rarely
- Sometimes
- Often
- Very Often or Always

How often do you do you feel that:
The amount of work you do interferes with how well the work gets done
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

You do not have enough help and resources to do the job well
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

You do not have enough time to get the job done well
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

You have to try to satisfy too many different people
- Never
- Only Rarely
- Sometimes
- Quite Often
- Always

Appendix 4: Information Letter for Companies using Winningtemp

Dear Participant,

This is an inquiry about participation in a research project where the main purpose is to extend the Human Resource Management literature, specifically regarding the use of Artificial Intelligence in HRM practices. The data collected will be utilised in our Master Thesis for the Leadership and Organizational Psychology programme at BI Norwegian Business School.

You have been selected as a participant in this study due to your employment in a company utilising Winningtemp services. Specifically, the study consists of an online questionnaire that will ask you to describe the relation between you and your immediate leader, through questions concerning your perception of your work. If you have a leader responsibility you will also be asked questions regarding your perception of the user-friendliness of Winningtemps' services.

We would highly appreciate it if you could spare 5 minutes to contribute to our research, by answering the attached questionnaire:
https://bino.qualtrics.com/jfe/form/SV_eKgkV2grky2JYoJ

We emphasise that the participation is voluntary, and you can also withdraw your consent at any time. Your identity will be kept confidential and anonymous in accordance with data protection legislation (General Data Protection Regulation and The Norwegian Centre for Research Data), and only the aggregated results of the collated responses will be interpreted and presented in our study. All data will be redacted and deleted at the end of the study September 1st, 2020.

We are very grateful for your time and contribution.

If you have questions regarding the survey or want more information about the project, don't hesitate to contact us via email: jennychoye@gmail.com or ingvild_fs@hotmail.com.

Yours sincerely,
Jenny Christina Høye,
Ingvild Faye-Schjøll.

Appendix 5: Information Letter for Companies using Traditional HR Tools

Dear Participant,

This is an inquiry about participation in a research project where the main purpose is to extend the Human Resource Management literature, specifically regarding the use of Artificial Intelligence in HRM practices. The data collected will be utilised in our Master Thesis for the Leadership and Organizational Psychology programme at BI Norwegian Business School.

Data will be extracted from two different samples, one consisting of organizations which primarily exert traditional HR systems, and the second of which supplement artificial intelligence to their HR tools. You have been selected as a participant in this study because of your employment in a company that is suited to fit the first group. Specifically, the study consists of an online questionnaire that will ask you to describe the relation between you and your immediate leader, through questions concerning your perception of your work. If you have a leader responsibility you will also be asked questions regarding your perception of the user-friendliness of your company's HR-system

We would highly appreciate it if you could spare 5 minutes to contribute to our research, by answering the attached questionnaire:
https://bino.qualtrics.com/jfe/form/SV_eKgkV2grky2JYoJ

We emphasise that the participation is voluntary, and you can also withdraw your consent at any time. Your identity will be kept confidential and anonymous in accordance with data protection legislation (General Data Protection Regulation and The Norwegian Centre for Research Data), and only the aggregated results of the collated responses will be interpreted and presented in our study. All data will be redacted and deleted at the end of the study September 1st, 2020.

We are very grateful for your time and contribution.

If you have questions regarding the survey or want more information about the project, don't hesitate to contact us via email: jennychoye@gmail.com or ingvild_fs@hotmail.com.

Yours sincerely,
Jenny Christina Høye,
Ingvild Faye-Schjøll.