The effects of big data analytics and workplace pressures on productivity

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CHRONICLE	ABSTRACT
	This study set out to find out on how big data analytics, workload, work wages, and organizational structure pressures affect employee job performance and overall business performance in the Jordan banking sector in the context of that country's banking sector. 292 samples from the research study were collected, analyzed, and debated to test the study's hypotheses. Employee and company success were found to be affected by workload, compensation, and organizational structure. Workload was reflected by job completion rate, average daily issues, and work completion time, while big data was reflected by external and internal, unique application, indexing, and source correctness. Work compensation, including employee compensation, employee experience and skill, and employee incentives and rewards, is the third primary factor. Communities of practice, group work, and physical infrastructure make up the fourth and last important factor, the organization's structure. The study finds that when dealing with large amounts of data, reducing the workload can improve employee performance, increasing employee motivation through higher wages and bonuses can improve performance, and having an organizational structure that promotes teamwork and work teams can improve employees' abilities to solve problems and improve work performance, which in turn affects overall productivity. This study contributes fresh information to an emerging field that requires more investigation to fully understand the interplay between big data, workload, work wages, and organizational structure pressures. The topic of this study, the Jordan banking sector, is both innovative and highly relevant because it may help financial institutions enhance their operations and provide superior customer service.

1. Introduction

Companies are under ongoing self-development pressure due to factors such as the changing nature of work, rising global rivalry, the emergence of new competitors, and the capacity to request and amend product specifications from the company (Andronie et al., 2023). It became a priority for businesses to implement information systems that would aid their staff, making daily company operations simpler and allowing for more transactions to be processed (Bose et al., 2023). Intense rivalry and a growing number of consumers and their demands have led to a rise in the average daily effort for workers without a commensurate rise in pay (Kosch et al., 2023). From there, the study looked at how four common sources of stress—handling big data analytics, a growing workload, rising salaries, and an unstable organizational structure—affect individual workers and the company (Ahmad & Mustafa, 2022). When it comes to processing and analyzing data quickly, organizations need the help of big data technology to do so (Himeur et al., 2023). Moreover, big data is one method for organizing and analyzing information by considering its volume, diversity, velocity, truthfulness, and value (Nathan et al., 2022). Big data can process structured and unstructured information without issue (Karatas et al., 2022). When employed for decision-making, upholding brand image, company planning, and spotting market trends, big data can also be used for studying public reactions to existing products and services through sentiment analysis (Reddy et al., 2020). Accelerated large-scale

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information processing and analysis facilitates the application of big data (Ageed et al., 2021). According to Kosch et al. (2023), a person's workload can be defined as the amount of time, energy, and other resources such as physical, mental, and emotional required completing a given task. The type, novelty, complexity, and number of activities that an individual completes can all have an impact, as can internally factors like motivation or prior experience and ability (Haller et al., 2023). Workload assessment which has its origins in efforts to quantify the difficulty of combat-related jobs has gained increasing traction in professional settings (Xi et al., 2023). For instance, it has become increasingly important to examine the workload requirements of various information systems because of the rapid technological breakthroughs and the increasing number of unique systems that attempt to improve convenience, productivity, and efficiency (Colin et al., 2023). Workload is also used to assess the usability of virtual and augmented reality headsets, as well as desktop and mobile computer systems and mobile devices (Kane et al., 2023; Lutfi et al. 2023).

As described by Maestas et al. (2023), the income wage is the sum of money an employer pays an employee for performing the organization's routine responsibilities. The point of minimum wage laws is to help people who do not make much money. During times of rapid change in the global economy, this instrument of policy can be very helpful to organizations. However, at an era of severe global competition, some business owners call for lower minimum salaries to promote labor market flexibility and competitiveness (Autor et al., 2023). The basic idea is that the minimum wage and other forms of pay rigidity in the labor market can stifle innovation and entrepreneurship, leading to less employment and higher rates of poverty and unemployment. There is a fear that global competition is dragging down incomes and working conditions, thus policies like the minimum wage and labor standards are necessary to maintain the bottom to protect workers (Fortin et al., 2023). A rise in the minimum wage has been shown to shift the employment mix in favor of higher-paying positions (Liu & Su, 2023; Torjesen, 2023; Chernina & Gimpelson, 2023). If this is the case, then raising the minimum wage may help alleviate poverty and inequality by boosting the incomes of those who are directly impacted by the law and perhaps generating new high-paying employment opportunities. Finally, increasing salaries and benefits has a positive effect on how well administrative and service activities are completed because happier workers are more motivated to do a good job.

One of the most enduring difficulties in management is improving the organization's overall performance (Purwanto et al., 2023). Financial performance, market performance, internal process performance, and growth and learning performance are all measures of success in this context (Radevi et al., 2023). Comparatively, Su et al. (2023) highlighted the positive effects that strategic organizational information systems, performance management, selection, application tracking, e-learning, cooperation, and communication can have on overall organizational performance. Information systems were found to have a substantial positive effect on organizational overall performance, as measured by indicators such as innovation, responsiveness to change, customer satisfaction, and speed to market (Koçak et al., 2023). In addition, the ability of an organization to learn how to evaluate the impact of its information system on its overall performance is favorably correlated with organizational outcomes because display of the information system is directly related to these outcomes.

This inquiry continues with four more sections, each of which has its own introductory paragraph. The second part of this essay reviews previous studies. In the third section, we discuss various techniques for gathering data and performing studies. After discussing the results in Section 4, Section 5 presents the main takeaways and research interpretations.

2. Literature Reviews

2.1 Big Data

Many companies have turned to big data to determine what strategies must be put into place to make good decisions (Oussous et al., 2018). According to the definition provided by Günther et al. (2017), big data is "a technology that enables high-speed data capture, discovery, and/or analysis to derive economic value from massive amounts of diverse data". To make strategic decisions within the company, generate more detailed and accurate information, and re-evaluate all risks quickly with the help of big data, businesses need to be able to combine the massive amounts of data they collect with powerful analytics (Kamilaris et al., 2017). Optimizing the use of hardware and software solutions to minimize the strain is one of the primary initiatives to manage big data and information processing as a strategic part of company goals (Hariri et al., 2019). Integrating and analyzing raw data allows businesses to make instantaneous decisions in response to changes in consumer demand and market segment trends (Ageed et al., 2021). As a raw resource for innovation, firms must change how they use big data. By providing access to a huge and varied collection of interconnected data, big data analytics can improve the quality of decisions and the adaptability of the workforce to new circumstances (Reddy et al., 2020). According to Ahmad et al. (2023), there is an inextricable bond between the factors of change preparedness in implementing big data analytics technology and the growth of novel patterns of behavior in the workplace. Big data analysis has been shown to provide unparalleled depth and insight into innovative employee attitudes and behavior in support of organizational transformation as part of a company's change process (Karatas et al., 2022).

2.2 Workload

A person's workload, as defined by Kosch et al. (2023), is the aggregate of all the energy and resources (physical, mental, and emotional) that they are required to commit to completing a specific assignment. It is possible for both internal and external factors to influence it. Some examples of these factors include motivation, prior experience, and level of ability, as well as the nature, novelty, complexity, and volume of the tasks that are being performed in question (Haller et al., 2023). Since its inception in efforts to quantify the effort of combat-related duties, the notion of assessing workload has risen in significance in business contexts (Xi et al., 2023). This growth in significance can be traced back to the concept's origins. For example, as a direct result of the proliferation of novel systems designed to enhance user-friendliness, productivity, and efficiency brought about by recent technological advancements, it is becoming increasingly vital to analyze the workload requirements of all different kinds of information systems (Colin et al., 2022).

This is true regardless of the type of information system in question. In addition, traditional computer systems and portable devices, such as those that make use of virtual and augmented vision technologies, are increasingly appraised based on workload (Kane et al., 2023). A common goal is to understand how to design and improve systems such that the benefits they provide are not undermined by the amount of work required by users. Workload management is essential for user acceptance (Shim et al., 2023), productivity, performance, and user health (Vano et al., 2023), and as a result, ergonomists and designers of information technology are generally interested in developing technology in a manner that either reduces workload or maintains it within an acceptable range. It is important to take into consideration the restricted capacity of users to deal with job. measurements that are based on subjective experiences, as well as objective measurements that are based on performance indicators and psychophysiological cues, have arisen because of the practical necessity to quantify the workload involved in human-computer interaction (Hammouri et al., 2023). Subjective measurements are based on an individual's own self-evaluation of the workload that they have encountered, whereas objective measurements capture real-time performance data or evaluate physiological reactions. The fact that distinct tasks are affected by diverse sources of workload and the varying degrees to which each specific source is accountable for an individual's perceived total workload offer a general challenge in the assessment of workload (Haller et al., 2023).

2.3   Work Wages

An employee's income wage is the money they are entitled for doing their regular jobs that keep the business running (Maestas et al., 2023). The purpose of minimum wage legislation is to redistribute income to low-wage workers (Autor et al., 2023). As the world economy becomes increasingly interconnected, this policy instrument may become increasingly important for firms to help them adapt. To increase labor market flexibility and competitiveness in the face of severe global competition, however, some business owners are calling for minimum wage decreases in the current era (Fortin et al., 2023). The primary argument is that the minimum wage and other forms of wage rigidity in the labor market can contribute to poverty and joblessness by stifling economic growth and innovation. But the environment created by the globalized world's strong rivalry has been called the *race to the bottom*. Legal safeguards, such as minimum wage and labor standards, are essential considering concerns that global competition is lowering wages and improving working conditions for businesses. Increasing the minimum wage, it is said, can shift the balance of the labor market in favor of higher-paying positions. If this is the case, then increasing the minimum wage could aid in the fight against poverty and inequality by increasing the incomes of those who are impacted by the law and perhaps even spawning new higher-paying employment for those who are willing to work for it (Chernina & Gimpelson, 2023). Finally, increasing wages and salaries has a positive effect on the quality of administrative and service work performed by employees (Hammouri et al., 2023).

2.4   Organizational Structure

Organizational structure is defined to describe the network of interdependent parts that make up a larger whole. Therefore, the concept of structure is applicable to everything. The four main components of every organization are its base, its framework, its roof, and its walls (Purwanto et al., 2023). According to Radevi et al. (2023), an organization's structure is "the framework of relationships between occupations, systems, operating processes, people, and groups working together to achieve goals" (Su et al., 2023). An organization's structure is its system of roles and responsibilities for carrying out its work. The purpose of an organization's structure is to "divide, organize, and coordinate" the various tasks that need to be completed (Koçak et al., 2023). As stated by Farhang et al. (2023), organizations erect structures to coordinate the operations of work factors and to regulate the conduct of its members. In addition, an organization's structure is the "framework of relationships" unemployed, systems, procedures, employees, and departments that all work together to accomplish a common mission for the benefit of the whole (Fu et al., 2023). A company's organizational structure is the framework for how responsibilities are assigned and coordinated. All organizational processes are impacted by structure even though structure is not a means of coordination (Garca et al., 2023). The forms of reporting, formal communication channels, duty allocation, and decision making that make up an organization's structure are all part of what's known as its "organizational structure" within the field.

Organizational structure provides several benefits, including improved communication within and outside the company (Hammouri et al., 2021, 2022). The organizational structure should facilitate decision making, proper reaction to the environment, and dispute resolution among units (Purwanto et al., 2023). Organizational structures are responsible for internal organizational relations in terms of reporting and receiving reports, as well as the relationship between the organization's essential principles and the coordination of its actions (Su et al., 2023). The development of a coherent plan for running a business is an example of systematic thinking in action. According to Su et al. (2023), a generalized unit consists of elements, relations between elements, and the structure of relations. According to Kocak et al. (2023), *structure* refers to "the existence philosophy of organizational action", which is comprised of a complex network of interactions between organizational elements. Systematically organizing structure demonstrates that it has both hard and soft components. The final part of the hard dimension is made up of tangibles like hierarchical units and working groups. According to Fu et al. (2023), a "soft" part of the organizational structure can be seen in the interdependencies between these various parts and clusters. The evaluation of structure by organizational members can be found near the softer end of the continuum. There were three distinct OS dimensions uncovered in the end: hierarchy, functionality, and participation (Ahmad et al., 2023). Physical and social structures are the primary focus of research for organization theorists. Organizational buildings and sites where business is conducted are examples of physical structure (Garcia et al., 2023) (see also: organizational structure). The term "social structure" is used in the context of organizational theory to describe the interrelationships between social elements like individuals, roles, and organizational components.

2.5   Employee Job Performance

A person's performance is measured by how well they did on a task relative to other possible outcomes, such as meeting work

standards, achieving targets, or meeting agreed-upon predetermined criteria (Sutrisno, 2022; Ahmad et al., 2021). What employees do or do not is essentially the definition of performance so that's another thing to consider. All efforts made to enhance the productivity of an enterprise, down to the level of individual employees and departments, fall under the umbrella of performance management. In addition, employee performance is something workers do while going about their regular duties for the organization. Workers' job happiness and the number of rewards provided are not independent of their performance in carrying out their obligations, which is influenced by their unique talents, abilities, and traits. In addition, performance is the amount of work that an individual puts forth in producing a given output with a given amount of energy (Hammouri et al., 2023). Meanwhile, performance is the rate at which tasks are completed in a way that fulfills the responsibilities allocated to employees (Ferrara et al., 2022). Employee performance can also be thought of as the results of their work or their actions as they relate to their job description (Yandi & Havidz, 2022).Work quality (accuracy, accuracy, skills, and cleanliness), work quantity (routine and non-routine or extra output), reliability (whether it is reliable, that is, whether it can follow instructions, capabilities), and attitudes (other employees' attitudes, work, and cooperation with the company) are the four factors used as performance appraisal standards. Studies and scientific research show that companies that invest in their employees' performance by creating a knowledge environment that fosters collaboration and is geared toward raising wages see an uptick in productivity from their staff (Sutrisno, 2022; Masadeh et al., 2022).

2.6   Business overall Performance

Multiple definitions of business overall performance (BOP) exist. Information systems may be the only way to increase a company's capacity to put a certain plan into action (Olan et al., 2022). It was also considered as an outcome of personnel performance generally (Lee et al., 2022). One of the most enduring difficulties in management is overall performance (OP) (Alshurideh et al., 2022). Several metrics are used to assess it (Mscartney et al., 2022): financial performance, market performance, internal process performance, and growth and learning performance. Whereas the focus is on the strategic performance of organizations in areas such as information systems, performance management, selection, application tracking, e-learning, cooperation, and communication. Information systems were found to have a substantial positive effect on organizational performance, as measured by indicators like innovation, responsiveness to change, satisfaction among customers, and speed to market (Danilwan et al., 2022). In addition, the ability of an organization to learn how to evaluate the impact of its information system on its performance is positively correlated with organizational outcomes (Adhikara et al., 2022). Business overall performance is defined as the organization's "operational ability to satisfy the desires of the company's key shareholders" and must be measured to determine a company's prosperity (Haydar et al., 2023). Since corporate business performance is multidimensional and tied to the topic of interest, there are a plethora of techniques to measure it. Market performance, supplier performance, process performance, people performance, and customer relationship performance are the business performance criteria examined here (Ahmed et al., 2023). SMEs need to learn about market orientation because it can improve their performance (Guan et al., 2023) if they do. There is a strong link between a company's market focus and its bottom line, both immediately and in the long run (Kumar et al., 2023; Nyathi et al., 2023). Improving an organization's performance generally necessitates focusing on and developing a number of aspects within the organization, such as its physical infrastructure, international quality standards, information technology, keeping up with global developments and pressures like globalization and competition, and the capabilities of its employees, the level of performance of its employees, and the extent to which its employees are encouraged to collaborate (Mukherejee et al., 20).

3.   Research Methodology

Finding out how big data analytics, workload, pay, and organizational structure pressures affect job performance and business outcomes in Jordan banking sector is the primary goal of this study. Using a Likert scale, participants rated their level of agreement with key study hypotheses on Google Drive (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = highly agree). This study used PLS to analyze data and draw conclusions about our hypothesis. Following data cleansing, 292 responses from participants met acceptance criteria for analysis and discussion of study hypotheses. At long last, data surpassed expectations by a factor of 10 to 1.

4.   Research Results

Tests were conducted to determine the validity and reliability of the measuring model. To quantify dependability and internal consistency, we employed Cronbach's alpha. According to Hair et al. (2006), the value of Cronbach's alpha must be more than 0.70. Cronbach's alpha values for each component of the scale were higher than the recommended cutoff of 0.70, as shown in Table 1. Convergent validity was analyzed using the composite reliability (CR) and average variance extracted (AVE) tests. The CR and AVE should be more than 0.70 and 0.50, as suggested by Fronell and Larcker. The component failure rates (CR) and average failure rates (AVE) listed in Table 1 are all higher than acceptable. All indicators for each factor were statistically significant, with path loadings from standardization greater than the allowed value of 0.50. The following table demonstrates the validity of the assessment-based research paradigm for hypothesis testing. In addition, discriminant validity was evaluated using the Fronell-Larcker criterion. If the extracted average variance (AVE) for each component is larger than the correlations between them, then the criteria is met. Table 2 reveals that the component correlations were lower than the square root values of all AVEs (highlighted as bold diagonal values). The results support the existence of discriminant validity. After determining the validity of the measurement model, the researchers looked at the structural model. According to the numbers, the coefficient of determination (R^2) stood at 50.1%. Additionally, this R^2 value is greater than the 25% threshold established by Hair et al. (2016). All the hypotheses were supported by the data, as shown by the small p-values in Table 3.

Table 1
Reliability and Validity test

Code	Variable	Factor's Loading	VIF
Big Data Analytics (BDA)	(Cronbach's Alpha: 0.462, CR: 0.534, AVE: 0.467)		
BDA1	External and Internal	0.423	1.322
BDA2	Novel Application	0.433	1.156
BDA3	Indexing	0.532	1.660
BDA4	Source Accuracy		
Workload (WL)	(Cronbach's Alpha: 0.495, CR: 0.453, AVE: 0.611)		
WL1	job completion rate	0.543	1.023
WL2	average daily issues	0.465	1.144
WL3	work completion time	0.478	1.550
Work Wages (WW)	(Cronbach's Alpha: 0.583, CR: 0.533:, AVE: 0.749)		
WW1	Employee Compensation	0.565	1.942
WW2	Employee Experience and Skill	0.642	1.988
WW3	Employee Incentives and Rewards	0.542	1.022
Organizational Structure (OS)	(Cronbach's Alpha: 0.761 , CR: 0.537, AVE: 0.520)		
OS1	Communities of Practice	0.764	1.122
OS2	Group Work	0.675	1.768
OS3	Physical Infrastructure	0.846	1.877
Employee Job Performance (EP)	(Cronbach's Alpha: 0.638 , CR: 0.755, AVE: 0.713.)		
EJP1	Job Solving Problems	0.621	1.912
EJP2	Job Rewards	0.566	1.822
EJP3	Employee Commitment and attitude	0.728	1.723
Overall Business Performance (OBP)	(Cronbach's Alpha: 0.611 , CR: 0.742, AVE: 0.903)		
OBP1	Profit and Income	0.622	1.655
OBP2	Effectiveness and Efficiency	0.613	1.660
OBP3	Innovativeness Degree	0.598	1.860

Table 2
Discriminant Validity

Construct	BDA	WL	WW	EP	EJP	BOP
BDA	0.2311					
WL	0.2123	0.4332				
WW	0.2567	0.4566	0.2564			
OS	0.2765	0.2578	0.2245	0.2544		
EJP	0.3877	0.2433	0.4566	0.3221	0.2433	
BOP	0.241	0.297	0.258	0.654	0.233	0.356

The findings corroborated Hypotheses 1 and 2 by demonstrating that big data analytics had a direct and significant impact on both individual employee performance and the overall success of the organization. In addition, the findings corroborated H3 and H4 by demonstrating that workload significantly impacts both employee job performance and the overall performance of the organization. The findings also showed that worker compensation had a favorable impact on both individual worker productivity (β= 0.298, p 0.05) and organizational output (β= 0.433, p 0.05), lending credence to Hypotheses 5 and 6. Finally, it was observed that organizational structure had a statistically significant beneficial effect on employee job performance (β = 0.211, p 0.05) and a statistically significant positive influence on total business performance (β = 0.467, p 0.05), thus verifying H7 and H8, respectively. Overall job performance was found to be positively and significantly influenced by employee job performance (β = 0.438, p 0.05), proving H9 of the study.

Table 3
Research Hypotheses Test

	Research Hypotheses Test	Beta	P-Value	Results
H1	Big Data Analytics (BDA) → Employee Job Performance (EJP)	0.224	0.002	Supported
H2	Big Data Analytics (BDA) → Business overall Performance (BOP)	0.326	0.018	Supported
H3	Workload → Employee job Performance (EJP)	0.223	0.001	Supported
H4	Workload → Business Overall Performance (BOP)	0.255	0.002	Supported
H5	Work Wages (WW) → Employee job Performance (EJP)	0.433	0.000	Supported
H6	Work Wages (WW) → Business Overall Performance (BOP)	0.211	0.001	Supported
	Organizational Structure (OS) → Employee Job performance (EJP)	0.467	0.001	Supported
	Organizational Structure (OS) → Business Overall Performance (BOP)	0.438	0.002	Supported
H7	Employee Job performance (EJP) → Business Overall Performance (BOP)	0.425	0.000	Supported

5. Future Research and limitations

Future research may examine how big data analytics, workload, work wages, and organizational structure affect employee job performance and business overall performance in a wider range of organizational contexts; this study focused on the Jordan banking sector. Understanding the breadth and depth of these ideas requires looking at how they are implemented in different markets and sectors. To fully understand how factors like big data analytics, workload, salaries, and organizational structure affect individual employees and the company, longitudinal study would be invaluable. By keeping an eye on these variables, scientists can determine whether the claimed benefits will hold up over time and spot any changes or variations as they occur (Qasaimeh et al., 2022). However, we can

gain insight into the relationships between big data analytics, workload, work wages, and organizational structure, and employee job performance and company outcomes by considering various mediating and moderating elements. Taxes and loans cost are major factors in banking sector, and this study recommends more investigation into this issue.

The study's findings may only apply to the banking sector in Jordan and not to other sectors or locations. The effects of big data analytics on employee job performance and total company performance may vary between markets due to differences in workload, work remuneration, and organizational structure. The findings may also be less applicable to the general population because of the study's small sample size or narrow focus. The study's generalizability may be increased if it were replicated in other sectors or regions in future research. This would be helpful in figuring out if the effects of big data analytics on employee job performance and overall business performance change depending on the specifics of the circumstance. We can gain a better understanding of the interplay between big data analytics, workload, worker compensation, and organizational structure if we also account for any mediating and moderating factors. Possible mediators or moderators of the stress-inducing effects of work include globalization, consumer expectations, and intense competition, among others.

6. Research Conclusion and Implication

Employee job performance and overall business success in the Jordan banking sector are affected by big data analytics, workload, work compensation, and organizational structure. The study's secondary goal is to offer thorough data on the benefits of new ideas on enhancing worker productivity and business results, including big data analytics, workload, work pay, and organizational structure concepts. Employee job performance (H1, H3, H5, and H7) and business overall performance (H2, H4, H6, and H8) are all significantly impacted by big data analytics, workload, work wages, and organizational structure.

The findings of this study highlight the need for more investigation into the impact of big data analytics and workplace pressures on Jordan's banking sector, with the goal of assisting banks in Jordan on their efforts to grow the sector and, by extension, the country's gross domestic product. Results from this study corroborate those from the following studies (Himeur et al., 2023; Bose et al., 2023; Andronie et al., 2023; Khasawneh et al., 2023) regarding the positive effects of big data analytics on employee job performance and business overall performance in Jordan banking sector.

Workload indicators such as job completion rate, average daily issues, and task completion time were also analyzed. The results of this study lend credence to the idea that reducing employees' workloads might improve their productivity, which in turn benefits the firm. These results are in line with those of other studies (Kosch et al., 2023; Haller et al., 2023; Xi et al., 2023; Colin et al., 2023; Kane et al., 2023) in this area. The study also looked at how employee salary, experience, and skill, as well as incentives and rewards, affected productivity on the job. The results of this study lend credence to the idea that workers benefit from higher compensation because it frees their attention and energy to be better invested in improving their performance, which in turn boosts the organization's output. Previous studies (e.g., Maestas et al., 2023; Autor et al., 2023; Fortin et al., 2023) all show similar results, supporting the reliability of these studies. Finally, the study looked at how organizational structure, as exemplified by communities of practice, team projects, and physical facilities, affected outcomes. The results of this study lend credence to the idea that an effective organizational structure can have a significant impact on an organization's success by freeing up employees' attention and resources to be better applied elsewhere. Previous studies have found similar results (Purwanto et al., 2023; Radevi et al., 2023; Su et al., 2023; Koçak et al., 2023; Farhang et al., 2023) as ours.

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References

Ageed, Z. S., Zeebaree, S. R., Sadeeq, M. M., Kak, S. F., Yahia, H. S., Mahmood, M. R., & Ibrahim, I. M. (2021). Comprehensive survey of big data mining approaches in cloud systems. *Qubahan Academic Journal, 1*(2), 29-38.

Ahmad, H., & Mustafa, H. (2022). The impact of artificial intelligence, big data analytics and business intelligence on transforming capability and digital transformation in Jordanian telecommunication firms. *International Journal of Data and Network Science, 6*(3), 727-732.

Ahmad, H., Hanandeh, R., Alazzawi, F., Al-Daradkah, A., ElDmrat, A., Ghaith, Y., & Darawsheh, S. (2023). The effects of big data, artificial intelligence, and business intelligence on e-learning and business performance: Evidence from Jordanian telecommunication firms. *International Journal of Data and Network Science, 7*(1), 35-40.

Andronie, M., Lăzăroiu, G., Iatagan, M., Hurloiu, I., Ștefănescu, R., Dijmărescu, A., & Dijmărescu, I. (2023). Big Data Management Algorithms, Deep Learning-Based Object Detection Technologies, and Geospatial Simulation and Sensor Fusion Tools in the Internet of Robotic Things. *ISPRS International Journal of Geo-Information, 12*(2), 35.

Autor, D., Dube, A., & McGrew, A. (2023). *The unexpected compression: Competition at work in the low wage labor market* (No. w31010). National Bureau of Economic Research.

Bose, S., Dey, S. K., & Bhattacharjee, S. (2023). Big data, data analytics and artificial intelligence in accounting: An overview. Handbook of Big Data Research Methods: 0, 32.

Chernina, E., & Gimpelson, V. (2023). Do wages grow with experience? Deciphering the Russian puzzle. *Journal of Comparative Economics*.

Colin, C., Prince, V., Bensoussan, J. L., & Picot, M. C. (2023). Music therapy for health workers to reduce stress, mental workload and anxiety: a systematic review. *Journal of Public Health*, fdad059.

Farhang, A., Siadat, S. A., Molavi, H., & Hoveida, R. (2023). Study of factoral structure of organizational trust and its indices relation with organizational learning in southeast public universities. *Quarterly Journal of Research and Planning in Higher Education, 16*(1), 111-130.

Ferrara, B., Pansini, M., De Vincenzi, C., Buonomo, I., & Benevene, P. (2022). Investigating the role of remote working on employees' performance and well-being: an evidence-based systematic review. *International Journal of Environmental Research and Public Health, 19*(19), 12373.

Fortin, N. M., Lemieux, T., & Lloyd, N. (2023). Right-to-work laws, unionization, and wage setting. In 50th Celebratory Volume (pp. 285-325). Emerald Publishing Limited.

Fu, Q., Abdul Rahman, A. A., Jiang, H., Abbas, J., & Comite, U. (2022). Sustainable supply chain and business performance: The impact of strategy, network design, information systems, and organizational structure. *Sustainability, 14*(3), 1080.

García de Soto, B., Agustí-Juan, I., Joss, S., & Hunhevicz, J. (2022). Implications of Construction 4.0 to the workforce and organizational structures. *International Journal of Construction Management, 22*(2), 205-217.

Günther, W. A., Mehrizi, M. H. R., Huysman, M., & Feldberg, F. (2017). Debating big data: A literature review on realizing value from big data. *The Journal of Strategic Information Systems, 26*(3), 191-209.

Haller, N., Behringer, M., Reichel, T., Wahl, P., Simon, P., Krüger, K., ... & Stöggl, T. (2023). Blood-Based Biomarkers for Managing Workload in Athletes: Considerations and Recommendations for Evidence-Based Use of Established Biomarkers. Sports Medicine, 1-19.

Hammouri, Q., Aloqool, A., Saleh, B., Aldossary, H., Frejat, S., Halim, M., ... & Darawsheh, S. (2023). An empirical investigation on acceptance of e-wallets in the fintech era in Jordan: Extending UTAUT2 model with perceived trust. *International Journal of Data and Network Science, 7*(3), 1249-1258.

Hammouri, Q., Atobishi, T., Altememi, A., Al-Zagheer, H., & Khataybeh, H. (2022). The impact of investing in Big Data Analytics (BDA) in enhancing organizational agility and Performance. *Central European Management Journal, 30*(4), 1090-1093.

Hammouri, Q., Majali, T., Almajali, D., Aloqool, A., & AlGasawneh, J. A. (2021). Explore the relationship between security mechanisms and trust in e-banking: A systematic review. *Annals of the Romanian Society for Cell Biology, 25*(6), 17083-17093.

Hariri, R. H., Fredericks, E. M., & Bowers, K. M. (2019). Uncertainty in big data analytics: survey, opportunities, and challenges. *Journal of Big Data, 6*(1), 1-16.

Himeur, Y., Elnour, M., Fadli, F., Meskin, N., Petri, I., Rezgui, Y., ... & Amira, A. (2023). AI-big data analytics for building automation and management systems: a survey, actual challenges and future perspectives. *Artificial Intelligence Review, 56*(6), 4929-5021.

Kamilaris, A., Kartakoullis, A., & Prenafeta-Boldú, F. X. (2017). A review on the practice of big data analysis in agriculture. Computers and Electronics in Agriculture, 143, 23-37.

Kane, A. D., Soar, J., Armstrong, R. A., Kursumovic, E., Davies, M. T., Oglesby, F. C., ... & collaborators. (2023). Patient characteristics, anaesthetic workload and techniques in the UK: an analysis from the 7th National Audit Project (NAP7) activity survey. *Anaesthesia*, 78(6), 701-711.

Karatas, M., Eriskin, L., Deveci, M., Pamucar, D., & Garg, H. (2022). Big Data for Healthcare Industry 4.0: Applications, challenges and future perspectives. *Expert Systems with Applications, 200*, 116912.

Koçak, Ö., Levinthal, D. A., & Puranam, P. (2023). The dual challenge of search and coordination for organizational adaptation: How structures of influence matter. *Organization Science, 34*(2), 851-869.

Kosch, T., Karolus, J., Zagermann, J., Reiterer, H., Schmidt, A., & Woźniak, P. W. (2023). A survey on measuring cognitive workload in human-computer interaction. ACM Computing Surveys.

Liu, S., & Su, Y. (2023). The effect of working from home on the agglomeration economies of cities: Evidence from advertised wages. Available at SSRN 4109630.

Lutfi, A., Alrawad, M., Alsyouf, A., Almaiah, M. A., Al-Khasawneh, A., Al-Khasawneh, A. L., ... & Ibrahim, N. (2023). Drivers and impact of big data analytic adoption in the retail industry: A quantitative investigation applying structural equation modeling. *Journal of Retailing and Consumer Services, 70*, 103129.

Maestas, N., Mullen, K. J., Powell, D., Von Wachter, T., & Wenger, J. B. (2023). The value of working conditions in the United States and implications for the structure of wages. *American Economic Review, 113*(7), 2007-2047.

Masadeh, R., Almajali, D., Majali, T., Hanandeh, A., & Al-Radaideh, A. (2022). Evaluating e-learning systems success in the new normal. *International Journal of Data and Network Science, 6*(4), 1033-1042.

Nathan, R., Monk, C. T., Arlinghaus, R., Adam, T., Alós, J., Assaf, M., ... & Jarić, I. (2022). Big-data approaches lead to an increased understanding of the ecology of animal movement. *Science, 375*(6582), eabg1780.

Oussous, A., Benjelloun, F. Z., Lahcen, A. A., & Belfkih, S. (2018). Big Data technologies: A survey. *Journal of King Saud University-Computer and Information Sciences, 30*(4), 431-448.

Purwanto, A., Fahmi, K., & Sulaiman, A. (2023). Linking of Transformational Leadership, Learning Culture, Organizational Structure and School Innovation Capacity: CB SEM AMOS Analysis. *Journal of Information Systems and Management (JISMA), 2*(3), 1-8.

Radević, I., Dimovski, V., Lojpur, A., & Colnar, S. (2023). Quality of healthcare services in focus: the role of knowledge transfer, hierarchical organizational structure and trust. *Knowledge Management Research & Practice, 21*(3), 525-536.

Reddy, G. T., Reddy, M. P. K., Lakshmanna, K., Kaluri, R., Rajput, D. S., Srivastava, G., & Baker, T. (2020). Analysis of dimensionality reduction techniques on big data. *IEEE Access, 8*, 54776-54788.

Shim, S., Kim, D., Jang, J. G., Chae, S., Lee, J., & Kang, U. (2023). Fast and accurate interpretation of workload classification model. *Plos one, 18*(3), e0282595.

Su, H. C., Rungtusanatham, M. J., & Linderman, K. (2023). Retail inventory shrinkage, sensing weak security breach signals, and organizational structure. *Decision Sciences, 54*(1), 8-28.

Sutrisno, S. (2022). Determinants of employee performance: Overview of aspects of communication, work stress and compensation.

Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 5(3), 19259-19270.

Torjesen, I. (2023). Welsh government ups pay award and commits to working towards pay restoration for NHS staff. *BMJ: British Medical Journal (Online), 380,* p339.

Vaño, R., Lacalle, I., Sowiński, P., S-Julián, R., & Palau, C. E. (2023). Cloud-native workload orchestration at the edge: A deployment review and future directions. *Sensors, 23*(4), 2215.

Xi, N., Chen, J., Gama, F., Riar, M., & Hamari, J. (2023). The challenges of entering the metaverse: An experiment on the effect of extended reality on workload. *Information Systems Frontiers, 25*(2), 659-680.

Yandi, A., & Havidz, H. B. H. (2022). Employee performance model: Work engagement through job satisfaction and organizational commitment (A study of human resource management literature study). *Dinasti International Journal of Management Science, 3*(3), 547-565.