

Article

Advancing Sustainability Through Democratic Leadership: Effects on Job Satisfaction and Job Performance of Knowledge Workers

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Abstract

The dynamic development of the digital economy, accompanied by changes in the employment structure and the rise in the knowledge workforce, has led to growing interest in the concept of democratic leadership as a foundation for organisational sustainable development. Highly skilled knowledge workers seek to participate in decision-making processes, value autonomy, and expect their work to provide satisfaction and a sense of fulfilment. The transition towards sustainable development requires a new approach by leaders in managing knowledge workers. This paper presents the results of a study aimed at identifying the relationships between democratic leadership style, job satisfaction, and performance of knowledge workers. These goals are achieved through the analysis of a survey of 396 knowledge workers whose work involved the extensive use of IT in Polish companies. Structural equation modelling is used to analyse the survey data. The results indicate that the democratic leadership style has a positive effect on job satisfaction, which in turn positively influences employee job performance. The analysis further reveals that job satisfaction mediates the relationship between democratic leadership and employee performance. The findings are discussed in the context of the leadership challenges associated with sustainable organisational development in the digital economy.

Keywords: democratic leadership; organisational sustainability; job satisfaction; job performance; knowledge workers; digital economy

1. Introduction

The issue of leadership has received sustained attention from researchers in the last decade because appropriate leadership is considered one of the key factors in the sustainable development of an organisation. However, the rise in the digital economy has been accompanied by significant changes in employment relations and the growing importance of knowledge workers. As a result, increasing attention has been paid to the concept of democratic leadership. A traditional approach to leadership is of limited relevance to the needs of contemporary organisations and their high skilled employees, who are looking for sustainability. They require a safe and healthy working environment that provides them with opportunities to be independent and proactive. They demand to be treated as individuals. Well-educated employees want partnerships, respect for their opinions, and participation in decision-making processes. They want to find a job that will enable them to link their personal and organisational success. Autonomy, responsibility, and opportunities



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for professional development become important elements of the new psychological contract between organisations and knowledge workers, determining their job satisfaction and performance. This situation creates a serious challenge for contemporary managers. To address it effectively, leaders must adapt their leadership styles to the changing expectations of employees, the conditions of digital transformation, and the requirements of sustainable organisational development.

Organisational sustainability refers to the ability of an organisation to survive and develop in the long term while integrating economic, social, and environmental considerations into its performance [1]. In light of the dynamic development of the digital economy, this issue has become particularly important. The digital economy constitutes the foundation for the sustainable development of contemporary organisations, determining how enterprises perform, including the relationships between employees and leaders [2]. In this context, the perspective of sustainable human resource management highlights that sustainability is not only associated with economic performance but also with the long-term well-being, development, and retention of employees. Within this framework, leadership plays a critical role in shaping the work environment that supports employee health, engagement, and employability over time. Consequently, leadership styles that promote cooperation, empowerment, and trust can be particularly important to achieve sustainability-related outcomes in knowledge-intensive organisations.

In the era of the Fourth Industrial Revolution, digitalisation not only transforms business models but also redefines employee management and employees' expectations toward leaders. The term 'digital economy' was first used in the literature in 1996 by Tapscott, who described it as the 'age of networked intelligence' [3]. The digital economy is not simply a consequence of the widespread adoption of information and communication technologies (ICTs); rather, it represents a structural shift in the way organisations and markets perform [4].

During the past decade, the literature has increasingly emphasised the importance of digital technologies in achieving not only economic goals but also social and environmental objectives. These technologies provide organisations with new tools to address sustainability-related challenges [5]. In this context, sustainability should be understood in line with the triple bottom line approach, which integrates the economic, social, and environmental dimensions of organisational performance. In particular, the social dimension, which encompasses employee well-being, job satisfaction, and partnership-based participation in organisational processes, becomes increasingly relevant in the digital economy.

Technological advancements lead to the redefinition of traditional hierarchical organisational structures. Contemporary organisations are increasingly adopting flexible work models that require decentralisation of power and greater participation of employees in decision-making processes [6]. Digital transformation, understood as a process in which digital technologies play a crucial role in driving and reinforcing changes [7], needs a new approach to employee management based on openness, trust, and collaboration. Democratic leadership, which promotes dialogue, transparency, and teamwork in sustainable organisational development, emerges as a response to these challenges.

Today, leaders are responsible for defining an organisational strategy that should integrate both digitalisation processes and the principles of sustainable development. They should not only consider current economic goals but also take a broader view of the organisation's activities and assess their potential impact on various stakeholder groups and the environment, both now and in the future. In the fast-growing digital economy, leadership should foster trust-based collaboration with the various groups of stakeholders and focus on improving organisational adaptability, readiness to change, and digital innovation.

The widespread use of IT tools also influences how interactions between employees and their leaders are perceived, often as more ‘democratic’. However, the overall impact remains ambiguous. On the one hand, information technology enables rapid and widespread communication, facilitating dialogue, participation in discussions, and involvement in decision-making processes. This reduces barriers to participation, strengthens inclusivity, and enhances employees’ perception of democratic leadership [8]. Employees also gain greater access to information, which improves decision-making and increases the transparency of processes—both cornerstones of democratic leadership [9]. Moreover, advanced IT systems that support knowledge management within organisations enable fuller utilisation of knowledge and foster the emergence of collective intelligence [10].

On the other hand, these technologies also pose numerous threats to democratic leadership within organisations. Digital communication can create the illusion of dialogue and participation in decision-making, while decisions may still be made in a top-down, authoritarian manner [10]. Furthermore, algorithms used by social media platforms can promote certain content while marginalising others, thereby creating a distorted picture of the discussion [8]. In addition, knowledge workers may have unequal access to digital technologies due to factors such as Internet availability, access to devices, infrastructural disparities, and varying levels of digital literacy—particularly among older employees. Consequently, the quality of communication may deteriorate; rather than enhancing the democratic nature of leadership, technology may contribute to misinformation and the polarisation of opinions and attitudes [9]. In practice, digital technologies are often used to exert greater control over employees rather than to democratise management [11]. Therefore, the development of digital technologies can have a dual impact on the democratisation of leadership. While IT can strengthen participation and support more democratic management practices, it can also exacerbate inequalities, limit autonomy, and serve as a tool of control. Ultimately, the outcome depends on other organisational factors, such as organisational culture, the design of IT tools, the genuine intentions of leaders, and the actual influence of knowledge workers on organisational processes.

Despite the growing interest in leadership and sustainability in the digital economy, several important research gaps remain in the literature. Previous studies have only rarely examined the role of democratic leadership in relation to knowledge workers, whose expectations and work characteristics differ substantially from those of other employee groups. Although the literature suggests that leadership style may influence both job satisfaction and employee performance, empirical findings regarding these relationships remain fragmented and inconclusive, particularly in digitally intensive work environments. Moreover, limited attention has so far been paid to the mediating role of job satisfaction in explaining how democratic leadership influences the performance of knowledge workers. In addition, the sustainability perspective has only recently begun to be integrated into studies on leadership and knowledge workers in the context of the digital economy. Therefore, this study addresses these gaps by examining the relationships between democratic leadership, job satisfaction, and job performance among knowledge workers employed in organisations that extensively use digital technologies. It should be emphasised that sustainability is not directly operationalised in the proposed model as an outcome variable. Instead, the study adopts a sustainability perspective by analysing organisational and leadership-related mechanisms that may support the long-term and sustainable development of organisations in the digital economy. Within this framework, democratic leadership style, job satisfaction, and job performance of knowledge workers are treated as potential antecedents supporting sustainability-oriented organisational development.

Consequently, this paper seeks to answer the following research questions: What relationships exist between democratic leadership style, job satisfaction, and job perfor-

mance of knowledge workers, and does job satisfaction mediate the relationship between democratic leadership and job performance in the digital economy? These objectives were achieved through the analysis of a survey conducted among 396 knowledge workers. A conceptual model linking democratic leadership, job satisfaction, and job performance is proposed and tested using structural equation modelling (SEM). The findings are discussed in the context of contemporary leadership challenges related to sustainable organisational development in the digital economy. From a sustainability perspective, the proposed model may be interpreted as a mechanism through which leadership contributes to long-term organisational development. By enhancing job satisfaction, democratic leadership supports employee well-being, which represents an important component of the social dimension of sustainability. At the same time, improved job performance contributes to the economic dimension of sustainability.

2. Theoretical Framework and Development of Hypotheses

In the digital economy, the structure of an organisation's human resources is changing because the number of knowledge workers is growing rapidly. In many organisations, they constitute the 'core workforce' that determines the organisation's competitive position, its development, and even its survival. According to some analyses based on the World Bank's classifications, they represent about 20–30% of the global workforce and 35–54% of those employed in high-income countries [12]. However, in practice, it is difficult to determine their exact number because of the absence of universally accepted criteria for their classification. In the digital economy, the value of their knowledge to the organisation coupled with the high level of their mobility allows knowledge workers to enforce realisation of their needs and expectations more effectively than other employees [13]. From a sustainability perspective, knowledge workers represent a strategic resource, as their well-being, job satisfaction, and performance are essential to maintain organisational competitiveness and resilience. Therefore, effectively managing this group is not only a matter of optimising performance but also an important element of sustainable organisational development.

As stated by Drucker [14], who introduced this term in 1959, a knowledge worker is an individual whose work relies more on knowledge and understanding than on manual skills and physical exertion. Similarly, Davenport [15] (p. 22) conceptualises knowledge workers as employees who possess a high level of expertise, education, or experience and whose primary work objectives involve the creation, dissemination, and application of knowledge. The recent study, conducted by De Sordi et al. [16], synthesising findings from more than 200 publications, suggests that knowledge workers are individuals whose work is characterised by the continuous, systematic, and predominant expansion of knowledge through exploration. This distinguishes them from so-called 'information workers', whose work primarily involves the use of existing knowledge [16]. Many researchers highlight the specific characteristics of knowledge workers, such as independence, a desire for professional development and autonomy in managing their own careers, sustainable work, and a need for job satisfaction [17,18]. Knowledge workers often choose an employer based on working conditions and organisational values. They perceive organisations that consider environmental and social issues in their business strategy as more responsible, which increases their commitment and job satisfaction [19]. Therefore, many traditional tools and management methods need to be adapted to suit this group of employees and to the needs of sustainable development of the organisation. Therefore, contemporary leaders face the challenge of finding ways to manage knowledge workers that strengthen their ties to the organisation while boosting job satisfaction and performance. As De Lange, Kooij, and van der Heijden [20] argue, sustainability within organisations takes into account how organisations influence people and their well-being.

Leadership is a complex and therefore difficult to unequivocally define phenomenon that has fascinated researchers for many decades. It can be understood as a dynamic social process in which one individual influences the other to maximise their efforts to achieve the common goals [21,22]. The interest in organisational leadership started in the 1920s and 1930s. Since then, in management studies, diverse theories and approaches to this phenomenon have emerged, but what they have in common is an emphasis on the leader's impact on employees and their performance. The importance of the specific leader's approach to employees adopted to influence their attitudes and behaviours, which is often described as a leadership style, has begun to be stressed. This concerns the leader's mode of interaction with his/her subordinates, i.e., his/her specific set of behaviours which he/she adapts to influence employees [23,24]. Therefore, it can be considered a leader's work tool used in his/her daily work practices with employees [25]. This purposive impact of a leader on employees is determined by many objective and subjective factors, e.g., the specificity of the tasks, the competencies of employees, and the decision-making situation. Some still maintain that it is also related to some personality traits of the leader, referring to the classical trait theory of leadership.

Many typologies of leadership styles have been proposed in the literature due to the importance and complexity of this phenomenon. Among the first is the classical one proposed by Lewin, Lippitt, and White [26], who distinguish three basic leadership styles: democratic, authoritarian, and laissez-faire leadership. Although this typology originally linked the leadership style to certain traits of leaders, its popularity is still down to its accuracy, and it has become the foundation of many later studies based on the situational approach, assuming the need to adapt the leadership style applied to the requirements of the situation.

Subsequent studies have further developed this approach, which has also allowed for the creation of various measurement tools of leadership styles and the identification of key characteristics of the three basic styles distinguished in this typology [27]. However, due to the emergence of the digital economy, accompanied by changes in organisations and the need for organisational sustainability, the identified democratic leadership style has attracted interest from management practitioners and theorists, receiving their particular attention in the last decade because of the growing number of knowledge workers. It should be noted that it is the leader's actions in the day-to-day practice that determine the conditions of the exchange process that takes place between employees and the organisation, legitimising their desired patterns of behaviour, thereby influencing their job satisfaction [28]. Democratic leaders do not focus on obtaining the obedience of subordinates, but on motivating, supporting, and inspiring them. As some studies suggest, the characteristics of this leadership style include both prosociality and pragmatism [29]. Democratic leaders ask employees for their opinions, discuss important decisions with them, and involve them in the decision-making process, thus increasing their commitment and job satisfaction [30]. They encourage creativity and initiative among employees, thereby contributing to the strengthening of organisational learning processes and long-term sustainable development of the organisation. They empower employees to grow and develop, enhancing their self-efficacy [31,32].

They integrate individual employee goals with organisational objectives, thereby achieving their alignment, which positively influences employee job satisfaction and performance. These observations are supported by empirical research conducted in Pakistan, which demonstrated that democratic leaders positively affect employees' sense of security and stimulate innovative behaviour [33]. Furthermore, Nedelko and Potocan [34] argue that the personal values of democratic leaders shape their willingness to promote the sustainable development of their organisations, which may also contribute to higher job

satisfaction among knowledge workers. Job satisfaction refers to an individual's emotional responses towards his/her job and its elements, that is, 'the degree to which people like their jobs' [35] (p. XI). It concerns the individual's ability to realise his/her own needs, goals, values, and beliefs at work [36] (p. 119). Job satisfaction plays a crucial role in employees' job performance and their engagement in their duties. It is also defined as the subjectively assessed difference between an individual's expectations and actual working conditions [37]. Research on job satisfaction highlights several key aspects that influence how employees perceive their workplace and relationships [38]. The first is the cognitive aspect, which includes employees' knowledge of working conditions and the functioning of the organisation, shaping their beliefs, opinions, and evaluations. The second is the emotional aspect, referring to individual feelings, attitudes towards performed work, and the quality of relationships within the professional environment. The final one is the behavioural aspect, manifesting in attitudes towards work, willingness to take initiative, and the level of commitment to professional duties.

It should also be noted that job satisfaction is determined by heterogeneous factors. The literature presents various approaches to their classification, including structuralist, personalist, or hybrid perspectives that combine both [39,40]. These factors can be categorised into organisational factors (directly related to performed work), personal factors (concerning employees' individual characteristics), and social factors (including organisational climate, mutual respect at work, and relationships with colleagues and supervisors). Numerous studies indicate that knowledge worker satisfaction depends on autonomy, opportunities for development, a sense of meaning and significance in their work, opportunities for collaboration, flexible working arrangements, and work–life balance, i.e., factors that also underpin organisational sustainability [17].

Research on the impact of leadership styles on employee well-being revealed that laissez-faire and democratic leadership styles promote greater employee well-being than autocratic leadership [24]. This is especially relevant for knowledge workers. Studies of the impact of democratic and autocratic leadership conducted among private and public school teachers suggest that the democratic leadership style has a more positive impact on employees' job satisfaction than autocratic leadership [41]. Comparable results were obtained in a study of government officials in Indonesia, which found that democratic leadership was positively related to employee job satisfaction [42].

It should also be noted that democratic leaders give their followers more autonomy and support than autocratic leaders.

Knowledge workers perform tasks that require creativity and independent thinking; thus, authoritarian leadership is less effective than leadership based on cooperation, autonomy, and trust, which fosters innovative behaviours among knowledge workers [29]. Democratic leaders build partnership-based relationships with employees, creating an environment that enhances commitment and job satisfaction and ultimately improves organisational performance. A study among nurses in Turkey showed that both supervisory support and employee autonomy exerted positive effects on job satisfaction of employees [43]. Therefore, it is reasonable to assume that the democratic leadership style can positively influence job satisfaction of knowledge workers, leading to the following research hypothesis:

H1. *A democratic leadership style will positively influence job satisfaction of knowledge workers.*

Job performance can be defined as actions that employees take to contribute to the organisational goals, as well as employee in-role behaviour, generating value for the organisation and contributing to its success [44,45]. There are many individual and organisational factors that influence the job performance of an employee. The impact of job satisfaction

on job performance has already been pointed out by the classics of management [46–48]. However, in numerous empirical studies over nearly 50 years, the impact of job satisfaction on employee performance has not been unambiguously proven, and the results obtained have varied widely.

There are also many models and theories that explain the cause-and-effect relationship between job satisfaction and employee performance; e.g., Judge et al. [49] presented as many as seven diverse models within which it is possible to explain the relationship between job satisfaction and performance. Consistent with one of the oldest, classical models based on the school of human relations and social psychology, employee satisfaction resulting from rewards received by employees leads to their greater job performance [50,51]. A more recent theoretical proposal addressing the relationship between job satisfaction and job performance is Bakker and Demerouti's [52] job demands–resources theory. According to this, a job that is rich in resources (including job satisfaction, which is considered to be one of the resources) and a certain level of job demands leads to work engagement, which in turn results in higher employee performance. Based on this, it is reasonable to suppose that job satisfaction can influence job performance of knowledge workers, and hence, the following hypothesis was formulated:

H2. *Job satisfaction of knowledge workers will positively influence their job performance.*

Hypotheses H1 and H2 indicate a mediating role of job satisfaction in the relationship between democratic leadership and job performance of knowledge workers. Furthermore, this conjecture is supported by some empirical studies that indicate that job satisfaction plays an important role as a mediator of the relationships between organisational conditions and the performance of employees. For example, research conducted in small and medium enterprises showed that job satisfaction mediated the relationships between organisational factors such as strategic innovation and employee job performance, as well as between strategic flexibility and employee job performance [53]. Similarly, a study conducted in the Indonesian food sector found that job satisfaction mediated the relationship between workplace well-being and job performance [54]. Based on the above, the following hypothesis was posed:

H3. *Job satisfaction of knowledge workers will mediate the relationship between democratic leadership style and job performance of knowledge workers.*

Taken together, the proposed hypotheses reflect the broader assumption that democratic leadership can contribute to organisational sustainability by fostering a favourable work environment for knowledge workers. In particular, job satisfaction can be understood as a mechanism that links leadership practices with sustainable employee outcomes, such as well-being, engagement, and long-term productivity.

Figure 1 presents the model of the study, which assumes that democratic leadership influences job satisfaction (H1), which has a positive effect on job performance of knowledge workers (H2); hence, job satisfaction is also a mediator in the relationship between democratic leadership and job performance of knowledge workers (H3) (Figure 1).

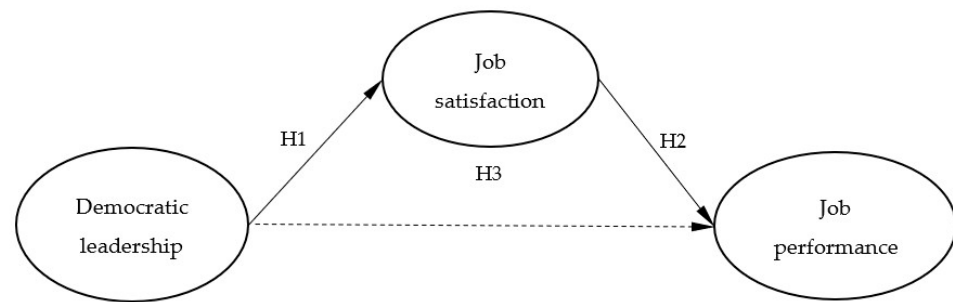


Figure 1. Conceptual model of relationships. Source: own development.

3. Materials and Methods

The survey was conducted between 1 April and 10 July 2023. Only adults (i.e., people aged 18 or over) took part in it. Participation was voluntary. The survey used a traditional paper questionnaire, which was handed out and collected by the researchers from all participants. To ensure complete anonymity and therefore honest participant responses, written consent was not required. However, in the introduction to the questionnaire, respondents were informed that by answering the questions, they agreed to participate in the study. The respondents were also informed of the main objectives of the study and the expected time to complete the questionnaire, both before the study and in the introduction to the questionnaire. At the same time, the personal and contact details of the person conducting the study were included in the questionnaire. In the introduction to the questionnaire, respondents were assured that participation in the survey would ensure that their anonymity would be respected, and that the data received would be processed and analysed only on an aggregate basis and in accordance with the ethical rules of survey research.

Given the exploratory nature of the research and its focus on identifying the relationships between democratic leadership, job satisfaction, and job performance of knowledge workers, the purposive sampling method (criterion-based sampling) was used. As Creswell [55] points out, purposive sampling is particularly suitable for exploratory research, as it allows for the selection of respondents with specific characteristics, experiences, and skills that are relevant to the phenomenon under study. Since there are no databases containing a full list of Polish knowledge workers that could serve as a sampling frame in random sampling, and given the exploratory nature of the study and its objectives, it was necessary to use a purposive sample and properly identify knowledge workers whose jobs involve the use of high-level expertise and are associated with the use of IT (i.e., sampling criteria).

This opportunity was provided by a targeted survey involving respondents who are both full-time knowledge workers and participants in the educational process. Therefore, the study participants were selected from part-time master's degree students in fields such as Digital Economy and Computer Science who simultaneously work as full-time knowledge workers. Using this approach allowed us to conduct brief initial interviews with potential respondents in order to correctly identify the target sample. Although the selection of a sample based on working students may raise some concerns, as the contemporary literature points out, working students are increasingly being used as a research sample in social science studies, and it is not the status of 'student' that is the key criterion for assessing the quality of the sample, but rather the specificity of the work performed [56–58]. Furthermore, the sampling strategy applied in this study limited the heterogeneity of the sample, thereby increasing the sensitivity of the tests; however, simultaneously, it should be stressed that the sample is non-representative and does not allow for the generalisation of the results [45].

After data cleaning and removing the questionnaires with missing data, the final sample consisted of 396 respondents, 228 of whom were women and 168 of whom were male [59]. The average age of the participants was 41.6 years. Due to the applied sampling criteria, nearly half of the respondents had a university degree (46.5% of the respondents), a relatively large group had secondary education (41.2% of the respondents), and only 10.3% of the participants had lower education. The average job tenure of the respondents was around 18 years. In order to measure the analysed phenomena, scales of proven reliability and validity were used.

The democratic leadership style was measured using the six items adapted from the leadership style scale developed by Northouse [27]. Job performance was measured using a four-item self-report scale adapted from Eisenberger et al. [60]. Job satisfaction was measured with the three-item scale based on Cammann et al. [61], because it has been extensively validated in numerous studies, including those in Poland [62], and allows an overall and synthetic assessment of job satisfaction [63], which proved useful for examining the complex relationships between several latent constructs. All responses were recorded on a seven-point Likert scale, ranging from 1 for ‘strongly disagree’ to 7 for ‘strongly agree’.

The scales have been tested in previous studies conducted in Poland [13,59,62,64]. However, for the purposes of this study, all scales were translated into Polish by a team of experts. Next, to verify the quality of the translation of all scales used and their compatibility with the original scales in English, the back-translation method was used. Therefore, the translation procedure encompassed the following stages: translation of the scales from English into Polish, back-translation of the scales from Polish into English, comparison of the translated scales with the original versions, and evaluation. At the last stage, the differences were analysed and reconciled by a panel of experts.

Before the main survey began, pilot studies were carried out to verify the suitability of the tool that had been developed and to make any necessary adjustments. The pilot study involved 25 people. The pilot studies made it possible to check whether the questions were fully comprehensible and unambiguous for the respondents, whether they understood the alternative answers contained in the questions (statements) and were able to make a choice, as well as whether they understood the terms used in the questionnaire [65]. Next, the main survey was conducted.

Despite the fact that only scales with proven validity and reliability were used, a confirmatory analysis was carried out, which showed that the standardised factor loadings of all indicator variables for the constructs examined met the required threshold of 0.50, with most exceeding 0.70 [66]. All variables were statistically significant. Furthermore, the values of average variance extracted (AVE), composite reliability (CR), and Cronbach’s alpha coefficients, as well as HTMT ratios for all latent constructs, indicate acceptable validity and reliability of the scales used (Tables 1 and 2). Only in the case of the scale of democratic leadership was the AVE value slightly below the norm; however, as Fornell and Larcker [67] indicated, this value is acceptable if the composite reliability exceeds 0.60. The value of composite reliability for this scale was 0.84.

Table 1. Measurement of the model validity and reliability.

Variables	CR	AVE	Alpha-Cronbach
Job satisfaction	0.90	0.74	0.90
Democratic leadership	0.84	0.48	0.78
Job performance	0.92	0.75	0.92

Source: own development.

Table 2. Measurement of the discriminant validity.

Variables	HTMT Ratio
Democratic leadership—Job satisfaction	0.573
Democratic leadership—Job performance	0.233
Job satisfaction—Job performance	0.315

Source: own development.

An analysis of discriminant validity showed that all the HTMT ratios obtained (0.573, 0.233, 0.315) are well below the conservative threshold of 0.85, which means that the constructs under investigation (democratic leadership, satisfaction, and job performance) are clearly distinct from one another in statistical terms (Table 2).

The Fornell–Larcker criterion was also used to assess discriminant validity. As shown in Table 3, for each pair of latent constructs, the square root of the AVE (values on the diagonal) is greater than the correlation between those constructs (values off the diagonal), which confirms the discriminant validity of the measurement scales used.

Table 3. The Fornell–Larcker criterion.

No.	Variables	1.	2.	3.
1.	Job satisfaction	0.86		
2.	Job performance	0.32	0.87	
3.	Democratic leadership	0.56	0.23	0.69

Source: own development.

4. Results

Data were processed using SPSS 28.0 for Windows and Amos 24.0. First, descriptive statistics of the phenomena examined were calculated. The overall level of democratic leadership, job satisfaction, and performance was measured by synthetic variables, which were the average assessment on the items of a given scale (Table 4).

The Pearson correlation analysis was then performed to check whether there were significant relationships between them (Table 4).

As the correlations between the variables examined were significant, the next step, after determining whether the observed variables had a normal or near-normal distribution, was to use path analysis and structural equation modelling (SEM) to test the established conceptual model (Figure 1). Commonly used measures of the goodness of fit of the model were used, i.e., Chi-square (χ^2), Normed Chi-square (χ^2/df), GFI (Jöreskog and Sörbom's Goodness of Fit Index), AGFI (Adjusted Goodness of Fit Index), CFI (Comparative Fit Index), TLI (Tucker–Lewis Coefficient), and RMSEA (Root Mean Square Error of Approximation) (Table 5). Three alternative models of relationships were examined, that is, the model assuming full mediation (Model 1), the model assuming partial mediation (Model 2), and the model assuming the lack of relationships (Model 3).

The conceptual model assumed that democratic leadership style positively influences job satisfaction, which in turn affects job performance of knowledge workers; thus, job satisfaction mediates the relationship between democratic leadership and employee performance of knowledge workers (full mediation) (Figure 1). SEM analysis confirmed the model's accuracy, characterised by its very good fit to empirical data (Model 1, Table 3). All relationships examined in the model were also significant (Table 6).

Table 4. Results of the Pearson correlation analysis.

No.	Variables	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1.	Democratic leadership 1	4.88	1.52	-															
2.	Democratic leadership 2	4.86	1.50	0.495 **	-														
3.	Democratic leadership 3	4.49	1.54	0.485 **	0.621 **	-													
4.	Democratic leadership 4	4.73	1.36	0.231 **	0.281 **	0.258 **	-												
5.	Democratic leadership 5	3.59	1.65	0.402 **	0.498 **	0.472 **	0.250 **	-											
6.	Democratic leadership 6	5.02	1.32	0.502 **	0.573 **	0.475 **	0.268 **	0.454 **	-										
7.	Democratic leadership (totality)	4.64	1.11	0.700 **	0.781 **	0.749 **	0.619 **	0.706 **	0.724 **	-									
8.	Job satisfaction 1	5.21	1.38	0.351 **	0.404 **	0.359 **	0.196 **	0.371 **	0.374 **	0.467 **	-								
9.	Job satisfaction 2	5.51	1.57	0.260 **	0.323 **	0.274 **	0.184 **	0.290 **	0.300 **	0.374 **	0.737 **	-							
10.	Job satisfaction 3	5.27	1.37	0.362 **	0.408 **	0.341 **	0.210 **	0.362 **	0.385 **	0.471 **	0.797 **	0.705 **	-						
11.	Job satisfaction (totality)	5.33	1.31	0.353 **	0.413 **	0.354 **	0.215 **	0.372 **	0.385 **	0.477 **	0.922 **	0.903 **	0.909 **	-					
12.	Job performance 1	6.08	0.84	0.133 **	0.128 *	0.067	0.114 *	0.055	0.233 **	0.167 **	0.268 **	0.256 **	0.202 **	0.266 **	-				
13.	Job performance 2	6.21	0.79	0.175 **	0.185 **	0.145 **	0.079	0.042	0.243 **	0.193 **	0.282 **	0.240 **	0.236 **	0.277 **	0.780 **	-			
14.	Job performance 3	6.25	0.80	0.172 **	0.190 **	0.149 **	0.065	0.049	0.239 **	0.190 **	0.268 **	0.217 **	0.227 **	0.260 **	0.730 **	0.828 **	-		
15.	Job performance 4	6.26	0.82	0.154 **	0.133 **	0.101 *	0.077	0.007	0.188 **	0.147 **	0.222 **	0.190 **	0.220 **	0.230 **	0.677 **	0.714 **	0.768 **	-	
16.	Job performance (totality)	6.20	0.73	0.175 **	0.176 **	0.127 *	0.093	0.042	0.251 **	0.193 **	0.288 **	0.251 **	0.245 **	0.287 **	0.887 **	0.920 **	0.921 **	0.876 **	-

* $p < 0.05$; ** $p < 0.01$. Source: own development.

Table 5. The goodness of fit of the models of relationships between democratic leadership, job satisfaction, and job performance of knowledge workers.

Models	Chi ²	df	<i>p</i>	Chi ² /df	GFI	AGFI	CFI	TLI	RMSEA
Model 1	109.33	63	0.000	1.735	0.959	0.941	0.984	0.981	0.043
Model 2	89.26	62	0.013	1.440	0.966	0.950	0.988	0.990	0.033
Model 0	3019.76	78	0.000	38.715	0.360	0.253	0.000	0.000	0.309

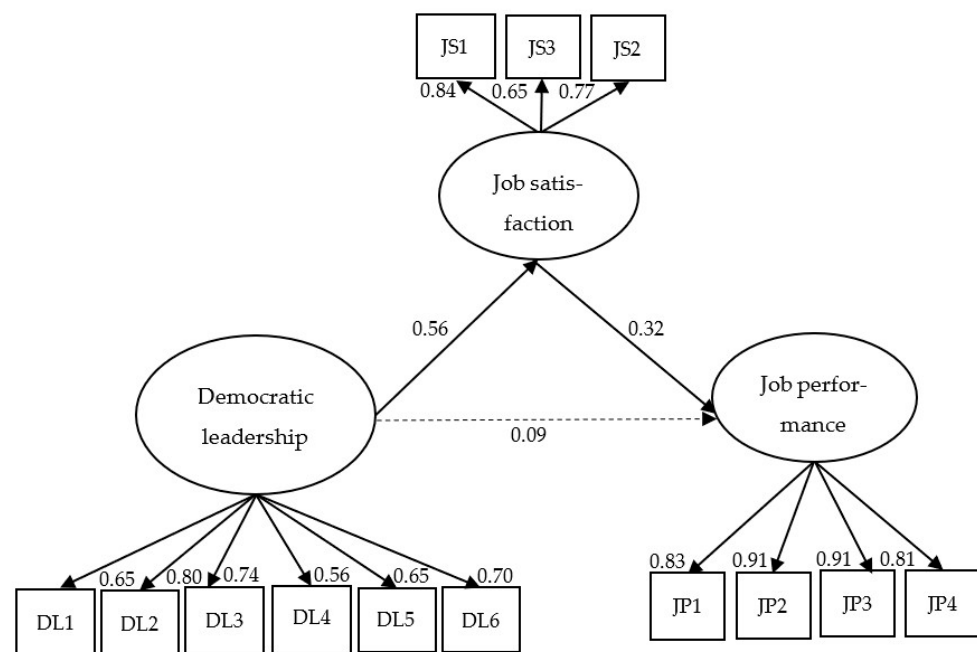
Source: own development.

Table 6. Regression weights of model 1.

Relationship			Estim.	S.E.	<i>p</i>	Stand. Estim.	Label
Democratic leadership	→	Job satisfaction	0.930	0.111	***	0.563	γ
Job satisfaction	→	Job performance	0.177	0.030	***	0.319	β

*** $p < 0.001$. Source: own development.

The results of the SEM analysis proved that the democratic leadership style had a significant positive impact on job satisfaction ($\gamma = 0.56$; $p < 0.01$), which in turn significantly positively affected the job performance of knowledge workers ($\beta = 0.32$; $p < 0.01$) (H1 and H2) (Figure 2). Furthermore, to test the significance of mediation, the Sobel test was also carried out, which confirmed the mediation effect of job satisfaction ($Z = 4.893$; $p < 0.001$).

**Figure 2.** The model of relationships examined. Source: own development.

However, just because a model is acceptable does not mean that it is the only and best one [68,69]; therefore, the alternative model (Model 2), which takes into account the direct effect of democratic leadership on job performance of knowledge workers (partial mediation), was also tested (Model 2 and Table 3). Judge and Colquitt [70] demonstrated that mediation is confirmed when adding a direct path between the variables being examined (i.e., in this model, between the democratic leadership style and job performance) does not significantly improve the fit of the model and does not cause an indirect path to become insignificant (Figure 2) [71]. The results showed that the quality of the model has improved only slightly and indirect relationships remained statistically significant. Moreover, the

direct path between democratic leadership style and job performance was not statistically significant ($\gamma_1 = 0.09$; $p = 0.2$). These findings confirm full mediation.

5. Discussion

Statistical analysis of empirical data provided support for the hypotheses formulated. The democratic leadership style was found to have a positive effect on job satisfaction of knowledge workers (H1), which in turn had a positive effect on their job performance (H2). The results of the SEM analysis and the Sobel test also confirmed the third hypothesis (H3) that job satisfaction of knowledge workers mediates the relationship between democratic leadership and performance of knowledge workers. Furthermore, an analysis of the alternative model of the relationships, accounting for the direct effect of democratic leadership on work performance, indicated that the observed mediation was a full one, as the direct effect of the democratic leadership style on the performance of knowledge workers was not statistically significant. However, these results should be interpreted with caution, given the relatively small sample size and the inherent limitations of the Sobel test. In the digital economy, particularly in its new sectors, where change is rapid, organisations must adapt quickly to change and anticipate it to maintain their market position. In such organisations, core employees are knowledge workers whose knowledge and creativity are key drivers of organisational value. Knowledge workers have different needs and expectations from the organisation than other groups of employees. Their work does not involve routine instructions or repetitive tasks; rather, it requires autonomy, creativity, and the ability to process large amounts of often scattered and poorly structured information. As the results obtained show, in this context, the fundamental role of democratic leadership, which fosters cooperation and the exchange of knowledge and ideas, should be emphasised [72]. It is based on openness and empowerment, fostering a climate of trust that strengthens the sense of security. Having autonomy and participating in the decision-making process increases the employee's sense of responsibility for outcomes. According to some studies, effectively empowering employees is one of the core competencies required of a modern leader [73]. According to cognitive psychology, restricting autonomy can reduce creativity and productivity in cognitive tasks [74]. Therefore, key factors that enhance the intellectual engagement of knowledge workers include opportunities for learning and autonomy of action, as well as the opportunity to experiment. These characteristics of democratic leadership foster not only employees' creativity but also, as the study presented indicates, job satisfaction and the performance of knowledge workers.

From the perspective of organisational sustainability, the results highlight the importance of leadership styles that promote employee well-being and engagement. Job satisfaction, as identified in this study, can be interpreted as a key mechanism through which organisations achieve social sustainability by fostering favourable working conditions, psychological well-being, and meaningful work for knowledge workers. At the same time, the positive relationship between job satisfaction and job performance suggests that social sustainability may also reinforce the economic dimension of organisational sustainability.

It should be noted that these results are in line with a previous study conducted in the Tunisian telecommunications sector, which showed that democratic leadership had a positive impact on employee job satisfaction and organisational citizenship behaviour [75]. In turn, research conducted in China found that leadership style influences the innovative behaviour of knowledge workers [76]. The positive effect of job satisfaction of knowledge workers on their job performance is also in accordance with some other studies, indicating that employees' job satisfaction positively influences job performance [77]. This finding is all the more important because the relationship between job satisfaction and employee performance, indicated in the theory from 70 years [78,79], is still not unambiguously

empirically confirmed, and the research results obtained are very divergent, as shown by their numerous meta-analyses [49,80,81]. In this context, the issue of the causality of the satisfaction–performance relationship is also frequently discussed, and a valid question arises: whether higher job satisfaction leads to better performance or whether better performance results in higher job satisfaction [82]. Furthermore, the examined relationships concern a specific group of employees, namely knowledge workers, whose expectations of work differ somewhat from those of other groups of employees.

The findings of this study may contribute to the broader discussion on sustainable development by indicating that leadership styles can influence not only job-related outcomes but also the quality of working life. In particular, the results may be interpreted in the context of sustainable development objectives related to decent work and well-being, as reflected in the United Nations Sustainable Development Goals (SDGs 8 and 3). By enhancing job satisfaction, democratic leadership may help create a work environment that supports employee well-being and may foster conditions conducive to sustainable organisational functioning.

In an era of rapid growth in the digital economy, issues related to organisational sustainability are becoming increasingly important for knowledge workers. They expect work that aligns with their values and standards, provides a sense of purpose and fulfilment, and enables personal development. They also seek opportunities to express creativity and initiative, as well as to derive satisfaction from the tasks they perform. The current study focused on analysing the impact of democratic leadership and job satisfaction on job performance and the role of job satisfaction as a mediator of the relationship between democratic leadership style and job performance of knowledge workers.

It should also be noted that the results obtained on the mediating role of job satisfaction are consistent with other studies that have suggested that job satisfaction may be an important mediator of relationships between various management practices and job performance of knowledge workers. For example, in the study carried out in parcel delivery and logistics companies in Indonesia, it was found that job satisfaction mediated the relationships between knowledge and talent management and employee performance [83]. It shows that in the digital economy, changes in the nature of work and its conditions are making it necessary to pay more attention to positive work experiences of knowledge workers, their determinants, and their impact on both employee behaviour and organisations.

6. Theoretical Contributions

The contribution of this research to the development of leadership theory and organisational sustainable development is also worth mentioning. It expands on classical leadership theories, which typically focus on the importance of hierarchy and control. The findings demonstrate that in the digital economy and in the pursuit of sustainable development with regard to knowledge workers, a democratic leadership style can produce significantly better results in terms of increased job satisfaction and improved employee performance than ‘top-down’ management. As a result, leadership theories are evolving from a ‘control’ model to a ‘value co-creation’ model.

This research reinforces the relational and participatory strands in leadership theories, highlighting the changing role of the leader within an organisation, from a figure exercising power and control to an individual building relationships with the organisation’s stakeholders and contributing to organisational sustainable development. Its contribution also lies in taking into account the specific needs of knowledge workers. Furthermore, the inclusion of job satisfaction as a mediator in the relationship between democratic leadership and performance outcomes demonstrates the complexity of leadership in contemporary organisations.

7. Practical Implications

This finding also has significant practical implications for managers and organisations striving to achieve sustainable development. Identifying the relationships between leadership style, job satisfaction, and performance of knowledge workers provides valuable insight for today's leaders. Providing democratic leadership can, as the results indicate, lead not only to a higher level of job satisfaction but also to an improvement in the performance of employees. In the digital economy, democratic leadership can be regarded as the cornerstone of a sustainable working environment [84], where the core workforce is made up of highly educated professionals, knowledge workers, whose expectations of leaders are different than in the past. Understanding the mediating role of job satisfaction can help managers focus on actions and practices that improve employee satisfaction [53]. In a digital economy, when the content of work is evolving and the expectations of organisations are changing, knowledge workers are looking for work that is not only a source of income but also gives them joy, satisfaction, and a sense of fulfilment. As management classic Drucker [85] (p. 18) pointed out, knowledge workers can work anywhere, at any time, and they can take their knowledge with them. They control knowledge resources that are crucial for organisations in the digital economy, and therefore, organisations should strive to strengthen their job satisfaction and ties with the organisation. The presented study proved that one of the important conditions is the leadership style that should be aligned with the contemporary needs of the workforce. It can be said that democratic leaders shape the social context of employee performance. In this way, democratic leadership also strengthens the relationship of knowledge workers with the organisation and protects high-performance human resources, as satisfied employees are reluctant to leave the organisation. Democratic leadership may support the development of organisational cultures oriented toward sustainability by promoting the norms and values of sustainable development through their actions. Democratic leadership is grounded in a culture of partnership, empowerment, and responsibility, which is fundamental for organisational sustainability. In the digital economy, decisions of democratic leaders determine the degree to which an organisation not only engages in socially responsible practices but also leverages digital tools to enhance and support these initiatives.

It is important to recognise that democratic leadership should constitute a core element of a strategy aimed at sustainable social development. Both democratic leadership and sustainable social development are grounded in fundamental principles such as participation, inclusivity, and the promotion of individual well-being. In pursuit of these objectives, democratic leaders strive to cultivate a culture of trust within the organisation, foster partnership-oriented relationships with employees, and actively support their participation in decision-making processes. Democratic leadership contributes to strengthening organisational cohesion and reinforcing the sense of organisational identity of employees. Empirical research suggests that such an environment can mitigate the risk of occupational burnout [86]. Furthermore, a leadership style based on openness and dialogue fosters a climate of trust and positive interpersonal relationships, which in turn improves individual well-being and reduces adverse outcomes such as emotional exhaustion and turnover intentions [87]. Consequently, democratic leadership facilitates the creation of a healthy work environment that enables organisations to attract, recruit, and retain highly skilled knowledge workers. Given their strong awareness of their value in the labour market, such employees are more likely to leave organisations that do not meet their expectations. From an organisational perspective, democratic leadership may therefore be considered a critical prerequisite for achieving sustainable social development. However, in the long term, democratic leadership should not be confined solely to an HRM strategy focused on

employee well-being, but it should be systematically integrated into broader ESG policies, with particular emphasis on the social dimension.

8. Limitations and Future Research

It is also important to point out the limitations of the research presented, which at the same time sets out its future directions. First, in the proposed research model, it was assumed that job satisfaction had a positive effect on the job performance of knowledge workers. However, as the literature suggests, the direction of the relationship between job satisfaction and employee performance is ambiguous, and future research would also need to test the effect of performance on the job satisfaction of knowledge workers. Furthermore, the effect of a democratic leadership style was analysed. It is important to examine how job satisfaction and job performance of knowledge workers are affected by other leadership styles, especially autocratic leadership, and to identify possible differences in the effects of these different styles in the digital economy in relation to the group of knowledge workers. Then, only the job performance of knowledge workers was examined as a result of democratic leadership and job satisfaction. Additionally, identifying boundary conditions and clarifying the underlying mechanisms through which democratic leadership influences performance in knowledge work is needed. In particular, factors such as task ambiguity, innovation climate, digital maturity, remote and hybrid work arrangements, or norms of professional autonomy may influence when democratic leadership becomes most effective. Likewise, additional mediating mechanisms, including psychological safety, engagement, role breadth, or knowledge sharing, could provide a richer explanation of how democratic leadership translates into employee outcomes beyond job satisfaction. Further research should also examine the relationship between leadership style and other key predictors of job performance, such as organisational commitment, citizenship behaviours, or motivation of knowledge workers. Also, the impact of the organisation's digital maturity and organisational sustainability on job satisfaction and performance of knowledge workers would also be worth examining. Such studies would be particularly valuable for positioning democratic leadership within a situational leadership perspective, especially in relation to a contingency-oriented approach.

A significant limitation of the research findings presented is that they are based on self-reported data. This poses a risk of bias due to respondents' subjective perceptions. However, the data analysed included both respondents' assessments of their superiors and their self-assessments. Moreover, the phenomena under investigation were measured using the same method, which introduces the risk of common method bias (CMB). This can lead to overestimated correlations between variables, the creation of spurious relationships (methodological artefacts), and difficulties in interpreting causality. Nevertheless, it should be noted that CMB generally has little impact on results and rarely produces strong spurious relationships [88]. The present study employed routine methods to control for CMB, including anonymous responses, randomising the order of the questions, and analysing the semantic similarity of the variables [89].

Another limitation of this study is that sustainability was not directly operationalised or measured as an empirical construct within the proposed model. Therefore, the study does not examine sustainability outcomes directly but rather focuses on organisational and leadership-related conditions that may support sustainability-oriented organisational development in the digital economy. Future research should incorporate explicit sustainability-related variables and indicators, such as ESG-related practices, sustainable performance, or employee sustainability-oriented behaviours, into the proposed research framework.

The next studies should also combine quantitative and qualitative approaches to obtain a more comprehensive understanding of the impact of democratic leadership on

modern workplaces. In quantitative research, it would be beneficial to increase the sample size, and applying a random sampling method would allow for the generalisation of findings. Furthermore, longitudinal studies could provide a valuable perspective by allowing researchers to track long-term changes in job satisfaction and performance of knowledge workers in the context of dynamic digital transformation. This approach would offer deeper insight into how democratic leadership influences adaptation of knowledge workers to technological, organisational, and cultural shifts. To complete quantitative analyses, qualitative research should be conducted, such as in-depth interviews, which can reveal significant but difficult to capture in a quantitative study aspects of the relationship between leaders and knowledge workers and identify specific qualitative characteristics that influence the satisfaction of knowledge workers uncovered in quantitative research.

9. Conclusions

In conclusion, today, managers need to consciously choose the leadership style they use, taking into account the need for sustainable development of the organisation, the specificity of work, and human resources of the digital age. Research found that managers should prioritise democratic leadership to increase job satisfaction and performance of knowledge workers. Democratic leadership also plays a crucial role in fostering organisational sustainability. Through their decisions and actions, leaders shape the long-term functioning of organisations not only in economic terms but also in social and environmental dimensions. Democratic leaders tend to build long-term partnerships with stakeholders guided by collectivist values that support the sustainable development of the organisation [34]. It can be claimed that the results obtained demonstrate that the identification of the relationship between leadership style and employees' job satisfaction and performance can provide valuable guidance for managers in a digital economy in which human capital plays a crucial role in its development. This study suggests that in contemporary organisations, leadership should be based on partnerships and shared responsibility for achieving common organisational goals. In fact, it is people, their knowledge, and their creativity that remain the driving force behind change and innovation, enabling organisations to adapt to the dynamic environment of the digital economy.

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References

1. Sahar, R.; Jahid, M.A.; Fauzi, H.; Rashid, H. Organisational Sustainability in the Face of Digital Transformation: A Bibliometric and Content Analysis for Future Research Agenda. *Discov. Sustain.* **2025**, *6*, 1383. [CrossRef]
2. Tapscott, D. *Gospodarka Cyfrowa Nadzieje i Niepokoje Ery Świadomości Systemowej*; Business Press: Warszawa, Poland, 1996.
3. Goliński, M. Gospodarka cyfrowa, gospodarka informacyjna, gospodarka oparta na wiedzy—różne określenia tych samych zjawisk czy podobne pojęcia określające różne zjawiska? *Rocz. Kol. Anal. Ekon.* **2018**, *49*, 177–190.
4. Ding, Y.; Liu, Y. The Influence of High Performance Work Systems on the Innovation Performance of Knowledge Workers. *Sustainability* **2022**, *14*, 15014. [CrossRef]
5. Mick, M.M.A.P.; Kovalesski, J.L.; Chiroli, D.M.d.G. Sustainable Digital Transformation Roadmaps for SMEs: A Systematic Literature Review. *Sustainability* **2024**, *16*, 8551. [CrossRef]
6. Vial, G. Understanding Digital transformation: A Review and a Research Agenda. *J. Strat. Inform. Syst.* **2019**, *28*, 118–144. [CrossRef]
7. Śledziewska, K.; Włoch, R. *Gospodarka Cyfrowa Jak Nowe Technologie Zmieniają Świat*; Wydawnictwo Uniwersytetu Warszawskiego: Warszawa, Poland, 2020.
8. Asimakopoulou, G.; Antonopoulou, H.; Giotopoulos, K.; Halkiopoulos, C. Impact of Information and Communication Technologies on Democratic Processes and Citizen Participation. *Societies* **2025**, *15*, 40. [CrossRef]
9. Helbing, D.; Mahajan, S.; Fricker, R.H.; Musso, A.; Hausladen, C.I.; Carissimo, C.; Carpentras, D.; Stockinger, E.; Argota Sanchez-Vaquerizo, J.; Yang, J.C.; et al. Democracy by Design: Perspectives for Digitally Assisted, Participatory Upgrades of Society. *J. Comput. Sci.* **2023**, *71*, 102061. [CrossRef]
10. Davies, J.; Procter, R. Online Platforms of Public Participation: A Deliberative Democracy or a Delusion? In Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance (ICEGOV '20), Athens, Greece, 23–25 September 2020; pp. 746–753. [CrossRef]
11. Gorton, W.A. Manipulating Citizens: How Political Campaigns' Use of Behavioral Social Science Harms Democracy. *New Political Sci.* **2016**, *38*, 61–80. [CrossRef]
12. Berg, J.; Gmyrek, P. Automation Hits the Knowledge Worker: ChatGPT and the Future of Work. UN Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum). 2023. Available online: <https://ssrn.com/abstract=4458221> (accessed on 25 February 2026).
13. Marzec, I. *Conditions of Employee Employability Enhancement in an Organization*; Katowice University of Economics: Katowice, Poland, 2015.
14. Drucker, P.F. *The Landmarks of Tomorrow*; Harper & Row: New York, NY, USA, 1959.
15. Davenport, T.H. *Zarządzanie Pracownikami Wiedzy*; Oficyna Wolters Kluwer Business: Kraków, Poland, 2007.
16. De Sordi, J.O.; de Azevedo, M.C.; Bianchi, E.M.P.G.; Carandina, T. Defining the term knowledge worker: Toward improved ontology and operationalization. *Knowl. Process Manag.* **2021**, *28*, e1647. [CrossRef]
17. Field, J.C.; Chan, X.W. Contemporary Knowledge Workers and the Boundaryless Work–Life Interface: Implications for the Human Resource Management of the Knowledge Workforce. *Front. Psychol.* **2018**, *9*, 2414. [CrossRef]
18. Fikri, A.A.H.S.; Sholeh, M.; Mustofa; Riani, L.P.; Susilowati, N. Characteristics of Gen Z Dealing with the Issue of Knowledge Workers: Opportunities and Challenges. *Int. J. Soc. Sci. Educ. Res. Stud.* **2024**, *4*, 1220–1228. [CrossRef]
19. Ehnert, I. *Sustainable Human Resource Management: A Conceptual and Exploratory Analysis from a Paradox Perspective*; Physica-Verlag: Heidelberg, Germany, 2009. [CrossRef]
20. De Lange, A.H.; Kooij, D.; van der Heijden, B.I.J.M. Human Resource Management and Sustainability at Work Across the Lifespan: An Integrative Perspective. In *Facing the Challenges of a Multi-Age Workforce: A Use-Inspired Approach*; Finkelstein, L.M., Truxillo, D., Fraccaroli, F., Kanfer, R., Eds.; Routledge: London, UK, 2015; pp. 50–79.
21. Northouse, P.G. *Leadership, Theory and Practice*, 9th ed.; Sage Publications: Thousand Oaks, CA, USA, 2021.
22. Hikmat, H.; Ghorbandi, N. Effect of Democratic Leadership Styles on Corporate Performance. *J. Res. Appl. Sci. Biotechnol.* **2024**, *3*, 237–241. [CrossRef]
23. Kongkaew, W.W.; Nuangjamnong, C. A Study of the Effect of Leadership Style towards Organizational Culture on Job Satisfaction and Employee Performance in Bangkok. *AU E-J. Interdiscip. Res.* **2023**, *8*, 21–34.
24. Onesti, G.; Bellante, F.; Lionetti, F.; Fasolo, M.; Palumbo, R. The interplay among environmental sensitivity, job stressors, and leadership styles on employee well-being. *Sci. Rep.* **2024**, *14*, 27397. [CrossRef]
25. Kraczkla, M. Leadership styles in the context of the meaning of life—An empirical analysis. *Sci. Pap. Silesian Univ. Technol. Organ. Manag. Ser.* **2020**, *148*, 305–324. [CrossRef]

26. Lewin, K.; Lippitt, R.; White, R.K. Patterns of aggressive behavior in experimentally created “social climates”. *J. Soc. Psychol.* **1939**, *10*, 271–299. [CrossRef]
27. Northouse, P.G. *Leadership: Theory and Practice*, 8th ed.; Sage Publications: Thousand Oaks, CA, USA, 2018.
28. Jiang, T.; Ali, D.A. The impact of leadership styles on employee relations performance. *Int. J. Soc. Sci. Public Adm.* **2024**, *3*, 120–127. [CrossRef]
29. Laberschek, M. Przywództwo w organizacjach kultury: Autokraci, demokraci, demiurgowie i kapłani. In *Zarządzanie w Kulturze: Teoria i Praktyka*; Gawęł, Ł., Pluszyńska, A., Konior, A., Eds.; PWN: Warszawa, Poland, 2020; pp. 107–121.
30. Wahidin; Basri; Wibowo, T.S.; Abdillah, A.; Kharis, A.; Jaenudin; Purwanto, A.; Mufid, A.; Maharani, S.; Badiati, A.; et al. Democratic, autocratic, bureaucratic and charismatic leadership style: Which influence school teachers performance in Education 4.0 era? *Syst. Rev. Pharm.* **2020**, *11*, 277–286. Available online: <https://www.sysrevpharm.org/abstract/democratic-autocratic-bureaucratic-and-charismatic-leadership-style-which-influence-school-teachers-performance-in-educ-66095.html> (accessed on 11 February 2026).
31. Halliwell, P.R.; Mitchell, R.; Boyle, B. Leadership effectiveness through coaching: Authentic and change-oriented leadership. *PLoS ONE* **2023**, *18*, e0294953. [CrossRef]
32. Clark, R.A.; Hartline, M.D.; Jones, K.C. The effects of leadership style on hotel employees’ commitment to service quality. *Cornell Hosp. Q.* **2008**, *50*, 209–231. [CrossRef]
33. Imran, M.; Li, J.; Bano, S.; Rashid, W. Impact of Democratic Leadership on Employee Innovative Behavior with Mediating Role of Psychological Safety and Creative Potential. *Sustainability* **2025**, *17*, 1879. [CrossRef]
34. Nedelko, Z.; Potocan, V. Sustainability of Organizations: The Contribution of Personal Values to Democratic Leadership Behavior Focused on the Sustainability of Organizations. *Sustainability* **2021**, *13*, 4207. [CrossRef]
35. Spector, P.E. *Job Satisfaction: From Assessment to Intervention*; Routledge: New York, NY, USA, 2022. [CrossRef]
36. Bartkowiak, G. *Człowiek w Pracy. Od Stresu do Sukcesu w Organizacji*; PWE: Warszawa, Poland, 2009.
37. Drenth, P.J.D.; Thierry, H.; De Wolff, C.J. *Handbook of Work and Organizational Psychology*; Psychology Press: Hove, UK, 1998.
38. Paszkowska-Rogacz, A. *Doradztwo Zawodowe. Wybrane Metody Badań*; Diffin: Warszawa, Poland, 2016.
39. Juchnowicz, M. *Satysfakcja Zawodowa Pracowników. Kreator Kapitału Ludzkiego*; PWE: Warszawa, Poland, 2014.
40. Gruszczyńska-Malec, G.; Rutkowska, M. Od satysfakcji do motywacji. *Personel* **2005**, *10*, 58–63.
41. Bhatti, N.; Maitlo, G.M.; Shaikh, N.; Hashmi, M.A.; Shaikh, F.M. The impact of autocratic and democratic leadership style on job satisfaction. *Int. Bus. Res.* **2012**, *5*, 192–201. [CrossRef]
42. Zahari, M.; Akbar, A.; Situmorang, L. The influence of democratic leadership style and career development on employee performance mediated by Jambi Province Regional Secretariat Organization Bureau employee job satisfaction. *Dinasti Int. J. Educ. Manag. Soc. Sci.* **2024**, *5*, 265–277. [CrossRef]
43. Altaş, S.S.; Gündüz Çekmecelioglu, H.; Konakay, G.; Günsel, M. Relationships among supervisor support, autonomy, job satisfaction and emotional labor on nurses within the Turkey context of healthcare services. *Front. Psychol.* **2024**, *14*, 1303170. [CrossRef]
44. López-Cabarcos, M.Á.; Vázquez-Rodríguez, P.; Quiñoá-Piñeiro, L.M. An approach to employees’ job performance through work environmental variables and leadership behaviours. *J. Bus. Res.* **2022**, *140*, 361–369. [CrossRef]
45. Marzec, I. Employee empowerment as a driver of citizenship behaviour and job performance in the digital age. *Sci. Pap. Silesian Univ. Technol. Organ. Manag. Ser.* **2024**, *2*, 313–332.
46. Argyris, C. *Integrating the Individual and the Organization*; Wiley: New York, NY, USA, 1964.
47. Locke, E.A. Job satisfaction and job performance: A theoretical analysis. *Organ. Behav. Hum. Perform.* **1970**, *5*, 484–500. [CrossRef]
48. Gross, E.; Etzioni, A. *Organizations in Society*; Prentice-Hall: Englewood Cliffs, NJ, USA, 1985.
49. Judge, T.A.; Thoresen, C.J.; Bono, J.E.; Patton, G.K. The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychol. Bull.* **2001**, *127*, 376–407. [CrossRef]
50. Paliga, M. *Satysfakcja z Pracy i Wydajność Pracowników. Relacja (nie)Oczekiwana*; Wyd. Uniwersytetu Śląskiego: Katowice, Poland, 2021.
51. Lawler, E.E.; Porter, L.W. The effect of performance on job satisfaction. *Ind. Relat.* **1967**, *7*, 20–28. [CrossRef]
52. Bakker, A.B.; Demerouti, E. The job demands-resources model: State of the art. *J. Manag. Psychol.* **2007**, *22*, 309–328. [CrossRef]
53. Purnama, C.; Rahmah, M.; Fatmah, D.; Hasani, S.; Rahmah, Y.; Rahmah, Z.Z. The effect of strategic flexibility, strategic innovation, job satisfaction and employee performance: Study on small and medium clothing industry in East Java province. *Int. J. Prof. Bus. Rev.* **2024**, *9*, e04955. [CrossRef]
54. Pramudya, E.; Andaru, R.; Sunimah, S. The influence of workplace well-being on employee performance: The mediating role of job satisfaction. *Int. J. Soc. Serv. Res.* **2024**, *4*, 1–9. [CrossRef]
55. Creswell, J.W. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*; Sage Publications: Thousand Oaks, CA, USA, 2014.
56. di Biase, G.; Davide Giusino, D. The Psychology of Working Students: A Scoping Review. *Psychol. Int.* **2026**, *8*, 11. [CrossRef]

57. Grozev, V.H.; Matthew, J. Easterbrook Can Social Identities Improve Working Students' Academic and Social Outcomes? Lessons from Three Studies. *Educ. Sci.* **2024**, *14*, 939. [\[CrossRef\]](#)
58. Feitelson, D.G. Using Students as Experimental Subjects in Software Engineering Research—A Review and Discussion of the Evidence. *arXiv* **2015**, arXiv:1512.08409.
59. Adamus Matuszyńska, A.; Marzec, I. Work values from the perspective of different generations. *Perspekt. Kult.* **2024**, *47*, 447–465. [\[CrossRef\]](#)
60. Eisenberger, R.; Armeli, S.; Rexwinkel, B.; Lynch, P.D.; Rhoades, L. Reciprocation of perceived organizational support. *J. Appl. Psychol.* **2001**, *86*, 42–51. [\[CrossRef\]](#)
61. Cammann, C.; Fichman, M.; Jenkins, G.D.; Klesh, J. Michigan organizational assessment questionnaire. In *Assessing Organizational Change: A Guide to Methods, Measures, and Practices*; Seashore, S.E., Lawler, E.E., Mirvis, P.H., Cammann, C., Eds.; Wiley-Interscience: New York, NY, USA, 1983; pp. 71–138.
62. Grobelny, J. Satysfakcja zawodowa a poziom wykonania pracy—Implikacje dla postrzegania jakości usług przez konsumentów. Przypadek hoteli Trójmiasta. *Zesz. Nauk. Uniw. Szczec.* **2015**, *2*, 142–159.
63. Judge, T.A.; Boudreau, J.W.; Bretz, R.D., Jr. Job and life attitudes of male executives. *J. Appl. Psychol.* **1994**, *79*, 767–782. [\[CrossRef\]](#)
64. Kuc, B.R. *Od Zarządzania do Przywództwa*; Wydawnictwo Menedżerskie PTM: Warszawa, Poland, 2000.
65. Lutyńska, K. *Wywiad Kwestionariuszowy. Przygotowanie i Sprawdzenie Narzędzia Badawczego*; Ossolineum: Wrocław, Poland, 1983.
66. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Pearson Prentice Hall: Upper Saddle River, NJ, USA, 2010.
67. Fornell, C.; Larcker, D.F. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *J. Mark. Res.* **1981**, *18*, 39–50. [\[CrossRef\]](#)
68. Januszewski, A. Modele równań strukturalnych w metodologii badań psychologicznych. Problematyka przyczynowości w modelach strukturalnych i dopuszczalność modeli. *Stud. Psychol. KUL* **2011**, *17*, 213–245.
69. Hryniewicz, K.; Borchet, J. Reaching goals through different means: Will and cognition in the action of people with low and high action control. *Curr. Issues Pers. Psychol.* **2019**, *7*, 274–287. [\[CrossRef\]](#)
70. Judge, T.A.; Colquitt, J.A. Organizational justice and stress: The mediating role of work-family conflict. *J. Appl. Psychol.* **2004**, *89*, 395–404. [\[CrossRef\]](#)
71. Marzec, I. Impact of the quality of supervisors' relationships with subordinates on employability and job satisfaction of public organizations' workers. *Eur. Manag. Stud.* **2018**, *17*, 105–119. [\[CrossRef\]](#)
72. Correia de Sousa, M.; van Dierendonck, D. Knowledge Workers, Servant Leadership and the Search for Meaning in Knowledge-Driven Organizations. *On Horiz.* **2010**, *18*, 230–239. [\[CrossRef\]](#)
73. Chow, T.W.; Singh, H. Cultivating Emerging Leadership Competencies for Individual and Organizational Success. *Ann. Manag. Organ. Res.* **2022**, *4*, 129–145. [\[CrossRef\]](#)
74. Braun, B. Autonomia psychologiczna jako warunek twórczości. *Stud. Pedagog.* **1986**, *1*, 67–74.
75. Ghrairi, A.M. Impact of leadership style on job satisfaction and organizational citizenship behavior: The mediating role of management control systems. *Corp. Own. Control* **2024**, *21*, 46–157. [\[CrossRef\]](#)
76. Chen, C.; Khan, S.A. Advancing sustainable innovation: The role of transformational leadership and organizational innovation climate in shaping the innovative behavior of knowledge based employees in high tech enterprises in China. *Sustainability* **2025**, *17*, 7931. [\[CrossRef\]](#)
77. Platis, C.; Reklitis, P.; Zimeras, S. Relation between job satisfaction and job performance in healthcare services. *Procedia Soc. Behav. Sci.* **2015**, *175*, 480–487. [\[CrossRef\]](#)
78. Brayfield, A.H.; Crockett, W.H. Employee attitudes and employee performance. *Psychol. Bull.* **1955**, *52*, 396–424. [\[CrossRef\]](#)
79. Herzberg, F.; Mausner, B.; Peterson, R.O.; Capwell, D.F. *Job Attitudes: Review of Research and Opinion*; Psychological Service of Pittsburgh: Pittsburgh, PA, USA, 1957.
80. Davar, S.C.; Bala, R. Relationship between job satisfaction & job performance: A meta-analysis. *Indian J. Ind. Relat.* **2012**, *48*, 290–305.
81. Katebi, A.; HajiZadeh, M.H.; Bordbar, A.; Salehi, A.M. The relationship between “job satisfaction” and “job performance”: A meta-analysis. *Glob. J. Flex. Syst. Manag.* **2021**, *23*, 21–42. [\[CrossRef\]](#)
82. Dudasova, L.; Vaculik, M.; Prochazka, J.; Svitavska, P.; Patton, G. Causality of the satisfaction-performance relationship: A task experiment. *Eur. J. Psychol.* **2023**, *19*, 48–66. [\[CrossRef\]](#)
83. Setia, B.I.; Yuniarsih, T.; Gaffar, M.F.; Suryadi, E.; Affandi, A.; Rohmawati, T. Job satisfaction as a mediator in improving employee performance through talent and knowledge management. *J. East. Eur. Cent. Asian Res.* **2022**, *9*, 749–762.
84. Azan, Z.; Hashim, S.N.; Seman, S.A.; Ayop, S.; Rahman, S.N.M.S.A. Sustainable Work Environment: Improving Workplace Efficiency in Small and Medium Enterprises. In *Behavioral Economics and Computational Intelligence for Sustainable Decision Making*; Mukthar, K.P.J., Jain, V., Mansour, N., Eds.; Studies in Computational Intelligence; Springer: Cham, Switzerland, 2026; Volume 1232. [\[CrossRef\]](#)

85. Drucker, P.F. The future that has already happened. *Futurist* **1998**, *32*, 16–18.
86. van Dick, R.; Cordes, B.L.; Lemoine, J.E.; Steffens, N.K.; Haslam, S.A.; Akfirat, S.A.; Ballada, C.J.A.; Bazarov, T.; Aruta, J.J.B.R.; Avanzi, L.; et al. Identity Leadership, Employee Burnout and the Mediating Role of Team Identification: Evidence from the Global Identity Leadership Development Project. *Int. J. Environ. Res. Public Health* **2021**, *18*, 12081. [[CrossRef](#)]
87. Džambić, A.; Hadziahmetovic, N.; Sateeshchandra, N.G.; Chelabi, K.; Fountis, A. Linking Leadership and Retention: Emotional Exhaustion and Creativity as Mechanisms in the Information Technology Sector. *Adm. Sci.* **2025**, *15*, 309. [[CrossRef](#)]
88. Fuller, C.M.; Simmering, M.J.; Atinc, G.; Atinc, Y.; Babin, B.J. Common methods variance detection in business research. *J. Bus. Res.* **2016**, *69*, 3192–3198. [[CrossRef](#)]
89. Podsakoff, P.M.; MacKenzie, S.B.; Podsakoff, N.P. Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* **2012**, *63*, 539–569. [[CrossRef](#)]

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