

**ECONOMICS AND BUSINESS ADMINISTRATION FACULTY VILNIUS
UNIVERSITY**

GLOBAL BUSINESS AND ECONOMICS

Mohammad Zaeri

MASTER THESIS

Darbo vietos skaitmenizavimo įtaka darbuotojų veiklai	The effect of workplace digitalization on employees' performance
---	---

Master degree student _____
(signature)

Supervisor _____
(signature)

Supervisor **Virginijus Tamaševičius**

Date of submission of Master Thesis:
Ref. No.

Vilnius, 2023

Contents

INTRODUCTIO.....	3
1) Theoretical framework and hypotheses.....	4
1.1 workplace Digitalization.....	4
1.2 <i>Work engagement</i>	5
1.3 <i>Workplace flexibility</i>	7
1.4 <i>Employee performance</i>	11
o <i>The Measure of Job Performance</i>	11
o <i>The Individual Work Performance Questionnaire</i>	13
2) METHODOLOGY	15
2.1 Hypothesis.....	15
2.2 Data reliability.....	17
2.3 Data collection.....	18
2.4 Demographics.....	19
2.5 Digitalization measurement.....	20
2.6 Work Engagement.....	21
2.7 Work flexibility.....	22
2.8 Individual work performance questionnaire.....	23
3) Data and analyze.	24
3.1 Participants and Procedure.....	24
3.2 Analysis Model.....	25
4) Results	27
5) Discussion.....	33
o Limitations and Recommendations for Further Research.....	33
6) CONCLUSION	34
REFERENCES	35
Appendix.....	39

Introduction:

Nowadays, many organizations are undergoing a significant shift towards digitalization and restructuring their business models accordingly. The driving force behind this trend is the belief that... digitizing processes can lead to better overall performance and create a competitive edge. Achieving these goals is crucial for organizations to survive and grow in today's global economy.

The process of digitalization brings various benefits, whether it's for personal, home, or workplace use. However, it can also introduce new challenges within a company and potentially alter the behavior of its employees. Resistance to change is inevitable in this context.

There has been a lack of research exploring the effects of workplace digitalization on employee performance. This study aims to shed light on this subject and uncover some previously unknown aspects. While other research has measured different aspects of this model, this will be the first study to examine the impact of digitalization on employee performance and work engagement, as well as the influence of workplace flexibility on this model.

This study presents a unique method of demonstrating the correlation between Digitalization and employees performance. It involves using various questionnaires and analyses, which are accurately measured through the SPSS software. The results are obtained from multiple assessments. In order to assess how various components influence one another.

In this study, we aim to address a crucial inquiry: Can digitalization enhance a company's and its employees' performance? Furthermore, are there any potential drawbacks to this approach?

The aim of this study is to investigate and combine the connections between Digitalization and employee Performance, as well as the impact of engagement and workplace flexibility on the impact of digitalization on performance. **The objective** part of this research is to thoroughly analyze and elucidate the various facets of digitalization, work engagement, flexibility, and employee performance through an extensive literature review. Furthermore, the analysis will establish a connection between the mediation and moderation factors (engagement and workplace flexibility) and their influence on each other, which ultimately impacts the dependent and independent variables (workplace digitalization and employee performance). By using the survey based on a quantitative method and for analyzing the data collected from our questionnaire, **model 8** Mediation, Moderation, and Conditional Process Analysis (A Regression-Based Approach)- **PROCESS for SPSS by Andrew F. Hayes 2013** is used.

To obtain a comprehensive understanding of the correlation between workplace performance and digitalization, a methodical approach was utilized. The study involved a quantitative survey, which was conducted online across five distinct segments. These segments provided valuable information on the demographics of the respondents, workplace digitalization, work engagement, workplace flexibility, and employee performance.

The questionnaire received responses from 211 participants. To analyze the collected data, we utilized Model 8 Mediation, Moderation, and Conditional Process Analysis (A Regression-Based Approach) - PROCESS for SPSS by Andrew F. Hayes in 2013. The results section carefully analyzes the data step by step.

1) Theoretical framework:

1.1 workplace Digitalization:

Efficient operations are crucial for companies in today's digital age. Digitalization enables them to evaluate their performance, monitor processes, and improve accuracy. This versatile system can be implemented across various segments and locations to streamline operations.

- **Digital Economy:** Connectivity, Human Capital, Use of Internet, ICT Integration, Digital Public Services and...
- **Society (citizen):** Smart Infrastructure, Internet Users, Growth of the Internet, Digital Technology, and...
- **Industry:** Interaction between firms, customers and suppliers, Internal/External Business Processes, and...
- **Enterprise:** Social Media Performance, Customer Engagement, Digital Revenues/Sales and Assets, and...
- **Client (buyer /seller):** Online Solution Usage, Digital Self-Service Ratio, Application World Performance, and...

Workplace digitalization refers to the process of leveraging digital technologies and tools to transform and enhance various aspects of work within an organization. It involves the integration of digital solutions, such as software applications, automation systems, data analytics, and communication platforms, to streamline workflows, improve efficiency, and drive innovation in the workplace.

Through workplace digitalization, organizations aim to digitize and optimize work processes, enhance collaboration and communication, enable remote work capabilities, and leverage data-driven insights for decision-making. It entails the digitization of information and documents, the automation of

repetitive tasks, the implementation of cloud-based systems, and the utilization of digital communication and collaboration tools.

The objective of workplace digitalization is to improve productivity or performance, reduce operational costs, accelerate decision-making processes, and foster agility and adaptability in response to changing business requirements. It enables employees to work more efficiently, access information and resources easily, and collaborate seamlessly across different locations and time zones.

The transformation of the workplace through digitalization is truly remarkable. It encompasses more than just the implementation of digital tools and requires a holistic approach that involves organizational change management, skill development, and alignment of digital initiatives with strategic objectives. It presents a wonderful opportunity for companies to embrace a digital mindset and foster a culture that embraces innovation and technological advancements. This creates a promising and exciting prospect of a flexible work environment for employees.

There are various instances where a positive aspect may also have a negative aspect associated with it; the accelerating forces of digitalization have raised a number of issues related to human resources and human resources management. On the one hand, digitalization might allow for more efficient execution of work and for faster decision-making with reduced risk (cf. Gewald and Dibbern, 2005; Turban et al., 2008). On the other hand, it means that jobs, especially of a clerical nature, are disappearing (cf. Alam and Rizvi, 2012). Research has indicated that changes, especially rapid changes like the acceleration of digitalization (Kagermann, 2015), have profound effects on workers' well-being. In turn, it affects workers' productivity and commitment and loyalty to the organization (cf. Bushra, Ahmad and Naveed, 2011).

1.2 Work engagement:

Work engagement, as commonly defined in organizational psychology and management research, refers to a positive, fulfilling, and energized state of mind that individuals experience when they are fully immersed and invested in their work. It is characterized by high levels of enthusiasm, dedication, and absorption in one's job tasks and responsibilities.

work engagement is defined as the psychological state in which employees feel connected to their work and experience a sense of purpose, enthusiasm, and fulfillment. Optimal functioning is a state of being where...individuals exhibit deep involvement, focus, and enjoyment in their work activities.

Work engagement is defined as a positive, affective-motivational state of work-related well-being characterized by **vigor**, **dedication** and **absorption**. Since its introduction in 1990 (Bakker, 2017)

1. **Vigor:** It reflects high levels of energy, enthusiasm, and resilience in carrying out work tasks. Engaged individuals are proactive, motivated and demonstrate persistence in their efforts.
2. **Dedication:** It refers to a strong sense of dedication, commitment, and identification with one's work. Engaged employees feel a deep attachment to their job, experience a sense of significance, and are willing to invest their time and effort in achieving organizational goals.
3. **Absorption:** It represents a state of total immersion and concentration in one's work. Engaged individuals are fully absorbed and engrossed in their tasks, often losing track of time and experiencing a sense of "flow" where their skills and challenges are in balance.

Work engagement is crucial for both employees and organizations as it has been linked to various positive outcomes. Engaged employees are more likely to experience higher job satisfaction, perform at higher levels, exhibit greater creativity and innovation, and have lower rates of absenteeism and turnover. At the organizational level, work engagement is associated with increased productivity, improved customer satisfaction, and overall organizational success.

work engagement has been an inspiration for researchers and practitioners around the world (e.g., Shimazu et al., 2008; Seppälä et al., 2009; Balducci et al., 2010; Nerstad et al., 2010; Fong and Ng, 2012; Littman-Ovadia and Balducci, 2013; Panthee et al., 2014; Zecca et al., 2015; Lovakov et al., 2017). Moreover, it has been regarded as a “societal challenge” (Schaufeli and DeWitte, 2017, p. 58) with far reaching effects on the economy. It is widely accepted that, in order to be competitive, contemporary organizations need engaged employees (Bakker, 2017).

As suggested by Schaufeli (2017), based on analyzing the 6th European Working Conditions Survey data from 35 countries, It's important to examine work engagement not only on an individual level, but also on a national level. Comparing countries with different levels of engagement, Schaufeli demonstrated that work engagement was positively related to national economic activity and productivity.

In another words, Work engagement is defined as a positive, fulfilling, affective, motivational state of work-related wellbeing (Bakker et al.2008). It is characterized by vigor – higher levels of energy, mental resilience, and investment of effort; dedication – involvement in work and the sense of meaningfulness and enthusiasm, and absorption – full concentration and engrossment in work (Schaufeli et al., 2002, 2006; Bakker, 2017). In a nutshell, work engagement is about giving “hands, head, and heart” at work (Ashforth and Humphrey, 1995, p. 110). In this research work, engagement is a mediator.

1.3 Workplace flexibility:

Workplace flexibility refers to an employee's capacity to adapt and acquire a diverse set of skills and competencies, allowing them to effectively meet the evolving demands and requirements of their job roles and the broader organizational context. Flexibility is the ability of a firm to respond to various demands from its dynamic competitive environment (Sanchez, 1995). Scholars have suggested that human resource (HR) flexibility in particular is a valuable firm capability (MacDuffie, 1995; Milliman, Von Glinow, & Nathan, 1991; Wright & Boswell, 2002; Wright & Snell, 1998), and this is especially true in the current business environment, characterized as it is by rapid economic changes and shifting strategic demands (Hitt, Keats, & DeMarie, 1998). Although researchers have shown that flexibility in other functional areas of the firm, such as operational flexibility, product customization, and resource flexibility is related to increased firm performance (Garud & Kotha, 1994; MacDuffie, 1995; Parthasarthy & Sethi, 1993; Rangan, 1998; Thomke, 1998), HR flexibility and its possible contribution to firm performance and competitive advantage has not been examined empirically.

The concept of skill flexibility includes various dimensions including:

1. **Skill Adaptability:** The capacity of employees to adjust and modify their existing skills in response to new tasks, technologies, or job requirements. This includes the ability to transfer skills from one context to another and to learn and apply new skills as needed.
2. **Skill Acquisition:** The process of actively seeking and developing new skills that are relevant and aligned with evolving job demands. This may involve formal training programs, self-directed learning, mentoring, or other developmental opportunities.
3. **Skill Application:** The capability to effectively apply acquired skills and knowledge in practical work situations. It involves understanding how to leverage skills to solve problems, make decisions, collaborate with others, and contribute to organizational goals.

skill flexibility is essential in dynamic and rapidly changing work environments. It enables employees to navigate and succeed in uncertain and complex situations, respond to technological advancements, and adapt to evolving job roles and industry trends. Moreover, skill flexibility contributes to organizational agility, innovation, and competitiveness.

It is important to note that workplace flexibility should be considered in conjunction with other dimensions of flexibility, such as schedule flexibility or work arrangement flexibility, as they collectively contribute to employees' ability to navigate the demands of their work environment effectively.

Behavior flexibility:

The term "behavior flexibility" describes a person's aptitude for altering and adapting their actions according to various circumstances and social environments. This attribute entails being flexible, receptive to change, and able to adjust one's behavior, communication style, and reactions in line with the particular demands and norms of a given scenario.

Behavior flexibility requires individuals to be aware of their own behaviors and emotions, as well as the social cues and dynamics present in their environment. It involves being able to regulate one's own emotions and adjust behaviors accordingly to interact and engage with others effectively.

An individual with behavior flexibility can modify their approach, communication style, and behaviors to suit different circumstances and meet the needs of others. They are willing to consider alternative perspectives, adapt their methods, and learn from feedback or new information.

Behavior flexibility is beneficial in various aspects of life, including personal relationships, work settings, and social interactions. It enables individuals to navigate diverse situations, collaborate effectively, resolve conflicts, and build positive relationships with others.

Developing behavior flexibility requires self-awareness, emotional intelligence, and a willingness to embrace change. It involves continuously learning, adapting, and refining one's behaviors based on the specific demands of different situations.

In simple terms, behavior flexibility refers to the ability to adjust and modify behavior as per different social situations and settings. This involves being adaptable, open to change, and proficient in modifying

actions and communication techniques to effectively interact with others and navigate through diverse environments.

Practice flexibility:

Practice flexibility, in a general sense, refers to the ability to adapt and modify one's approach, methods, or strategies in the pursuit of a particular practice or activity. It involves being open to change, receptive to feedback, and willing to adjust one's actions based on evolving circumstances or new information.

The concept of flexibility is applicable in numerous areas including sports, arts, music, and professional skills. This idea encompasses several essential components:

1. **Adaptability:** Practice flexibility requires individuals to be adaptable and willing to modify their techniques, approaches, or routines as needed. It involves being responsive to changing conditions or challenges and being able to adjust one's actions accordingly.
2. **Continuous Learning:** Individuals who practice flexibility are committed to ongoing learning and improvement. They seek new knowledge, skills, or perspectives that can enhance their performance and are open to trying different strategies or methods to optimize their practice.
3. **Problem-solving:** Practice flexibility involves being able to identify and address challenges or obstacles that may arise during practice. It requires individuals to employ creative problem-solving techniques, experiment with different approaches, and find innovative solutions to improve their performance.
4. **Growth Mindset:** Individuals with practice flexibility embrace a growth mindset, believing that their abilities can be developed through effort, practice, and learning. They view setbacks or failures as opportunities for growth and are motivated to persist and adapt their practice methods to achieve desired outcomes.

Practice flexibility can lead to enhanced performance, mastery, and innovation within a particular practice or domain. It enables individuals to overcome obstacles, refine their techniques, and explore new possibilities for improvement.

We assert that HR flexibility is a dynamic capability of the firm (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997; Zollo & Winter, 2002) in the sense that it is focused on adapting employee

attributes—such as knowledge, skills, and behaviors—to changing environmental conditions (Wright, Dunford, & Snell, 2001; Wright & Snell, 1998). Wright and Snell (1998) propose that HR flexibility is comprised of three sub-dimensions: employee skill flexibility, employee behavioral flexibility, and HR practice flexibility.

To put it simply, practicing flexibility means being able to adapt, adjust, and modify your approach, methods, or strategies in a particular practice or activity. This requires adaptability, a continuous learning mindset, problem-solving skills, and a growth mindset in order to optimize performance and achieve desired outcomes.

Research on the potential benefit of flexible employee skills and behaviors has employed different levels of analysis and used multiple, and often inconsistent, explanatory concepts. At the individual level, scholars have investigated employee adaptability (Lepine, Colquitt, & Erez, 2000; Pulakos, Arad, Donovan, & Plamondon, 2000), but have generally not linked this dimension to firm-level outcomes. Human capital dimensions such as education and experience (Hitt, Bierman, Shimizu, & Kochhar, 2001) and employee behaviors such as mimetic adoption (Greve, 1998) and employee resistance (Larsson & Finkelstein, 1999) have been related to the firm-level outcomes, but studies tend to treat skills and behaviors separately rather than as potentially integrated. At the organization level, the learning literature has emphasized that firms need to create, acquire, and transfer knowledge, thus modifying behavior (Garvin, 1993; Hedberg, 1981; Lei, Hitt, & Bettis, 1996), but has not investigated how employee skills and behaviors are associated with learning. The strategic human resource management (SHRM) literature has examined high-performance HR practices and the degree to which they contribute to firm performance (e.g., Delery & Doty, 1996; Huselid, 1995). However, these studies need to specifically address whether these practices are flexible or examine how employee skills and behaviors contribute to or interact with high-performing HR practices. Our study's **objective** is to explore the correlation and interplay between work flexibility and digitization and its impact on employee performance. In our research, work flexibility plays a moderating role and has a positive impact on employee performance.

1.4 Employee performance:

Job performance is considered the ultimate criterion in human resource management (Organ & Paine, 1999). Its assessment and analysis is capital for different organizational processes, such as personnel selection, compensation and rewards, or training. Regardless of the purpose of the evaluation, organizations need accurate ratings of performance, and even better if they produce the same results while saving time and effort (DeNisi & Murphy, 2017). This study is aimed to analyzing self-report job performance scale suitable for a broad set of jobs, and interaction of that with digitalization which includes the three main dimensions of job performance (i.e., task performance, contextual performance, and counterproductive work behavior).

Following the review by Campbell and Wiernik (2015), job performance is a construct that comprises behaviors under workers' control that contribute to organizational goals. These authors emphasize that performance is a set of behaviors, not the variables that determine these behaviors or their outcomes. The definition is quite open because it is the only way to describe a phenomenon that varies substantially across jobs (Aguinis, 2013) and time (Sackett & Lievens, 2008). However, there is consensus regarding the multidimensional nature of performance (Dalal, Baysinger, Brummel, & Lebreton, 2012). Although different dimensions have been proposed, such as safety performance (Burke, Sarpy, Tesluk, & Smith-Crowe, 2002) and adaptive performance (Pulakos, Arad, Donovan, & Plamondon, 2000), there are three major domains of job performance (Sackett & Lievens, 2008): task performance, contextual performance, and counterproductive work behavior. Together, these dimensions provide a relatively comprehensive and parsimonious approach to overall job performance (Dalal et al., 2012).

The Measure of Job Performance

Being able to measure performance with adequate instruments is as important as describing it. From our point of view, this is related to at least two issues: variability across raters and the degree of job specificity needed. Regarding raters, most researchers and practitioners trust job performance scales, but the difference lies in "who" completes them: supervisors, peers, subordinates, or the workers themselves. The fact that job performance scores vary according to the rater is undisputable (Murphy, 2008). In Woehr's (2008, p. 163) words, "the lack of agreement across sources may reflect true differences resulting from differences in perspectives or opportunities to observe performance." Multi rater assessments may help to understand performance, but this cannot be simply resolved by pooling samples (Adler et al., 2016). In consequence, researchers agreed that different raters provide different perspectives of workers' performance, and the use of one or another rater depends on researchers'

purposes (Scullen, Mount, & Goff, 2000). Self-evaluations tend to be more favorable than other evaluations (DeNisi & Murphy, 2017), making them less frequent in applied contexts. Nevertheless, self-reports have some advantages that should be recognized, namely (Koopmans, Bernaards, Hildebrandt, & van Buuren, 2013): (1) they allow measuring job performance in occupations where other measures are difficult to obtain (e.g., high complexity jobs); (2) unlike the remaining stakeholders, employees have the opportunity to observe all their own behaviors; (3) peers and managers rate performance considering their general impression of the employee (i.e., halo effect); and (4) they are easy to collect and reduce problems with missing data and confidentiality problems. Thus, the use of self-report measures of performance is still useful.

The second issue is the level of specificity needed. More than sixty years ago, Cronbach and Gleser (1957) brought up the debate about the use of general or specific measures (or broadness vs. narrowness), which has been called the bandwidth-fidelity dilemma. As Judge and Kammeyer-Mueller (2012) state, it makes “little sense to use a specific measure of a predictor to predict a general behavior” (p. 168). Although the dilemma has been centered on the level of specificity that predictors need to approach the criterion (e.g., Bragg & Bowling, 2018; Salgado et al., 2015), we want to point out the stress on the latter (in our case, job performance).

Job performance can be operationalized in very different ways depending on our purposes, ranging from broad descriptions of behaviors (e.g., demonstrating effort, industriousness, adaptability) to narrow ones (e.g., written and oral communications, attendance, adherence to rules). As an example, the meta-analysis of Salgado et al. (2015) found 10 different job-performance measures, each one with its own degree of specificity, whilst the theoretical review developed by Koopmans et al. (2011) found 17 generic frameworks and 18 job specific frameworks of job performance. This situation confines researchers to studying particular situations and multiplies the amount of measures of job performance, hindering the generalization of their findings (Viswesvaran & Ones, 2017).

According to the review performed by Koopmans, Bernaards, Hildebrandt, De Vet, and Van Der Beek (2014), existing scales of task performance, contextual performance, and counterproductive work behavior show several limitations: (1) none of them measure all of the main dimensions of individual work performance together; thus, they do not measure the full range of individual work performance; (2) the joint use of scales for different dimensions can include antithetical items, creating an overlap between these scales; and (3) none of the scales seem suitable for generic use, which might help to overcome the generalization problems.

These limitations are especially noteworthy in non-Anglo-Saxon countries, where the available scales are considerably fewer. For example, in Spain, the available job performance scales suitable for overall working population (i.e., published in peer-review journals, with evidence of reliability and validity in workers of different occupations and sectors, with items included in the paper or available upon request from the research team) are scarce. Among the exceptions, we can mention two scales for contextual performance (i.e., Dávila & Finkelstein, 2010; Díaz-Vilela, Díaz-Cabrera, Isla- Díaz, Hernández-Fernaud, & Rosales-Sánchez, 2012), and one for counterproductive behaviors (i.e., Fernández del Río et al., 2018). Summarizing the already outlined issues, to advance research, it seems interesting to have an instrument that measures job performances and that: (1) is brief, saving time in data collection (DeNisi & Murphy, 2017); (2) is a self-report and generic, allowing its use in many different contexts and jobs (Koopmans, Bernaards, Hildebrandt, van Buuren et al., 2013); and (3) comprises at least the main dimensions of job performance, avoiding the problems related to the joint use of different performance scales (Koopmans et al., 2014). The Individual Work Performance Questionnaire (IWPQ) meets all these criteria.

The Individual Work Performance Questionnaire

The Individual Work Performance Questionnaire (Koopmans, 2015) is an 18-item scale developed in The Netherlands to measure the three main dimensions of job performance: task performance, contextual performance, and counterproductive work behavior. All items have a recall period of three months and a 5-point rating scale (0 = seldom to 4 = always for task and contextual performance; and 0 = never to 4 = often for counterproductive work behavior). A mean score for each IWPQ scale can be calculated by adding the item scores, and dividing their sum by the number of items in the scale.

The operationalization of the IWPQ scales was based on a systematic review of the occupational health, work and organizational psychology, and management and economics literature (Koopmans et al., 2011) and a study by Koopmans, Bernaards, Hildebrandt, De Vet, and van der Beek (2013). In the latter study, Koopmans, Bernaards, Hildebrandt, De Vet et al. (2013) identified all possible indicators of job performance dimensions from the literature, existing questionnaires, and expert interviews. It yielded 317 potential items belonging to four dimensions of job performance: task performance, contextual performance, counterproductive behaviors, and adaptive performance. The items were reduced to 128 after removing indicators that overlapped among dimensions and variables that were determinants of job performance and not of performance itself (e.g., motivation). Subsequently, agreement among 253

experts from different professional backgrounds and countries was reached on the most relevant, generic indicators per scale. It is remarkable that experts came from different professions (44.7% were researchers, 21.3% were human resource managers, 19.0% were managers, and 15.0% were occupational health professionals), and mostly with six or more years of experience (77%). This study led to developing an initial version of the IWPQ (Koopmans, Bernaards, Hildebrandt, van Buuren et al., 2013), aimed to be used on generic working population, avoiding antithetical items among dimensions. For this purpose, Koopmans, Bernaards, Hildebrandt, van Buuren et al. (2013) developed a pilot test with researchers (N = 54) and a field test with Dutch workers from different occupational sectors (N = 1,181), including blue, pink, and white collar jobs. In the pilot test, researchers were asked whether they thought the questionnaire actually measured individual job performance, whether any questions were redundant, and whether any important questions were missing. In the field test, workers were asked whether the items were applicable to their occupation. As result, the authors reached a generic scale with three dimensions: task performance, contextual performance, and counterproductive behaviors. Although IWPQ initially considered adaptive performance, the items related to this dimension were included in contextual performance.

This version of IWPQ has been adapted to the American-English language in a further study (Koopmans et al., 2016) in which they asked American workers (N = 40) whether they thought the questionnaire actually measured individual work performance, and whether all relevant facets of individual work performance were assessed. Based on the aforementioned studies (Koopmans, Bernaards, Hildebrandt, van Buuren et al., 2013; Koopmans et al., 2016), the content validity of the IWPQ was judged to be good. IWPQ scores showed sufficient convergent validity and very good discriminative validity in a sample of 1,424 Dutch workers from different occupational sectors (Koopmans, et al., 2014).

Although the IWPQ seems adequate, one more thing is missing: further evidence of convergent validity. It is true that Koopmans (2015) provides evidence of the relationship of IWPQ with variables related to job performance such as presentism, work engagement, or job satisfaction, but we consider that is necessary for the IWPQ to demonstrate its relationship with existing measures of job performance and with predictors such as personality, whose relationship with performance has been highlighted in previous studies (e.g., Barrick & Mount, 1991). The present study is aimed at providing this evidence.

2) METHODOLOGY

The purpose of this study is to establish a correlation between Digitalization and employee performance. Additionally, we will examine the relationships of work engagement and workplace flexibility to this model. In order to achieve accurate results, the research must formulate precise questions that address each objective. Therefore, it is essential that we ask respondents for their opinions on each question. We cannot rely on other research studies for two reasons. Firstly, no other research study has applied this model before. Secondly, if there are any studies with a similar questionnaire, their model is likely to be different and not applicable to our research. Hence, we must create a new questionnaire and collect new data for this study.

When discussing digitalization, it's important to consider which segments it applies to. In this research, we will focus on workplace digitalization and explore its impact on other parts of research.

2.1 Hypothesis:

Figure 1 demonstrates the research model where the relations of them (Digitalization, work engagement, workplace flexibility, and employee's performance)

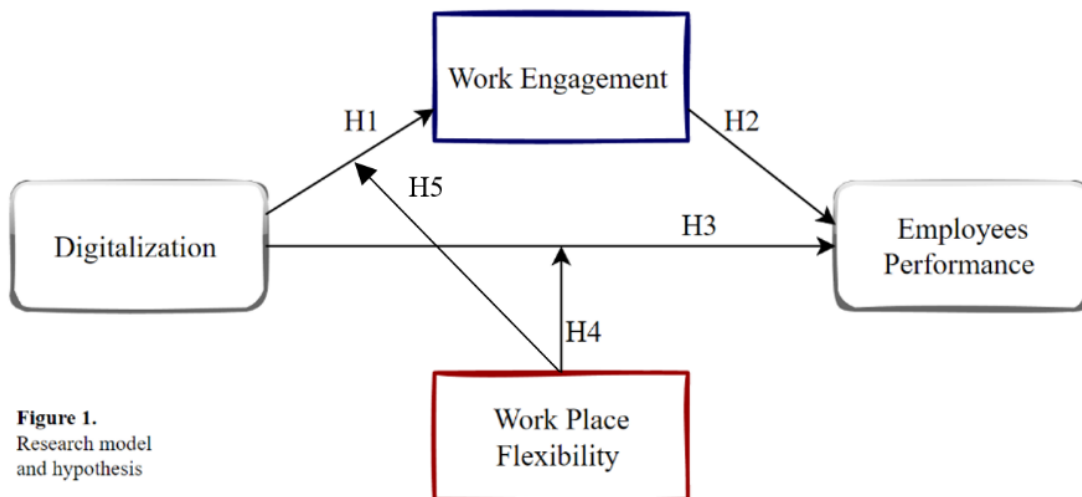


Figure 1.
Research model
and hypothesis

We have developed a model with 5 distinct hypotheses, and we anticipate that the results will align with our expectations. Once we have analyzed the data, we will be able to determine whether our predictions have been confirmed or not.

Digitalization has two hypotheses:

H1: has an impact on work engagement.

H3: has an impact positively on Employees Performance

Work engagement:

H2 has a mediate impact from Digitalization to employee's performance.

Workplace Flexibility:

H4 workplace flexibility moderated positively on Digitalization's impact on Employees Performance.

H5 Workplace flexibility moderated positively the impact of workplace digitalization on work engagement

Through our research hypothesis, we can effectively showcase how each component impacts one another. To obtain precise statistical analysis, we will be utilizing the Andrew F. Hayes PROCESS macro. This model provides numerous advantages, including:

1. **Mediation Analysis:** The PROCESS macro allows researchers to assess the mediating role of one or more variables in explaining the relationship between an independent variable and a dependent variable. It provides estimates of direct and indirect effects, along with bootstrapped confidence intervals for mediation effects.
2. **Moderation Analysis:** With the PROCESS macro, researchers can explore how the relationship between two variables varies depending on the value of a third variable. It enables the assessment of interaction effects and provides valuable information about the conditions under which the relationship between variables changes.

3. **Conditional Process Analysis:** This type of analysis allows researchers to examine both mediation and moderation simultaneously, considering the conditional nature of the relationships. The PROCESS macro facilitates the investigation of complex models with multiple mediators and moderators.
4. **Advanced Statistical Methods:** The PROCESS macro employs bootstrap resampling techniques to estimate direct, indirect, and conditional effects. Bootstrapping provides more accurate and robust estimates, particularly in small sample sizes or non-normal data distributions.

2.2 Data reliability

To assess the reliability of research data, the Cronbach's alpha test is utilized. Cronbach's alpha is a statistical measure used to assess the internal consistency reliability of a scale or questionnaire. It is named after its developer, Lee J. Cronbach, and is widely used in social sciences, psychology, and other research fields.

The primary purpose of Cronbach's alpha is to evaluate the extent to which the items within a scale or questionnaire are measuring the same underlying construct or concept. It provides a measure of how well the items in a scale are interrelated and whether they are consistently measuring the intended variable of interest.

Internal consistency reliability refers to the degree to which the items in a scale correlate with each other. Cronbach's alpha calculates the average correlation among all possible combinations of items within the scale. It ranges from 0 to 1, with **higher** values indicating greater internal consistency.

By assessing internal consistency, we will be able to evaluate the reliability of their measurement instrument. A high Cronbach's alpha indicates that the items in the scale are highly correlated and provide consistent measurements of the construct being studied. This suggests that the scale is likely to produce reliable and valid results. According to Table 1, the Cronbach's alpha test indicates total reliability of CA=0.952, implying that the data is accurate and that most respondents provided logical answers to our questions. It is important to note that the item for total statistics only applies to the Digitalization section. the reliability value is provided with the description of questionnaire.

Case Processing Summary			
		N	%
Cases	Valid	168	79.6
	Excluded ^a	43	20.4
	Total	211	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.952	.959	63

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
I use digital tools in internal communication	53.32	77.202	.620	.556	.870
I use digital tools in external communication	53.08	77.230	.582	.537	.871
I use digital tools for information search	53.14	74.923	.694	.664	.866
I use digital tools for documentation	53.08	75.456	.689	.638	.866
I use digital tools for analysis	53.13	74.680	.736	.643	.864
I feel that the use of digital tools makes my job easier	53.04	74.491	.789	.785	.862
I feel that the use of digital tools is adding to my work effectiveness	53.03	74.820	.809	.835	.862
I feel that the use of digital tools is relevant for my work	53.17	75.970	.707	.681	.866
I feel that digital tools are hard to use	54.40	91.606	-.182	.555	.911
I feel that digital tools are hard to use	54.39	90.855	-.153	.581	.908
I feel that the use of digital tools has changed my work role	53.41	76.407	.645	.487	.868
I feel that the use of digital tools sets high requirements for my competence	53.27	76.709	.674	.566	.867
I feel that the use of digital tools has changed the way I work	53.17	75.648	.781	.689	.863
I use digital tools in contact with clients	53.16	77.727	.657	.574	.869
I use digital tools when meeting with the clients	53.28	76.141	.641	.628	.868

2.3 Data collection:

Data collection began in December 2021 to Feb 2022 through an electronic survey distributed on social media platforms such as Facebook and LinkedIn, as well as through direct messaging and email. The survey comprises of 5 segments, and the final questionnaire is a culmination of the merged responses from all five segments.

Instruments:

To assess how digitalization affects employee performance, we've developed five types of questionnaires that determine respondents' demographics, measure digitalization (by Timurs Umans, Martin Kockum, Elin Nilsson, Sofie Lindberg, 2018), evaluate work flexibility (by Bhattacharya, M., Gibson, D., Doty, D.H. in August 2005), measure engagement (using the Utrecht Work Engagement Scale), and assess individual work performance (using the 18-item version of the IWPQ). The question is structured using the Likert scale, with 1 representing "strongly disagree" and 5 representing "strongly agree".

2.4 Demographics

As control variables, we asked 9 questions about what factors are important in job performance and digitalization. This is because education level, age, and type of industry can all play important roles. Additionally, we requested respondents to provide their exact age and country in the survey form to ensure better analysis. The following list includes the demographic questions:

- Educational level
- Gender
- Employment
- Job position
- Which industry
- Age
- Where are you from
- Size of company
- Job experience

2.5 Digitalization measurement:

The digitalization part was established through (Timurs Umans, Martin Kockum, Elin Nilsson, Sofie Lindberg, 2018), based, on that we have 14 questions (Table 1) which cover four different segments: information management, for customer relation management, for work optimization and as a change agent. The question is designed on the Likert scale, where 1 = strongly disagree and 5 = strongly agree.

Cronbach's Alpha reliability test for all the questions: 0.881

Digitalization questionnaire		Cronbach's Alpha reliability
I use digital tools in internal communication	Information management	0.887
I use digital tools in external communication		
I use digital tools for information search		
I use digital tools for documentation		
I use digital tools for analysis		
I feel that the use of digital tools makes my job easier	Work optimization	0.605
I feel that the use of digital tools is adding to my work effectiveness		
I feel that the use of digital tools is relevant for my work		
I feel that digital tools are hard to use		
I feel that the use of digital tools has changed my work role	Change agent	0.824
I feel that the use of digital tools sets high requirements for my competence.		
I feel that the use of digital tools has changed the way I work		
I use digital tools in contact with clients	Customer relation management	0.808
I use digital tools when meeting with clients.		

Source: 14 questions Timurs Umans, Martin Kockum, Elin Nilsson, Sofie Lindberg, 2018

Table 1

2.6 Work Engagement:

the Utrecht Work Engagement Scale (UWES) is used for this part. It is the most commonly used measure of work engagement. UWES has two versions, the UWES-17 and UWES-9. For this study, the short version of the (UWES) is used to measure work engagement (Table 2). The question is designed on the Likert scale, where 1 = strongly disagree and 5= strongly agree.

Cronbach's Alpha reliability test for all the questions: 0.93

Utrecht Work Engagement Scale
My job inspires me I am enthusiastic about my job.
At my job, I feel strong and vigorous When I get up in the morning, I feel like going to work.
At my work, I feel bursting with energy I am proud on the work that I do
I am immersed in my work. I get carried away when I'm working
I feel happy when I am working intensely.

Source: the Utrecht Work Engagement Scale (UWES)

Table 2

2.7 Work flexibility:

It is measured by using Bhattacharya, M., Gibson, D., Doty, D.H. (Aug. 2005) questionnaire, which provides 22 questions (Table3) which has 3 different segments (Skill flexibility, Behavior flexibility HR Practice flexibility) designed in Likert scale, where 1 = strongly disagree and 5= strongly agree.

Cronbach's Alpha reliability for all the questions: 0.954

Work flexibility questionnaire	Cronbach's Alpha reliability
<p>Our firm can shift employees to different jobs when needed .</p> <p>Our employees can switch to new jobs in our company within a short time.</p> <p>Our employees are capable of putting new skills to use within a short time.</p> <p>Our firm is capable of meeting demand for new skills by retraining or shifting its existing employees.</p> <p>We employ people with a broad variety of skills.</p> <p>Many employees in our firm have multiple skills that are used in various jobs.</p> <p>People in our firm can learn new skills within a short period.</p>	<p>Skill flexibility 0.888</p>
<p>The flexibility of our employees' work habits helps us to change according to market demands.</p> <p>People in our firm change their work habits in response to changes in the competitive environment.</p> <p>Our employees respond to changing situations within a short time.</p> <p>People in our firm readily change their work habits as demanded by changes in the working environment.</p> <p>Most of our employees are flexible enough to adjust to dynamic work requirements.</p> <p>Our employees adjust to changing work requirements within a short period.</p> <p>Our employees' response to the changing nature of their jobs helps us remain competitive in the market.</p> <p>People in our firm change their behavior in response to customer requirements.</p>	<p>Behavior flexibility 0.907</p>
<p>The flexibility of our HR practices helps us to adjust to the changing demands of the environment.</p> <p>Our firm modifies its HR system to keep pace with the changing competitive environment.</p> <p>Our HR practice parameters are designed so that they adjust quickly to changes in business conditions.</p> <p>We make frequent changes in our HR practices to align the HR system with changing work requirements.</p> <p>Changes in our HR practices enable us to remain competitive in the market.</p> <p>Our HR practices adjust meaningfully to changed business scenarios.</p> <p>Our HR practices, as a whole, are flexible.</p>	<p>Practice flexibility 0.919</p>

Table3

Source : Bhattacharya, M., Gibson, D., Doty, D.H. (Aug. 2005) questionnaire

2.8 Individual work performance questionnaire:

The IWPQ in the 18-item version (Table 4) of the latest version of the English instruction manual (Koopmans, 2015). It is used to measure the IWP. The questions are on a Likert scale, where 1 = strongly disagree and 5 = strongly agree.

Cronbach's Alpha reliability for all the questions:0.876

Individual work performance questionnaire		Cronbach's Alpha reliability
I managed to plan my work so that I finished it on time.	task performance	0.848
I kept in mind the work result I needed to achieve.		
I was able to set priorities.		
I was able to carry out my work efficiently.		
I managed my time well.	contextual performance	0.863
On my own initiative, I started new tasks when my old tasks were completed.		
I took on challenging tasks when they were available.		
I worked on keeping my job-related knowledge up to date.		
I worked on keeping my work skills up to date.		
I came up with creative solutions for new problems.		
I took on extra responsibilities.		
I continually sought new challenges in my work.		
I actively participated in meetings and/or consultations.		
I complained about minor work-related issues at work.		
I made problems at work bigger than they were.	counterproductive behaviors	0.832
I focused on the negative aspects of the situation at work instead of the positive aspects.		
I talked to colleagues about the negative aspects of my work.		
I talked to people outside the organization about the negative aspects of my work.		

Source : Individual work performance questionnaire (The IWPQ in the 18-item version)

Table 4

3) Data and analysis:

3.1 Participants and Procedure

A total of 211 individuals responded to the questionnaire, with 55% identifying as male and 42.7% as female. 2.4% preferred not to disclose their gender. The age range of respondents varied from 17 to 75 years, with an average age of 36.59. Participants came from various countries worldwide, mostly from Europe. Regarding employment status, 79% were full-time employed, 13.7% were part-time employed, and 6.2% were not employed. The majority of our respondents (74.4%) work in a general employee role. Additionally, 16.1% identified as managers or supervisors, and 6.2% as senior managers. In terms of educational attainment, 17.1% held a high school diploma, 44.5% had a bachelor's degree, 26.1% had a master's degree, and 7.1% held a doctoral degree. Figure 2 illustrates the data regarding demographic.

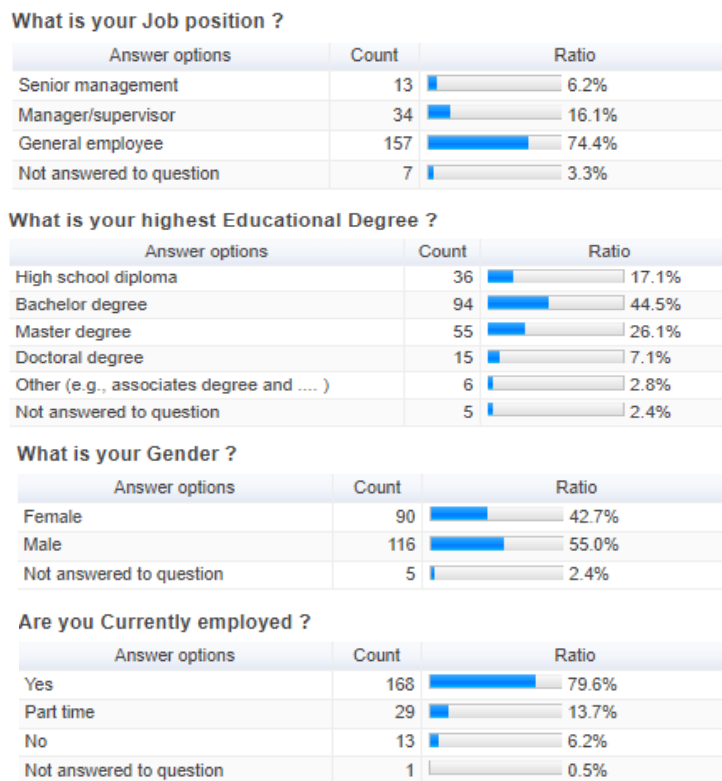


Figure2

The process of collecting data commenced in December 2021 and was completed by March 2022. An electronic survey was administered through social media platforms such as Facebook and LinkedIn, as well as direct messaging and email.

3.2 Analysis Model

For analyzing the data collected from our questionnaire, model 8 Mediation, Moderation, and Conditional Process Analysis (A Regression-Based Approach)- PROCESS for SPSS by Andrew F. Hayes 2013 is used. Our research includes 10 variables, with 4 relating to employee performance, 4 relating to workplace flexibility, digitalization, and work engagement. The following list and figure3 outline the different components of these variables:

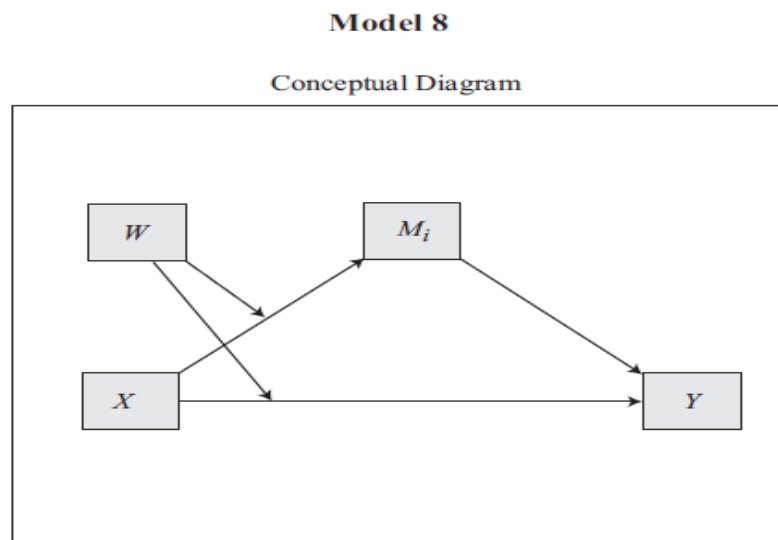


Figure3

X: Digitalization

M: work engagement

W: workplace flexibility

- FLEX: Mean of all the results
- SF: Skill flexibility
- BF: Behavior flexibility
- PF: Practice flexibility

Y: employees' performance

- Pref: Mean of all the Results.
- TP: Task performance
- CP: contextual performance
- CB: counterproductive behaviors

To simplify the explanation, the results will be provided in two distinct segments. One segment will display the output from the perspective of workplace flexibility, while the other will showcase employee performance data.

4) Results:

To begin, we will examine the outcomes of the general model, which utilizes the average values of workplace flexibility and employee performance. We will then proceed to adjust the flexibility variables incrementally in order to observe the resulting changes. Following this, we will maintain the mean level of flexibility while altering the performance variables of our employees.

The sample size of the model was 203 respondents. In the first step, engagement is chosen as an outcome variable. The results showed that flexibility is the moderator that influences the relation between digitalization and engagement, so we can prove that this moderation exists. As depicted in Figure 3, the P value of digitalization($P=0.0006$) and flexibility($p=0.0000$) and the interaction between them is significant. ($P=0.0044$)

Model	: 8						
Y	: Perfo						
X	: Digital						
M	: Engag						
W	: Flex						
Sample							
Size:	203						
OUTCOME VARIABLE: Engag							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.6842	.4682	.2445	58.3972	3.0000	199.0000	.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	-.4865	.6009	-.8096	.4191	-1.6714	.6984	
Digital	.6172	.1780	3.4679	.0006	.2663	.9682	
Flex	1.1240	.1777	6.3243	.0000	.7735	1.4744	
Int_1	-.1417	.0491	-2.8842	.0044	-.2385	-.0448	

Figure 3

The Test of highest-order unconditional interaction shows that. The workplace flexibility can improve the impact of digitalization on engagement; However, the intriguing aspect is that in the workplace environment where they have less flexibility, the impact of digitalization on engagement is higher. So in other words, it means that digitalization can increase engagement in an inflexible workplace. figure4 illustrates that in the workplace with average and high flexibility, the impact of digitalization on engagement is not significant.

Conditional effects of the focal predictor at values of the moderator(s):						
Flex	Effect	se	t	p	LLCI	ULCI
3.2342	.1591	.0624	2.5495	.0115	.0360	.2821
3.8594	.0705	.0659	1.0702	.2858	-.0594	.2005
4.4846	-.0180	.0817	-2.206	.8256	-.1792	.1431

Figure 4

According to The Johnson-Neyman model (figure 5) till Value: 3.4934, the impact of flexibility on the relationship of digitalization and engagement is significant. It has been proven that reduced workplace flexibility has a significant impact on engagement regarding digitalization.

Conditional effect of focal predictor at values of the moderator:						
Flex	Effect	se	t	p	LLCI	ULCI
1.0000	.4756	.1330	3.5749	.0004	.2132	.7379
1.1900	.4487	.1248	3.5937	.0004	.2025	.6949
1.3800	.4218	.1168	3.6098	.0004	.1914	.6522
1.5700	.3948	.1090	3.6213	.0004	.1798	.6099
1.7600	.3679	.1015	3.6253	.0004	.1678	.5681
1.9500	.3410	.0943	3.6177	.0004	.1551	.5269
2.1400	.3141	.0874	3.5922	.0004	.1417	.4865
2.3300	.2872	.0811	3.5404	.0005	.1272	.4471
2.5200	.2603	.0754	3.4510	.0007	.1115	.4090
2.7100	.2334	.0705	3.3099	.0011	.0943	.3724
2.9000	.2064	.0665	3.1027	.0022	.0752	.3376
3.0900	.1795	.0637	2.8182	.0053	.0539	.3051
3.2800	.1526	.0622	2.4555	.0149	.0301	.2752
3.4700	.1257	.0620	2.0279	.0439	.0035	.2479
3.4934	.1224	.0621	1.9720	.0500	.0000	.2448
3.6600	.0988	.0632	1.5628	.1197	-.0259	.2234
3.8500	.0719	.0657	1.0931	.2757	-.0578	.2015
4.0400	.0450	.0695	.6472	.5182	-.0920	.1819
4.2300	.0180	.0742	.2433	.8081	-.1282	.1643
4.4200	-.0089	.0797	-.1114	.9114	-.1660	.1483
4.6100	-.0358	.0859	-.4168	.6773	-.2051	.1335
4.8000	-.0627	.0926	-.6772	.4990	-.2453	.1199

Figure 5

The graph (figure 6) illustrates how flexibility affects the correlation between digitalization and engagement. It reveals that in companies with low flexibility, digitalization has a greater impact on engagement, whereas in those with high flexibility, there is no impact.

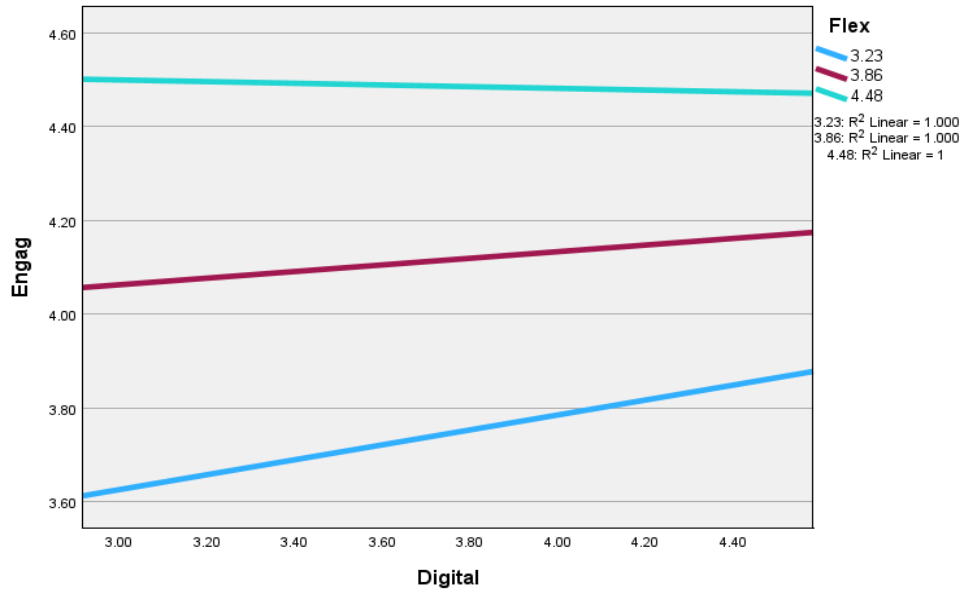


Figure 6

Based on the analysis of employee performance data (figure 7), it has been found that digitalization has a consistently positive impact on employee performance, regardless of the level of flexibility involved. In other words, it is not dependent on the moderator because the (P = 0.557) for workplace flexibility is not significant, and there is no interaction between digitalization and flexibility (P Int_1 = 0.3670)

Perfo							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5703	.3253	.1447	23.8625	4.0000	198.0000	.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.5270	.4630	3.2980	.0012	.6139	2.4401	
Digital	.2954	.1410	2.0951	.0374	.0173	.5734	
Engag	.1448	.0545	2.6552	.0086	.0373	.2523	
Flex	.2884	.1498	1.9249	.0557	-.0071	.5839	
Int_1	-.0349	.0386	-.9042	.3670	-.1109	.0412	

Figure 7

Based on Figure 8, it can be concluded that flexibility does not affect the correlation between digitalization and performance. The graph demonstrates that regardless of the level of flexibility, the relationship between digitalization and employees' performance remains constant.

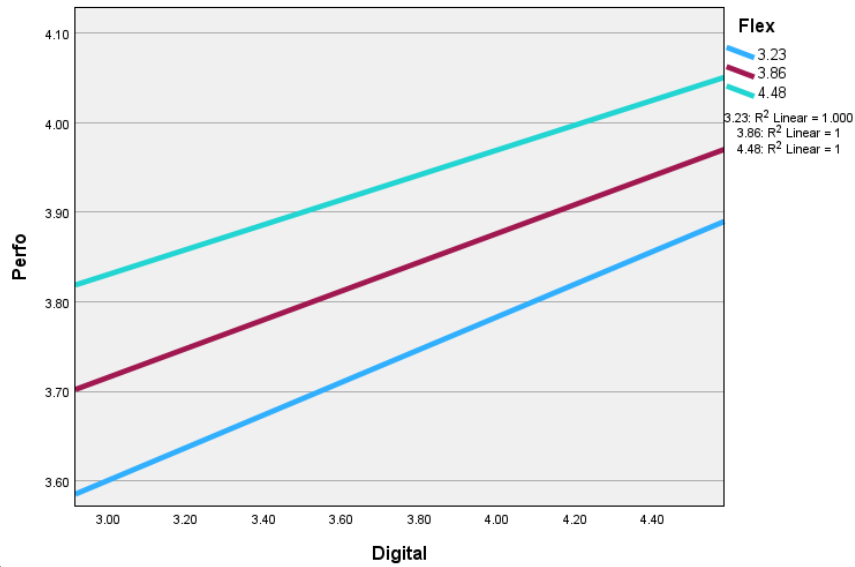


Figure8

Based on Figure 9, there is no impact through engagement on employees' performance ($P = 0.6591$) which is not significant. It means that Digitalization has an impact on performance directly and independently, and engagement as a mediator has no impact on employees' performance.

Test(s) of X by M interaction:						
F	df1	df2	p			
.1953	1.0000	197.0000	.6591			
DIRECT AND INDIRECT EFFECTS OF X ON Y						
Conditional direct effect(s) of X on Y:						
Flex	Effect	se	t	p	LLCI	ULCI
3.2342	.1826	.0488	3.7435	.0002	.0864	.2788
3.8594	.1608	.0508	3.1628	.0018	.0605	.2611
4.4846	.1390	.0629	2.2109	.0282	.0150	.2630
Conditional indirect effects of X on Y:						
INDIRECT EFFECT:						
Digital	->	Engag	->	Perfo		
Flex	Effect	BootSE	BootLLCI	BootULCI		
3.2342	.0230	.0181	-.0058	.0646		
3.8594	.0102	.0136	-.0125	.0423		
4.4846	-.0026	.0147	-.0341	.0284		

Figure 9

Research on various aspects of workplace flexibility, including (SF: Skill flexibility, BF: Behavior flexibility, PF: Practice flexibility), did not reveal any new connection between flexibility and digitalization. However, it was found that workplace flexibility does affect employee engagement. In a low-flexibility environment, digitalization has a greater impact on engagement, but engagement does not directly affect employee performance. Instead, digitalization has a direct and independent effect on employee performance. In summary, while workplace flexibility may impact engagement, digitalization has a more significant impact on employee performance.

Research on various aspects of employees' performance, including (TP: Task performance, CP: contextual performance, and CB: counterproductive behaviors) shows that. The level of workplace flexibility has an impact on the relationship between digitalization and **task performance**, with flexibility acting as a moderator. This means that in less flexible work environments, digitalization has a greater impact on task performance compared to companies with medium or high levels of flexibility. (figure10)

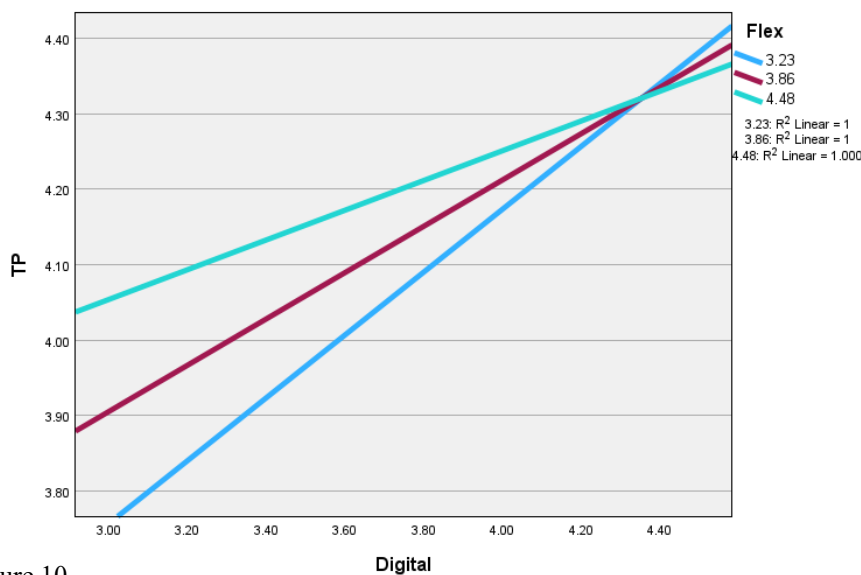


Figure 10

The model reveals a significant and intriguing finding: in work environments with medium to high flexibility, increasing digitalization results in a decrease in **counterproductive behaviors**. This means that digitalization can effectively control and reduce such behaviors, which is crucial for improving employee performance.

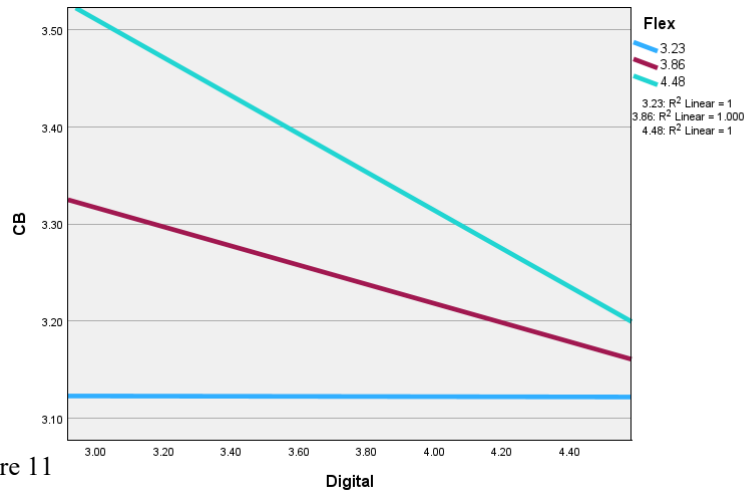


Figure 11

5) Discussion:

The study demonstrates a correlation between Digitalization and employees' performance. Based on the findings, digitization can significantly enhance the performance of employees while also affecting their level of engagement. However, it appears that engagement does not have a direct impact on employee performance.

Based on the research results, three hypotheses were supported while two were rejected. The first hypothesis(H1), which suggests that digitalization impacts engagement, was proven. However, the second hypothesis(H2), stating that engagement affects employee performance, was not supported. On the other hand, the third hypothesis(H3) was strongly supported, indicating a significant relationship between digitalization and employee performance. As a result, the fourth hypothesis(H4), which claims a correlation between total flexibility and digitalization's impact on performance, is rejected. However, it is accepted that digitalization affects task performance. The final hypothesis(H5), was supported, indicating a connection between workplace flexibility and digitalization's impact on engagement.

The research shows that it is interesting to note that the research results highlight the potential impact digitalization can have on the workplace. Specifically, the findings suggest that increased digitalization can lead to improved performance and engagement among employees. It seems that the higher the level of digitalization, the better the results. This information certainly piques my curiosity about the possibilities of digital transformation in the workplace.

A crucial finding from the research is the correlation between the degree of digitalization and counterproductive behaviors. This has been established through data analysis in flexible work environments where employees are willing to accept digitalization with minimal resistance. Increasing the level of digitalization can lead to a decrease in counterproductive behaviors. It is widely recognized that monitoring this factor is essential for any company and can significantly impact employee performance.

Limitations and Recommendations for Further Research

The wide range of data collected from various regions around the world limits the generalizability of the results. Therefore, we cannot conclude that the findings are specific to any one country or region.

However, the research involved participants from diverse job environments, educational backgrounds, and age groups, indicating that the data is general in nature and not specific to any group.

As a recommendation, I suggest applying the test in a specific area and job environment to yield varied research outcomes potentially. Nevertheless, I hold the belief that digitalization's impact on job performance will generally be positive across most environments.

6) **Conclusion:**

The research aimed to investigate and combine the connections between Digitalization and employee Performance, as well as the impact of engagement and workplace flexibility on the impact of digitalization on performance. Based on the quantitative survey and quantitative analysis by using model 8 Mediation, Moderation, and Conditional Process Analysis (A Regression-Based Approach)-PROCESS for SPSS by Andrew F. Hayes 2013.

Based on the findings, it is evident that digitalization has a positive **independent** impact on employee performance and can enhance work engagement. on the other hand, it finds out in work environments with medium to high flexibility, increasing digitalization results in a decrease in counterproductive behaviors.and finally, the results show that digitalization can increase engagement in an inflexible workplace.

References :

1. Peppard, J., 2016. A Tool for Balancing Your Company's Digital Investments, Harvard Business Review. [online] Available at: <https://hbr.org/2016/10/a-tool-for-balancing-your-companys-digital-investments> [Accessed 18 October 2016].
2. Fernández-Olano, P., Castedo, R., González A., Opitz, M., Pfirsching, V., 2015. Setting objectives and measuring digitalization in Financial Services – Viewpoint 2015. [online] Available at: <http://www.adl.com/MeasuringDigital> [Accessed 12 July 2016].
3. Catlin, T., Scanlan, J., Willmott, P., 2015. Raising your Digital Quotient. *McKinsey Quarterly*, June 2015. [online] Available at: <http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/raising-your-digital-quotient> [Accessed 6 September 2016].
4. European Commission, 2016. Digital Single Market. Digital Economy & Society, February 2016. [online] Available at: <https://ec.europa.eu/digital-single-market/en/europe-2020-strategy> [Accessed 23 March 2016].
5. Westerman, G., Tannou, M., Bonnet, D., Ferraris, P., McAfee, A., 2012. *The Digital Advantage: how digital leaders outperform their peers in every industry*. MIT Sloan Management and Capgemini. [online] Available at: https://www.capgemini.com/resource-file-access/resource/pdf/The_Digital_Advantage_How_Digital_Leaders_Outperform_their_Peers_in_Every_Industry.pdf [Accessed 7 July 2016].
6. Deloitte Access Economics, 2015. *Digital Government Transformation, commissioned by Adobe*. [online] Available at: <http://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-digital-governmenttransformation-230715.pdf> [Accessed 8 July 2016].
7. Rynes, S., Barber, A. and Varma, G. (2000), "Research on the employment interview: usefulness for practice and recommendations for future research", in Cooper, C. and Locke, E. (Eds), *Industrial and Organizational Psychology*, Blackwell, Oxford, pp. 250-277.
8. Nguyen, P.D., Dang, C.X. and Nguyen, L.D. (2015), "Would better earning, work environment, and promotion opportunities increase employee performance? An investigation in state and other sectors in Vietnam", *Public Organization Review*, Vol. 15, pp. 565-579.
9. Kagermann, H. (2015), "Change through digitization – value creation in the age of Industry 4.0", in Albach, H., Meffert, H., Pinkwart, A. and Reichwald, R. (Eds), *Management of Permanent Change*, Springer Gabler, Wiesbaden, pp. 23-45.
10. Larsson, R., & Finkelstein, S. 1999. Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realizations. *Organization Science*, 10: 1-26.
11. Gewald, H. and Dibbern, J. (2005), "The influential role of perceived risks versus perceived benefits in the acceptance of business process outsourcing: empirical evidence from the German banking industry", Working Paper No. 9, E-Finance Lab, Frankfurt.

12. Alam, S. and Rizvi, K. (2012), "Psychological well-being among bank employees", *Journal of the Indian Academy of Applied Psychology*, Vol. 38 No. 2, pp. 242-247.
13. Bushra, F., Ahmad, U. and Naveed, A. (2011), "Effect of transformational leadership on employees' job satisfaction and organizational commitment in banking sector of Lahore (Pakistan)", *International Journal of Business and Social Science*, Vol. 2 No. 18, pp. 261-267.
14. Shimazu, A., and Schaufeli, W. B. (2009). Is workaholism good or bad for employee well-being? The distinctiveness of workaholism and work engagement among Japanese employees. *Ind. Health* 47, 495–502. doi: 10.2486/indhealth.47.495
15. Shimazu, A., Schaufeli, W. B., Kosugi, S., Suzuki, A., Nashiwa, H., Kato, A., et al. (2008). Work engagement in Japan: validation of the Japanese version of the Utrecht work engagement scale. *Appl. Psychol. Int. Rev.* 57, 510–523. doi: 10.1037/t58719-000
16. Schaufeli, W. (2017). *Work Engagement in Europe: Relations with National Economy, Governance and Culture*. Leuven: KU Leuven Research Unit Occupational and Organizational Psychology and Professional Learning.
17. Schaufeli, W., and De Witte, H. (2017). Work engagement: Real or redundant? *Burnout Res.* 5, 58–60. doi: 10.1016/j.burn.2017.06.002
18. Schaufeli, W. B., and Bakker, A. B. (2003). *Utrecht Work Engagement Scale: Preliminary Manual*. Utrecht: Utrecht University.
19. Schaufeli, W. B., Bakker, A. B., and Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross-national study. *Educ. Psychol. Meas.* 66, 701–716. doi: 10.1177/0013164405282471
20. Schaufeli, W. B., Salanova, M., González-Romá, V., and Bakker, A. B. (2002). The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *J. Happiness Stud.* 3, 71–92. doi: 10.1023/A:1015630930326
21. Ashforth, B. E., and Humphrey, R. H. (1995). Emotion in the workplace: a reappraisal. *Hum. Relat.* 48, 97–125. doi: 10.1177/001872679504800201
22. Bakker, A. B. (2017). Strategic and proactive approaches to work engagement. *Organ. Dyn.* 46, 67–75. doi: 10.1016/j.orgdyn.2017.04.002
23. Sanchez, R. 1995. Strategic flexibility in product competition. *Strategic Management Journal*, 16: 135-159.
24. MacDuffie, J. P. 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world of auto industry. *Industrial and Labor Relations Review*, 48: 197-221.

25. Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. 2001. Direct and moderating effects of human capital on strategy and performance in professional service firms: A resourcebased perspective. *Academy of Management Journal*, 44: 13-28.
26. Garud, R., & Kotha, S. 1994. Using the brain as a metaphor to model flexible production systems. *Academy of Management Review*, 19: 671-698.
27. Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: What are they? *Strategic Management Journal*, 21: 1105-1121.
28. DeNisi, A. S., & Murphy, K. R. (2017). Performance appraisal and performance management: 100 years of progress? *Journal of Applied Psychology*, 102, 421-433. <https://doi.org/10.1037/apl0000085>
29. Campbell, J. P., & Wiernik, B. M. (2015). The modeling and assessment of work performance. *Annual Review of Organizational Psychology and Organizational Behavior*, 2, 47-74. <https://doi.org/10.1146/annurevpsych-032414-111427>
30. Aguinis, H. (2013). *Performance management*. Upper Saddle River, NJ: Pearson Prentice Hall.
31. Sackett, P. R. (2002). The structure of counterproductive work behaviors: Dimensionality and relationships with facets of job performance. *International Journal of Selection and Assessment*, 10, 5-11.
32. <https://doi.org/10.1111/1468-2389.00189>
33. Sackett, P. R., & DeVore, C. J. (2001). Counterproductive behaviors at work. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work, and organizational psychology*. Thousand Oaks, CA: SAGE Publications. <https://doi.org/10.4135/9781848608320.n9>
34. Sackett, P. R., & Lievens, F. (2008). Personnel selection. *Annual Review of Psychology*, 59, 419-450. <https://doi.org/10.1146/annurev.psych.59.103006.093716>
35. Woehr, D. J. (2008). On the relationship between job performance and ratings of job performance: What do we really know? *Industrial and Organizational Psychology*, 1, 161-166.
36. <https://doi.org/10.1111/j.1754-9434.2008.00031.x>
37. Scullen, S. E., Mount, M. K., & Goff, M. (2000). Understanding the latent structure of job performance ratings. *Journal of Applied Psychology*, 85, 956-970.
38. <https://doi.org/10.1037/0021-9010.85.6.956>
39. DeNisi, A. S., & Murphy, K. R. (2017). Performance appraisal and performance management: 100 years of progress? *Journal of Applied Psychology*, 102, 421-433. <https://doi.org/10.1037/apl0000085>

40. Koopmans, L. (2015). Individual Work Performance Questionnaire instruction manual. Amsterdam, NL: TNO Innovation for Life – VU University Medical Center.
41. Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., De Vet, H. C. W., & van der Beek, A. J. (2013). Measuring individual work performance: Identifying and selecting indicators. *Work*, 48, 229-238. <https://doi.org/10.3233/WOR-131659>
42. Timurs Umans, Martin Kockum, Elin Nilsson, Sofie Lindberg, (2018) "Digitalisation in the banking industry and workers subjective well-being: Contingency perspective", *International Journal of Workplace Health Management*, <https://doi.org/10.1108/IJWHM-05-2018-0069>
43. Balducci, C., Fraccaroli, F., and Schaufeli, W. B. (2010). Psychometric properties of the Italian version of the Utrecht work engagement scale (UWES-9), a crosscultural analysis. *Eur. J. Psychol. Assess.* 26, 143–149. doi: 10.1027/1015-5759/a000020
44. Ferreira, M. C., Valentini, F., Damásio, B. F., Mourão, L., Porto, J. B., Chinelato, R. S. D. C., et al. (2016). Evidências adicionais de validade da UWES-9 em amostras brasileiras. *Estud. Psicol.* 21, 435–445. doi: 10.5935/1678-4669.20160042
45. Gibson, C.B., & Birkinshaw, J. 2004. The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47: 209-226.

Appendix:

Are you Currently employed ?

Yes Part time No

What is your Job position ?

Senior management

Manager/supervisor

General employee

For How many Years do you work there ?

Less than 1 years

1 - 5 Years

5 - 10 Years

10 - 20 Years

more than 20 Years

What is the size of your company ?

1 - 10 employees

10 - 50 employees

50 - 150 employees

150 - 500 employees

+ 500 employees

Which Industry do you work ?

Mining

Construction

Manufacturing

Utilities

Wholesale trade

Retail trade

Transportation and warehousing

Information services

Financial services

Professional and business activities

Educational services

Health care and social assistance

Leisure and hospitality

Federal government

State and local government

Agriculture, forestry, fishing, and hunting

Other (e.g., entertainment and not for profit)

I use digital tools in internal communication.

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools in external communication

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools for information search

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools for documentation

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools for analysis

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools makes my job easier

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools is adding to my work effectiveness.

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools is relevant for my work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that digital tools are hard to use

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that digital tools are hard to use

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools has changed my work role

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools sets high requirements for my competence

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel that the use of digital tools has changed the way I work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools in contact with clients

Strongly Disagree Disagree not Decided Agree Strongly Agree

I use digital tools when meeting with the clients

Strongly Disagree Disagree not Decided Agree Strongly Agree

I managed to plan my work so that I finished it on time

Strongly Disagree Disagree not Decided Agree Strongly Agree

I kept in mind the work result I needed to achieve

Strongly Disagree Disagree not Decided Agree Strongly Agree

I was able to set priorities

Strongly Disagree Disagree not Decided Agree Strongly Agree

I was able to carry out my work efficiently

Strongly Disagree Disagree not Decided Agree Strongly Agree

I managed my time well

Strongly Disagree Disagree not Decided Agree Strongly Agree

On my own initiative, I started new task when my old tasks were completed

Strongly Disagree Disagree not Decided Agree Strongly Agree

I took on challenging tasks when they were available

Strongly Disagree Disagree not Decided Agree Strongly Agree

I worked on keeping my job-related knowledge up-to-date

Strongly Disagree Disagree not Decided Agree Strongly Agree

I worked on keeping my work skills up-to-date

Strongly Disagree Disagree not Decided Agree Strongly Agree

I came up with creative solutions for new problems

Strongly Disagree Disagree not Decided Agree Strongly Agree

I took on extra responsibilities

Strongly Disagree Disagree not Decided Agree Strongly Agree

I continually sought new challenges in my work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I actively participated in meetings and/or consultations

Strongly Disagree Disagree not Decided Agree Strongly Agree

I complained about minor work-related issues at work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I made problems at work bigger than they were

Strongly Disagree Disagree not Decided Agree Strongly Agree

I focused on the negative aspects of situation at work instead of the positive aspects

Strongly Disagree Disagree not Decided Agree Strongly Agree

I talked to colleagues about the negative aspects of my work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I talked to people outside the organization about the negative aspects of my work

Strongly Disagree Disagree not Decided Agree Strongly Agree

My job inspires me

Strongly Disagree Disagree not Decided Agree Strongly Agree

I am enthusiastic about my job

Strongly Disagree Disagree not Decided Agree Strongly Agree

At my job, I feel strong and vigorous

Strongly Disagree Disagree not Decided Agree Strongly Agree

When I get up in the morning, I feel like going to work

Strongly Disagree Disagree not Decided Agree Strongly Agree

At my work, I feel bursting with energy

Strongly Disagree Disagree not Decided Agree Strongly Agree

I am proud on the work that I do

Strongly Disagree Disagree not Decided Agree Strongly Agree

I am immersed in my work

Strongly Disagree Disagree not Decided Agree Strongly Agree

I get carried away when I'm working

Strongly Disagree Disagree not Decided Agree Strongly Agree

I feel happy when I am working intensely

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our firm can shift employees to different jobs when needed

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our employees can switch to new jobs in our company within a short time

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our firm is capable of meeting demand for new skills by retraining or shifting its existing employees

Strongly Disagree Disagree not Decided Agree Strongly Agree

We employ people with a broad variety of skills

Strongly Disagree Disagree not Decided Agree Strongly Agree

Many employees in our firm have multiple skills that are used in various jobs

Strongly Disagree Disagree not Decided Agree Strongly Agree

People in our firm can learn new skills within a short period

Strongly Disagree Disagree not Decided Agree Strongly Agree

The flexibility of our employees' work habits helps us to change according to market demands

Strongly Disagree Disagree not Decided Agree Strongly Agree

People in our firm change their work habits in response to changes in the competitive environment

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our employees respond to changing situations within a short time

Strongly Disagree Disagree not Decided Agree Strongly Agree

People in our firm readily change their work habits as demanded by changes in the working environment

Strongly Disagree Disagree not Decided Agree Strongly Agree

Most of our employees are flexible enough to adjust to dynamic work requirements

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our employees adjust to changing work requirements within a short period

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our employees' response to the changing nature of their jobs helps us remain competitive in the market

Strongly Disagree Disagree not Decided Agree Strongly Agree

People in our firm change their behavior in response to customer requirements

Strongly Disagree Disagree not Decided Agree Strongly Agree

Flexibility of our HR practices helps us to adjust to the changing demands of the environment

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our firm modifies its HR system to keep pace with the changing competitive environment

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our HR practice parameters are designed so that they adjust quickly to changes in business conditions

Strongly Disagree Disagree not Decided Agree Strongly Agree

We make frequent changes in our HR practices to align the HR system with changing work requirements

Strongly Disagree Disagree not Decided Agree Strongly Agree

Changes in our HR practices enable us to remain competitive in the market

Strongly Disagree Disagree not Decided Agree Strongly Agree

Our HR practices adjust meaningfully to changed business scenarios

Strongly Disagree Disagree Not Decided Agree Strongly Agree

Our HR practices, as a whole, are flexible

Strongly Disagree Disagree not Decided Agree Strongly Agree

What is your Gender?

Female Male

How old are you?

Where are you from? (enter your country name)

What is your highest Educational Degree?

High school diploma

Bachelor degree

Master degree

Doctoral degree

Other (e.g., associates degree and)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 8
Y : Perfo
X : Digital
M : Engag
W : Flex

Sample
Size: 203

OUTCOME VARIABLE:
Engag

Model Summary

	R	R-sq	MSE	F	df1	df2
P	.6842	.4682	.2445	58.3972	3.0000	199.0000
	.0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	-.4865	.6009	-.8096	.4191	-1.6714
.6984					
Digital	.6172	.1780	3.4679	.0006	.2663
.9682					
Flex	1.1240	.1777	6.3243	.0000	.7735
1.4744					
Int_1	-.1417	.0491	-2.8842	.0044	-.2385
-.0448					

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Flex	Int_1
constant	.3611	-.0988	-.0992	.0268

Digital	-.0988	.0317	.0259	-.0082
Flex	-.0992	.0259	.0316	-.0082
Int_1	.0268	-.0082	-.0082	.0024

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0222	8.3184	1.0000	199.0000	.0044

Focal predict: Digital (X)
Mod var: Flex (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Flex	Effect	se	t	p	LLCI
ULCI						
.2821	3.2342	.1591	.0624	2.5495	.0115	.0360
.2005	3.8594	.0705	.0659	1.0702	.2858	-.0594
.1431	4.4846	-.0180	.0817	-.2206	.8256	-.1792

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
3.4934	17.7340	82.2660

Conditional effect of focal predictor at values of the moderator:

	Flex	Effect	se	t	p	LLCI
ULCI						
.7379	1.0000	.4756	.1330	3.5749	.0004	.2132
.6949	1.1900	.4487	.1248	3.5937	.0004	.2025
.6522	1.3800	.4218	.1168	3.6098	.0004	.1914
.6099	1.5700	.3948	.1090	3.6213	.0004	.1798
.5681	1.7600	.3679	.1015	3.6253	.0004	.1678
.5269	1.9500	.3410	.0943	3.6177	.0004	.1551
.4865	2.1400	.3141	.0874	3.5922	.0004	.1417
.4471	2.3300	.2872	.0811	3.5404	.0005	.1272
.4090	2.5200	.2603	.0754	3.4510	.0007	.1115

2.7100	.2334	.0705	3.3099	.0011	.0943
.3724					
2.9000	.2064	.0665	3.1027	.0022	.0752
.3376					
3.0900	.1795	.0637	2.8182	.0053	.0539
.3051					
3.2800	.1526	.0622	2.4555	.0149	.0301
.2752					
3.4700	.1257	.0620	2.0279	.0439	.0035
.2479					
3.4934	.1224	.0621	1.9720	.0500	.0000
.2448					
3.6600	.0988	.0632	1.5628	.1197	-.0259
.2234					
3.8500	.0719	.0657	1.0931	.2757	-.0578
.2015					
4.0400	.0450	.0695	.6472	.5182	-.0920
.1819					
4.2300	.0180	.0742	.2433	.8081	-.1282
.1643					
4.4200	-.0089	.0797	-.1114	.9114	-.1660
.1483					
4.6100	-.0358	.0859	-.4168	.6773	-.2051
.1335					
4.8000	-.0627	.0926	-.6772	.4990	-.2453
.1199					

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

```

DATA LIST FREE/
  Digital      Flex      Engag      .
BEGIN DATA.
  3.1730      3.2342      3.6535
  3.8073      3.2342      3.7545
  4.4416      3.2342      3.8554
  3.1730      3.8594      4.0752
  3.8073      3.8594      4.1200
  4.4416      3.8594      4.1647
  3.1730      4.4846      4.4969
  3.8073      4.4846      4.4855
  4.4416      4.4846      4.4741
END DATA.
GRAPH/SCATTERPLOT=
  Digital WITH Engag BY Flex .

```

```

*****
*****

```

OUTCOME VARIABLE:

Perfo

Model Summary

	R	R-sq	MSE	F	df1	df2
P	.5703	.3253	.1447	23.8625	4.0000	198.0000
	.0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	1.5270	.4630	3.2980	.0012	.6139
2.4401					
Digital	.2954	.1410	2.0951	.0374	.0173
.5734					
Engag	.1448	.0545	2.6552	.0086	.0373
.2523					
Flex	.2884	.1498	1.9249	.0557	-.0071
.5839					
Int_1	-.0349	.0386	-.9042	.3670	-.1109
.0412					

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Engag	Flex	Int_1
constant	.2144	-.0594	.0014	-.0603	.0161
Digital	-.0594	.0199	-.0018	.0174	-.0051
Engag	.0014	-.0018	.0030	-.0033	.0004
Flex	-.0603	.0174	-.0033	.0224	-.0053
Int_1	.0161	-.0051	.0004	-.0053	.0015

Test(s) of X by M interaction:

	F	df1	df2	p
	.1953	1.0000	197.0000	.6591

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0028	.8176	1.0000	198.0000	.3670

Focal predict: Digital (X)
Mod var: Flex (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce
plot.

DATA LIST FREE/

Digital	Flex	Perfo	.
3.1730	3.2342	3.6320	
3.8073	3.2342	3.7479	
4.4416	3.2342	3.8637	
3.1730	3.8594	3.7432	
3.8073	3.8594	3.8452	
4.4416	3.8594	3.9472	
3.1730	4.4846	3.8543	
3.8073	4.4846	3.9425	
4.4416	4.4846	4.0307	

END DATA.

GRAPH/SCATTERPLOT=

Digital	WITH	Perfo	BY	Flex	.
---------	------	-------	----	------	---

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

	Engag	Perfo
Engag	1.0000	.0000
Perfo	.0000	1.0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Conditional direct effect(s) of X on Y:

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.1826	.0488	3.7435	.0002	.0864
.2788						
	3.8594	.1608	.0508	3.1628	.0018	.0605
.2611						
	4.4846	.1390	.0629	2.2109	.0282	.0150
.2630						

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Digital	->	Engag	->	Perfo	
	Flex	Effect	BootSE	BootLLCI	BootULCI
	3.2342	.0230	.0181	-.0058	.0646
	3.8594	.0102	.0136	-.0125	.0423
	4.4846	-.0026	.0147	-.0341	.0284

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Flex	-.0205	.0150	-.0492	.0120

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
.0102	.0230	-.0128	.0094	-.0307	.0075
-.0026	.0230	-.0256	.0188	-.0615	.0150
-.0026	.0102	-.0128	.0094	-.0307	.0075

***** ANALYSIS NOTES AND ERRORS *****

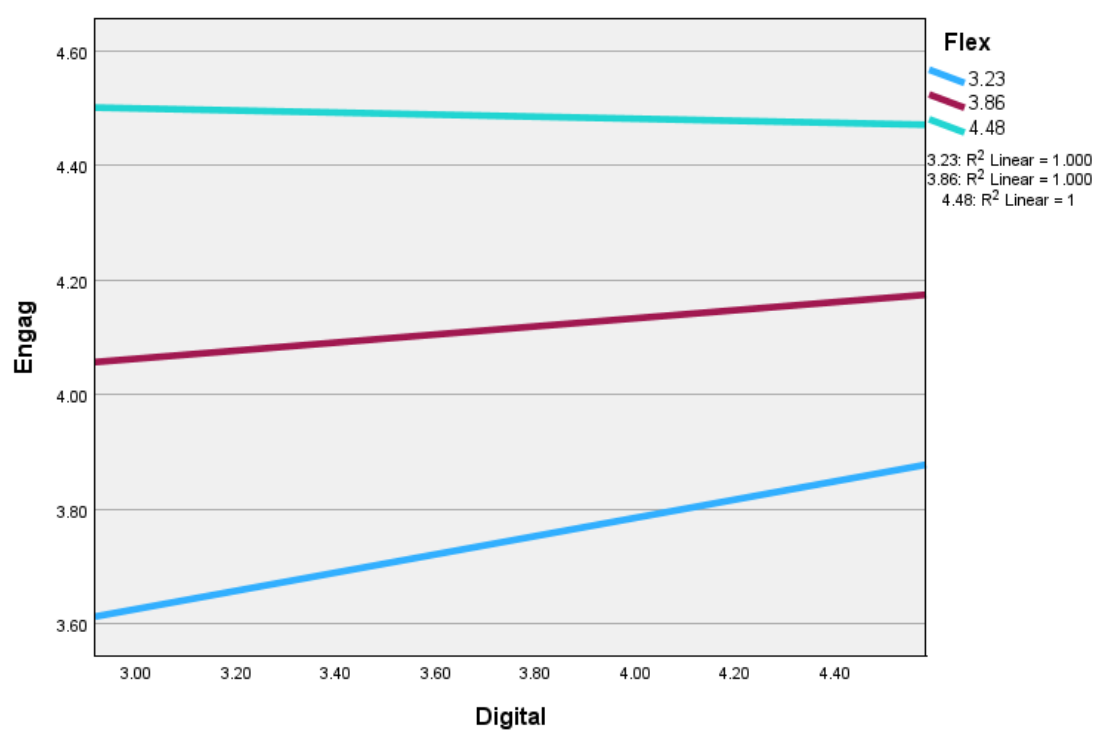
Level of confidence for all confidence intervals in output:
95.0000

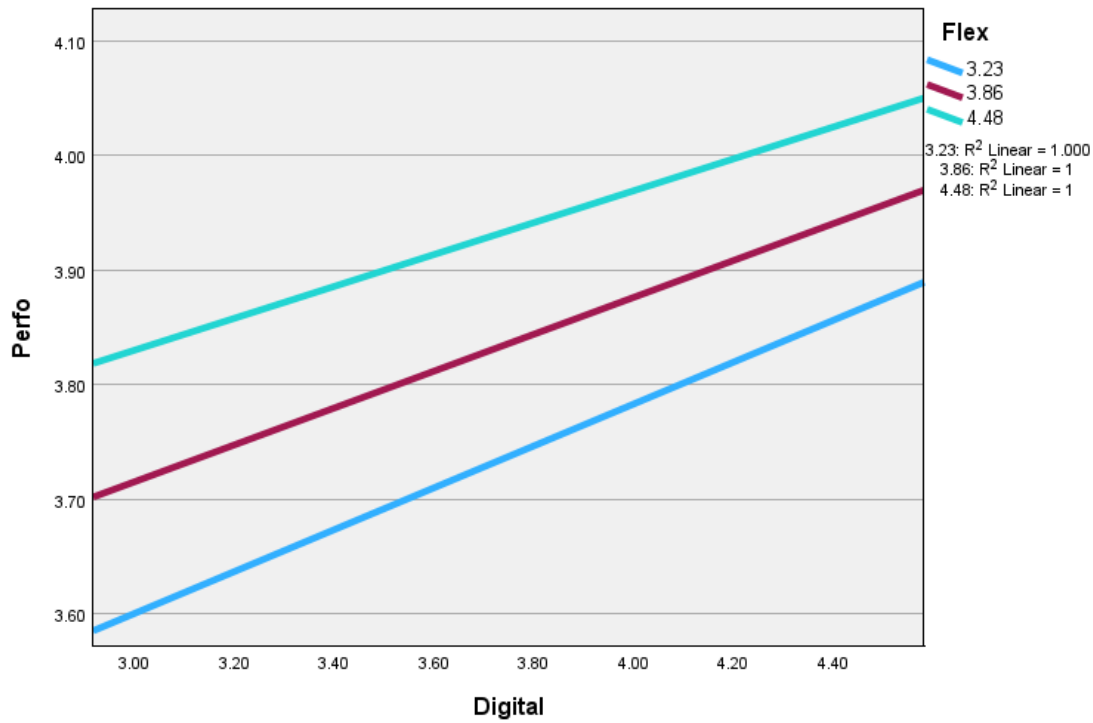
Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----





Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 4.0
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

```
*****
*****
```

```
Model   : 8
Y       : TP
X       : Digital
M       : Engag
W       : Flex
```

```
Sample
Size: 203
```


OUTCOME VARIABLE:
 Engag

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.6842	.4682	.2445	58.3972	3.0000	199.0000
	.0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	-.4865	.6009	-.8096	.4191	-1.6714
.6984					
Digital	.6172	.1780	3.4679	.0006	.2663
.9682					
Flex	1.1240	.1777	6.3243	.0000	.7735
1.4744					
Int_1	-.1417	.0491	-2.8842	.0044	-.2385
-.0448					

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Flex	Int_1
constant	.3611	-.0988	-.0992	.0268
Digital	-.0988	.0317	.0259	-.0082
Flex	-.0992	.0259	.0316	-.0082
Int_1	.0268	-.0082	-.0082	.0024

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0222	8.3184	1.0000	199.0000	.0044

Focal predict: Digital (X)
 Mod var: Flex (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.1591	.0624	2.5495	.0115	.0360
.2821						
	3.8594	.0705	.0659	1.0702	.2858	-.0594
.2005						

4.4846 -.0180 .0817 -.2206 .8256 -.1792
 .1431

Moderator value(s) defining Johnson-Neyman significance region(s):

Value % below % above
 3.4934 17.7340 82.2660

Conditional effect of focal predictor at values of the moderator:

Flex	Effect	se	t	p	LLCI
ULCI					
1.0000	.4756	.1330	3.5749	.0004	.2132
.7379					
1.1900	.4487	.1248	3.5937	.0004	.2025
.6949					
1.3800	.4218	.1168	3.6098	.0004	.1914
.6522					
1.5700	.3948	.1090	3.6213	.0004	.1798
.6099					
1.7600	.3679	.1015	3.6253	.0004	.1678
.5681					
1.9500	.3410	.0943	3.6177	.0004	.1551
.5269					
2.1400	.3141	.0874	3.5922	.0004	.1417
.4865					
2.3300	.2872	.0811	3.5404	.0005	.1272
.4471					
2.5200	.2603	.0754	3.4510	.0007	.1115
.4090					
2.7100	.2334	.0705	3.3099	.0011	.0943
.3724					
2.9000	.2064	.0665	3.1027	.0022	.0752
.3376					
3.0900	.1795	.0637	2.8182	.0053	.0539
.3051					
3.2800	.1526	.0622	2.4555	.0149	.0301
.2752					
3.4700	.1257	.0620	2.0279	.0439	.0035
.2479					
3.4934	.1224	.0621	1.9720	.0500	.0000
.2448					
3.6600	.0988	.0632	1.5628	.1197	-.0259
.2234					
3.8500	.0719	.0657	1.0931	.2757	-.0578
.2015					
4.0400	.0450	.0695	.6472	.5182	-.0920
.1819					
4.2300	.0180	.0742	.2433	.8081	-.1282
.1643					

```

      4.4200      -.0089      .0797      -.1114      .9114      -.1660
.1483
      4.6100      -.0358      .0859      -.4168      .6773      -.2051
.1335
      4.8000      -.0627      .0926      -.6772      .4990      -.2453
.1199

```

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

```

DATA LIST FREE/
  Digital      Flex      Engag      .
BEGIN DATA.
  3.1730      3.2342      3.6535
  3.8073      3.2342      3.7545
  4.4416      3.2342      3.8554
  3.1730      3.8594      4.0752
  3.8073      3.8594      4.1200
  4.4416      3.8594      4.1647
  3.1730      4.4846      4.4969
  3.8073      4.4846      4.4855
  4.4416      4.4846      4.4741
END DATA.
GRAPH/SCATTERPLOT=
  Digital WITH      Engag      BY      Flex      .

```

```

*****
*****

```

```

OUTCOME VARIABLE:
  TP

```

```

Model Summary
      R      R-sq      MSE      F      df1      df2
p      .7139      .5097      .1968      51.4614      4.0000      198.0000
.0000

```

```

Model
      coeff      se      t      p      LLCI
ULCI
constant      -.9650      .5400      -1.7871      .0755      -2.0298
.0999
Digital      .9842      .1644      5.9851      .0000      .6599
1.3084
Engag      .2445      .0636      3.8445      .0002      .1191
.3699
Flex      .7640      .1747      4.3722      .0000      .4194
1.1086

```

Int_1 -.1755 .0450 -3.9018 .0001 -.2642
 -.0868

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Engag	Flex	Int_1
constant	.2916	-.0807	.0020	-.0821	.0219
Digital	-.0807	.0270	-.0025	.0237	-.0070
Engag	.0020	-.0025	.0040	-.0045	.0006
Flex	-.0821	.0237	-.0045	.0305	-.0072
Int_1	.0219	-.0070	.0006	-.0072	.0020

Test(s) of X by M interaction:

	F	df1	df2	p
	.1037	1.0000	197.0000	.7478

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0377	15.2239	1.0000	198.0000	.0001

Focal predict: Digital (X)
 Mod var: Flex (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.4166	.0569	7.3228	.0000	.3044
	.5288					
	3.8594	.3069	.0593	5.1754	.0000	.1900
	.4238					
	4.4846	.1972	.0733	2.6890	.0078	.0526
	.3418					

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
4.7076	97.5369	2.4631

Conditional effect of focal predictor at values of the moderator:

	Flex	Effect	se	t	p	LLCI
ULCI						
	1.0000	.8087	.1231	6.5678	.0000	.5659
	1.0515					
	1.1900	.7753	.1156	6.7077	.0000	.5474
	1.0033					

1.3800	.7420	.1082	6.8577	.0000	.5286
.9554					
1.5700	.7086	.1010	7.0169	.0000	.5095
.9078					
1.7600	.6753	.0940	7.1833	.0000	.4899
.8607					
1.9500	.6420	.0873	7.3530	.0000	.4698
.8141					
2.1400	.6086	.0810	7.5184	.0000	.4490
.7683					
2.3300	.5753	.0750	7.6673	.0000	.4273
.7232					
2.5200	.5419	.0697	7.7799	.0000	.4046
.6793					
2.7100	.5086	.0650	7.8283	.0000	.3805
.6367					
2.9000	.4753	.0611	7.7756	.0000	.3547
.5958					
3.0900	.4419	.0583	7.5826	.0000	.3270
.5568					
3.2800	.4086	.0566	7.2187	.0000	.2970
.5202					
3.4700	.3752	.0562	6.6789	.0000	.2644
.4860					
3.6600	.3419	.0571	5.9922	.0000	.2294
.4544					
3.8500	.3085	.0592	5.2152	.0000	.1919
.4252					
4.0400	.2752	.0624	4.4117	.0000	.1522
.3982					
4.2300	.2419	.0665	3.6345	.0004	.1106
.3731					
4.4200	.2085	.0715	2.9166	.0039	.0675
.3495					
4.6100	.1752	.0771	2.2728	.0241	.0232
.3272					
4.7076	.1580	.0801	1.9720	.0500	.0000
.3161					
4.8000	.1418	.0832	1.7055	.0897	-.0222
.3058					

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

```
DATA LIST FREE/
  Digital    Flex    TP    .
BEGIN DATA.
  3.1730    3.2342    3.8288
```


3.8073	3.2342	4.0931
4.4416	3.2342	4.3573
3.1730	3.8594	3.9583
3.8073	3.8594	4.1530
4.4416	3.8594	4.3477
3.1730	4.4846	4.0879
3.8073	4.4846	4.2130
4.4416	4.4846	4.3380

END DATA.

GRAPH/SCATTERPLOT=

Digital WITH TP BY Flex .

***** CORRELATIONS BETWEEN MODEL RESIDUALS

	Engag	TP
Engag	1.0000	.0000
TP	.0000	1.0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Conditional direct effect(s) of X on Y:

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.4166	.0569	7.3228	.0000	.3044
.5288						
	3.8594	.3069	.0593	5.1754	.0000	.1900
.4238						
	4.4846	.1972	.0733	2.6890	.0078	.0526
.3418						

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Digital	->	Engag	->	TP		
	Flex	Effect	BootSE	BootLLCI	BootULCI	
	3.2342	.0389	.0287	-.0081	.1077	
	3.8594	.0172	.0224	-.0186	.0706	
	4.4846	-.0044	.0236	-.0496	.0469	

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Flex	-.0346	.0221	-.0757	.0153

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

	Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
--	---------	---------	----------	--------	----------	----------

.0172	.0389	-.0217	.0138	-.0473	.0096
-.0044	.0389	-.0433	.0276	-.0947	.0191
-.0044	.0172	-.0217	.0138	-.0473	.0096

***** ANALYSIS NOTES AND ERRORS *****

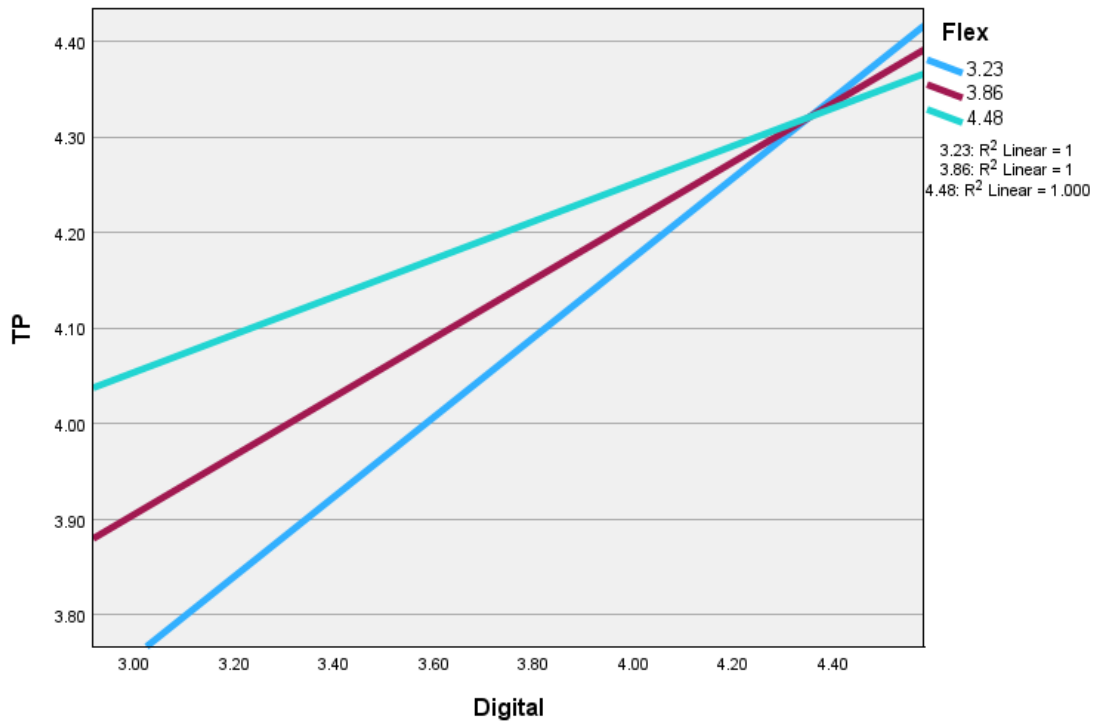
Level of confidence for all confidence intervals in output:
95.0000

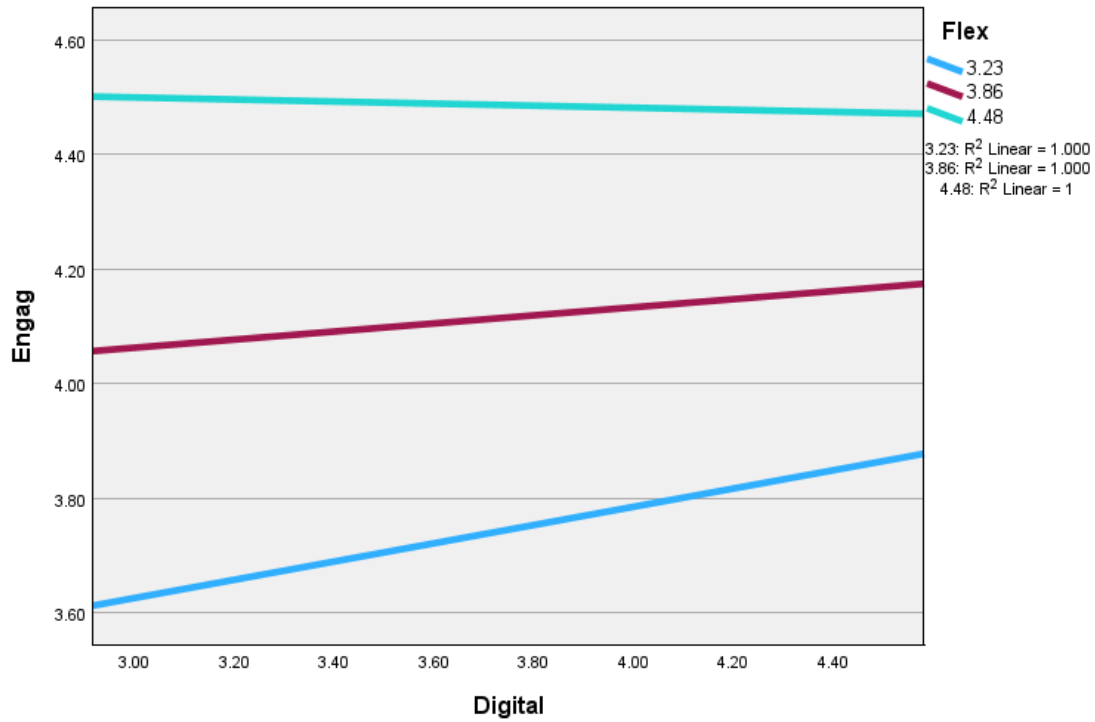
Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----





Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 4.0
*****
```

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

```
*****
*****
```

```
Model   : 8
Y       : CP
X       : Digital
M       : Engag
W       : Flex
```

Sample
 Size: 203

OUTCOME VARIABLE:
 Engag

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.6842	.4682	.2445	58.3972	3.0000	199.0000
	.0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	-.4865	.6009	-.8096	.4191	-1.6714
.6984					
Digital	.6172	.1780	3.4679	.0006	.2663
.9682					
Flex	1.1240	.1777	6.3243	.0000	.7735
1.4744					
Int_1	-.1417	.0491	-2.8842	.0044	-.2385
-.0448					

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Flex	Int_1
constant	.3611	-.0988	-.0992	.0268
Digital	-.0988	.0317	.0259	-.0082
Flex	-.0992	.0259	.0316	-.0082
Int_1	.0268	-.0082	-.0082	.0024

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0222	8.3184	1.0000	199.0000	.0044

Focal predict: Digital (X)
 Mod var: Flex (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.1591	.0624	2.5495	.0115	.0360
.2821						
	3.8594	.0705	.0659	1.0702	.2858	-.0594
.2005						

4.4846 -.0180 .0817 -.2206 .8256 -.1792
 .1431

Moderator value(s) defining Johnson-Neyman significance region(s):

Value % below % above
 3.4934 17.7340 82.2660

Conditional effect of focal predictor at values of the moderator:

Flex	Effect	se	t	p	LLCI
ULCI					
1.0000	.4756	.1330	3.5749	.0004	.2132
.7379					
1.1900	.4487	.1248	3.5937	.0004	.2025
.6949					
1.3800	.4218	.1168	3.6098	.0004	.1914
.6522					
1.5700	.3948	.1090	3.6213	.0004	.1798
.6099					
1.7600	.3679	.1015	3.6253	.0004	.1678
.5681					
1.9500	.3410	.0943	3.6177	.0004	.1551
.5269					
2.1400	.3141	.0874	3.5922	.0004	.1417
.4865					
2.3300	.2872	.0811	3.5404	.0005	.1272
.4471					
2.5200	.2603	.0754	3.4510	.0007	.1115
.4090					
2.7100	.2334	.0705	3.3099	.0011	.0943
.3724					
2.9000	.2064	.0665	3.1027	.0022	.0752
.3376					
3.0900	.1795	.0637	2.8182	.0053	.0539
.3051					
3.2800	.1526	.0622	2.4555	.0149	.0301
.2752					
3.4700	.1257	.0620	2.0279	.0439	.0035
.2479					
3.4934	.1224	.0621	1.9720	.0500	.0000
.2448					
3.6600	.0988	.0632	1.5628	.1197	-.0259
.2234					
3.8500	.0719	.0657	1.0931	.2757	-.0578
.2015					
4.0400	.0450	.0695	.6472	.5182	-.0920
.1819					
4.2300	.0180	.0742	.2433	.8081	-.1282
.1643					

```

      4.4200      -.0089      .0797      -.1114      .9114      -.1660
.1483
      4.6100      -.0358      .0859      -.4168      .6773      -.2051
.1335
      4.8000      -.0627      .0926      -.6772      .4990      -.2453
.1199

```

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

```

DATA LIST FREE/
  Digital      Flex      Engag      .
BEGIN DATA.
  3.1730      3.2342      3.6535
  3.8073      3.2342      3.7545
  4.4416      3.2342      3.8554
  3.1730      3.8594      4.0752
  3.8073      3.8594      4.1200
  4.4416      3.8594      4.1647
  3.1730      4.4846      4.4969
  3.8073      4.4846      4.4855
  4.4416      4.4846      4.4741
END DATA.
GRAPH/SCATTERPLOT=
  Digital WITH      Engag      BY      Flex      .
*****
*****
OUTCOME VARIABLE:
  CP

Model Summary
      R      R-sq      MSE      F      df1      df2
p      .7171      .5142      .1991      52.3942      4.0000      198.0000
.0000

Model
      coeff      se      t      p      LLCI
ULCI
constant      .1183      .5431      .2179      .8278      -.9528
1.1894
Digital      .3641      .1654      2.2012      .0289      .0379
.6902
Engag      .2495      .0640      3.8999      .0001      .1233
.3756
Flex      .6531      .1758      3.7159      .0003      .3065
.9997

```

```
Int_1      -.0659      .0452     -1.4566      .1468      -.1551
.0233
```

Product terms key:

```
Int_1      :      Digital  x      Flex
```

Covariance matrix of regression parameter estimates:

	constant	Digital	Engag	Flex	Int_1
constant	.2950	-.0817	.0020	-.0830	.0221
Digital	-.0817	.0274	-.0025	.0240	-.0070
Engag	.0020	-.0025	.0041	-.0046	.0006
Flex	-.0830	.0240	-.0046	.0309	-.0073
Int_1	.0221	-.0070	.0006	-.0073	.0020

Test(s) of X by M interaction:

	F	df1	df2	p
	5.7690	1.0000	197.0000	.0172

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0052	2.1218	1.0000	198.0000	.1468

```
Focal predict: Digital  (X)
Mod var: Flex      (W)
```

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

DATA LIST FREE/

```
Digital  Flex      CP      .
```

BEGIN DATA.

```
3.1730      3.2342      3.7310
3.8073      3.2342      3.8267
4.4416      3.2342      3.9225
3.1730      3.8594      4.0086
3.8073      3.8594      4.0782
4.4416      3.8594      4.1478
3.1730      4.4846      4.2862
3.8073      4.4846      4.3297
4.4416      4.4846      4.3731
```

END DATA.

GRAPH/SCATTERPLOT=

```
Digital  WITH      CP      BY      Flex      .
```

```
***** CORRELATIONS BETWEEN MODEL RESIDUALS
*****
```

```
Engag      CP
```

Engag 1.0000 .0000
 CP .0000 1.0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Conditional direct effect(s) of X on Y:

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.1509	.0572	2.6378	.0090	.0381
.2638						
	3.8594	.1097	.0596	1.8400	.0673	-.0079
.2274						
	4.4846	.0686	.0738	.9294	.3538	-.0769
.2140						

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Digital -> Engag -> CP

	Flex	Effect	BootSE	BootLLCI	BootULCI
	3.2342	.0397	.0247	-.0094	.0900
	3.8594	.0176	.0207	-.0245	.0594
	4.4846	-.0045	.0241	-.0567	.0408

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Flex	-.0353	.0207	-.0713	.0142

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

	Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
	.0176	.0397	-.0221	.0129	-.0446	.0089
	-.0045	.0397	-.0442	.0258	-.0891	.0178
	-.0045	.0176	-.0221	.0129	-.0446	.0089

***** ANALYSIS NOTES AND ERRORS

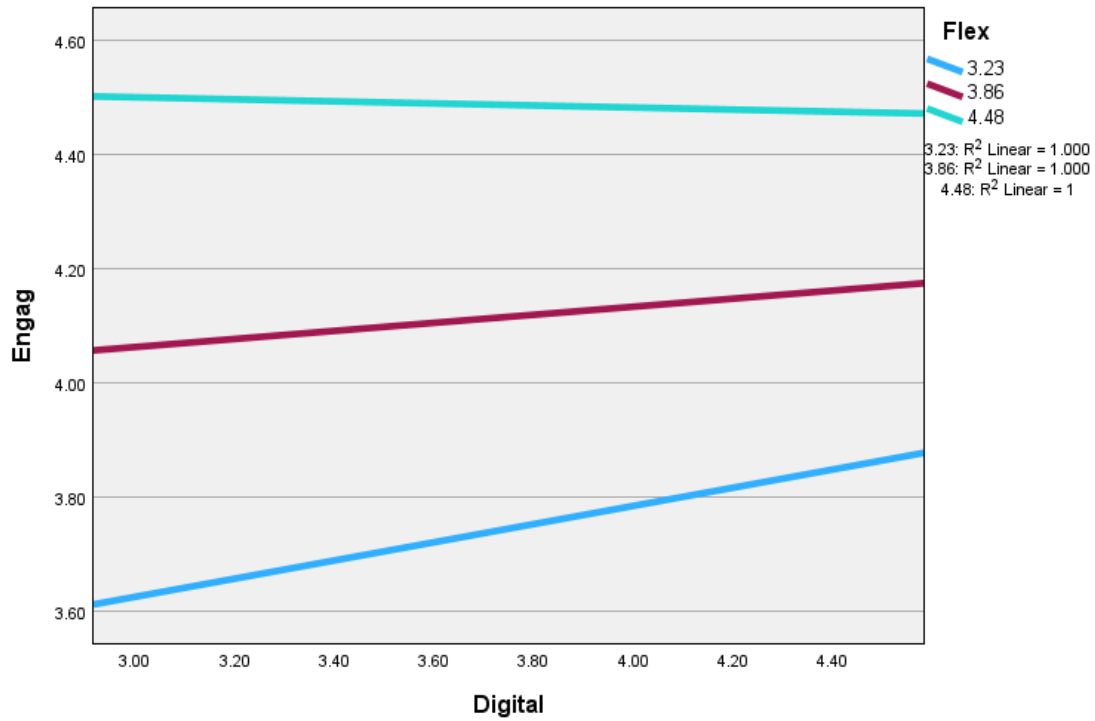
Level of confidence for all confidence intervals in output:
 95.0000

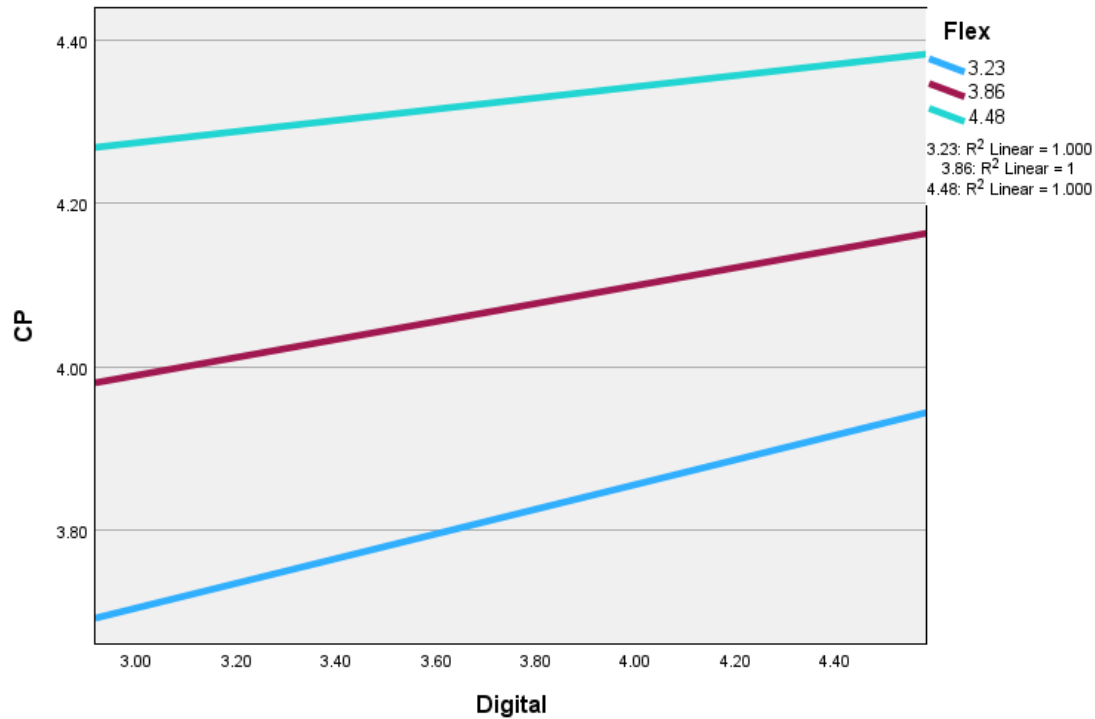
Number of bootstrap samples for percentile bootstrap confidence intervals:
 5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----





Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

Model : 8
 Y : CB
 X : Digital
 M : Engag
 W : Flex

Sample
 Size: 203

OUTCOME VARIABLE:
 Engag

Model Summary

	R	R-sq	MSE	F	df1	df2
p	.6842	.4682	.2445	58.3972	3.0000	199.0000
	.0000					

Model

	coeff	se	t	p	LLCI
ULCI					
constant	-.4865	.6009	-.8096	.4191	-1.6714
.6984					
Digital	.6172	.1780	3.4679	.0006	.2663
.9682					
Flex	1.1240	.1777	6.3243	.0000	.7735
1.4744					
Int_1	-.1417	.0491	-2.8842	.0044	-.2385
-.0448					

Product terms key:

Int_1 : Digital x Flex

Covariance matrix of regression parameter estimates:

	constant	Digital	Flex	Int_1
constant	.3611	-.0988	-.0992	.0268
Digital	-.0988	.0317	.0259	-.0082
Flex	-.0992	.0259	.0316	-.0082
Int_1	.0268	-.0082	-.0082	.0024

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0222	8.3184	1.0000	199.0000	.0044

 Focal predict: Digital (X)
 Mod var: Flex (W)

Conditional effects of the focal predictor at values of the moderator(s):

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	.1591	.0624	2.5495	.0115	.0360
.2821						
	3.8594	.0705	.0659	1.0702	.2858	-.0594
.2005						
	4.4846	-.0180	.0817	-.2206	.8256	-.1792
.1431						

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
3.4934	17.7340	82.2660

Conditional effect of focal predictor at values of the moderator:						
ULCI	Flex	Effect	se	t	p	LLCI
.7379	1.0000	.4756	.1330	3.5749	.0004	.2132
.6949	1.1900	.4487	.1248	3.5937	.0004	.2025
.6522	1.3800	.4218	.1168	3.6098	.0004	.1914
.6099	1.5700	.3948	.1090	3.6213	.0004	.1798
.5681	1.7600	.3679	.1015	3.6253	.0004	.1678
.5269	1.9500	.3410	.0943	3.6177	.0004	.1551
.4865	2.1400	.3141	.0874	3.5922	.0004	.1417
.4471	2.3300	.2872	.0811	3.5404	.0005	.1272
.4090	2.5200	.2603	.0754	3.4510	.0007	.1115
.3724	2.7100	.2334	.0705	3.3099	.0011	.0943
.3376	2.9000	.2064	.0665	3.1027	.0022	.0752
.3051	3.0900	.1795	.0637	2.8182	.0053	.0539
.2752	3.2800	.1526	.0622	2.4555	.0149	.0301
.2479	3.4700	.1257	.0620	2.0279	.0439	.0035
.2448	3.4934	.1224	.0621	1.9720	.0500	.0000
.2234	3.6600	.0988	.0632	1.5628	.1197	-.0259
.2015	3.8500	.0719	.0657	1.0931	.2757	-.0578
.1819	4.0400	.0450	.0695	.6472	.5182	-.0920
.1643	4.2300	.0180	.0742	.2433	.8081	-.1282
.1483	4.4200	-.0089	.0797	-.1114	.9114	-.1660
.1335	4.6100	-.0358	.0859	-.4168	.6773	-.2051
.1199	4.8000	-.0627	.0926	-.6772	.4990	-.2453

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

```

DATA LIST FREE/
  Digital    Flex      Engag      .
BEGIN DATA.
  3.1730     3.2342     3.6535
  3.8073     3.2342     3.7545
  4.4416     3.2342     3.8554
  3.1730     3.8594     4.0752
  3.8073     3.8594     4.1200
  4.4416     3.8594     4.1647
  3.1730     4.4846     4.4969
  3.8073     4.4846     4.4855
  4.4416     4.4846     4.4741
END DATA.
GRAPH/SCATTERPLOT=
  Digital WITH Engag BY Flex .
*****
*****
OUTCOME VARIABLE:
  CB

Model Summary
      R      R-sq      MSE      F      df1      df2
P      .2479      .0614      .9182      3.2407      4.0000      198.0000
.0133

Model
      coeff      se      t      p      LLCI
ULCI
constant      .1178      1.1664      .1010      .9197      -2.1824
2.4180
Digital      .5053      .3552      1.4225      .1565      -.1952
1.2057
Engag      .1191      .1374      .8668      .3871      -.1518
.3900
Flex      .7791      .3775      2.0640      .0403      .0347
1.5234
Int_1      -.1564      .0972      -1.6101      .1090      -.3480
.0352

Product terms key:
  Int_1      :      Digital x      Flex
  
```

Covariance matrix of regression parameter estimates:

	constant	Digital	Engag	Flex	Int_1
constant	1.3606	-.3768	.0092	-.3829	.1021
Digital	-.3768	.1262	-.0116	.1105	-.0324
Engag	.0092	-.0116	.0189	-.0212	.0027
Flex	-.3829	.1105	-.0212	.1425	-.0337
Int_1	.1021	-.0324	.0027	-.0337	.0094

Test(s) of X by M interaction:

	F	df1	df2	p
	1.7209	1.0000	197.0000	.1911

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0123	2.5926	1.0000	198.0000	.1090

Focal predict: Digital (X)
 Mod var: Flex (W)

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce
 plot.

DATA LIST FREE/

```
Digital    Flex    CB    .
BEGIN DATA.
  3.1730    3.2342    3.1229
  3.8073    3.2342    3.1225
  4.4416    3.2342    3.1221
  3.1730    3.8594    3.2997
  3.8073    3.8594    3.2372
  4.4416    3.8594    3.1748
  3.1730    4.4846    3.4764
  3.8073    4.4846    3.3519
  4.4416    4.4846    3.2274
```

END DATA.

GRAPH/SCATTERPLOT=

```
Digital WITH    CB    BY    Flex    .
```

***** CORRELATIONS BETWEEN MODEL RESIDUALS

	Engag	CB
Engag	1.0000	.0000
CB	.0000	1.0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y

Conditional direct effect(s) of X on Y:

	Flex	Effect	se	t	p	LLCI
ULCI						
	3.2342	-.0007	.1229	-.0053	.9958	-.2430
.2417						
	3.8594	-.0985	.1281	-.7686	.4430	-.3510
.1541						
	4.4846	-.1962	.1584	-1.2389	.2168	-.5086
.1161						

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Digital -> Engag -> CB

	Flex	Effect	BootSE	BootLLCI	BootULCI
	3.2342	.0189	.0250	-.0308	.0710
	3.8594	.0084	.0160	-.0219	.0435
	4.4846	-.0021	.0154	-.0394	.0277

Index of moderated mediation:

	Index	BootSE	BootLLCI	BootULCI
Flex	-.0169	.0211	-.0593	.0252

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

	Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
	.0084	.0189	-.0105	.0132	-.0371	.0158
	-.0021	.0189	-.0211	.0264	-.0741	.0316
	-.0021	.0084	-.0105	.0132	-.0371	.0158

***** ANALYSIS NOTES AND ERRORS *****

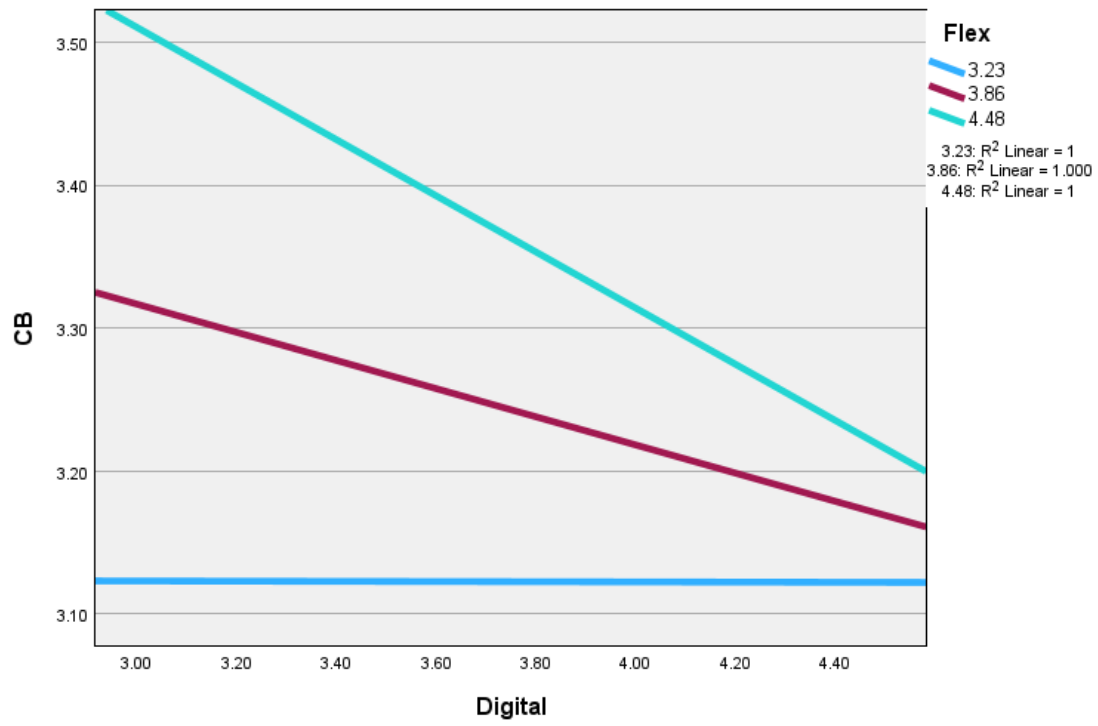
Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

W values in conditional tables are the mean and +/- SD from the mean.

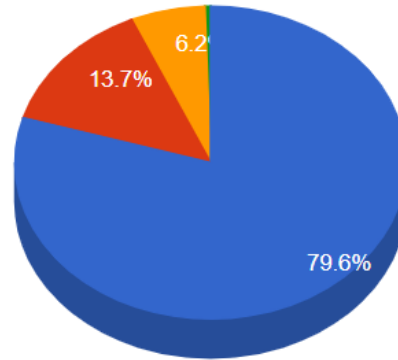
NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----



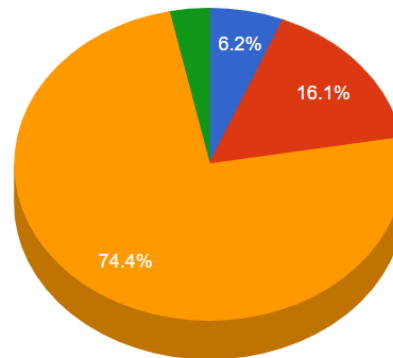
Are you Currently employed ?

- Yes
- Part time
- No
- Not answered to question



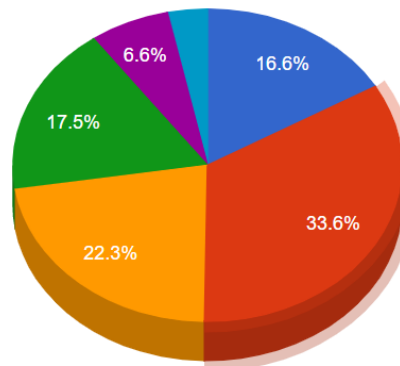
What is your Job position ?

- Senior management
- Manager/supervisor
- General employee
- Not answered to question



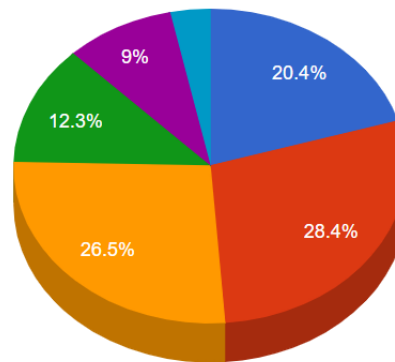
For How many Years do you work there ?

- Less than 1 years
- 1 - 5 Years
- 5 - 10 Years
- 10 - 20 Years
- more than 20 Years
- Not answered to question



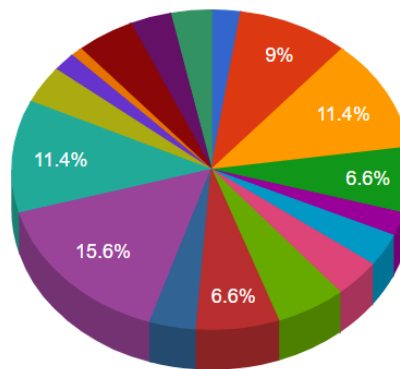
What is the size of your company ?

- 1 - 10 employees
- 10 - 50 employees
- 50 - 150 employees
- 150 - 500 employees
- + 500 employees
- Not answered to question



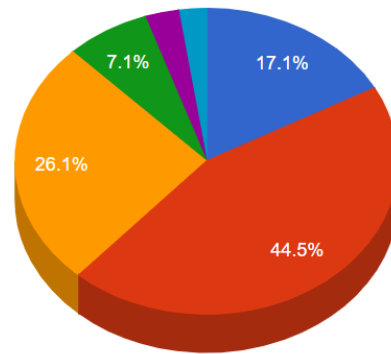
Which Industry do you work ?

- Mining
- Construction
- Manufacturing
- Utilities
- Wholesale trade
- Retail trade
- Transportation and warehou...
- Information services
- Financial services
- Professional and business a...
- Educational services
- Health care and social assist...
- ▲ 1/2 ▼



What is your highest Educational Degree ?

- High school diploma
- Bachelor degree
- Master degree
- Doctoral degree
- Other (e.g., associates degree and)
- Not answered to question



What is your Gender ?

- Female
- Male
- Not answered to question

