

Received: September 15, 2024

Revised: November 11, 2024

Accepted: January 27, 2025

\*Corresponding author: Rezha Adityaksa,  
Department of Management, Faculty of  
Economic and Business, Universitas  
Airlangga, Surabaya, Indonesia.

E-mail: [rezha.adityaksa2023@feb.unair.ac.id](mailto:rezha.adityaksa2023@feb.unair.ac.id)

## HUMAN RESOURCE MANAGEMENT | RESEARCH ARTICLE

## The Impact of AI Adoption on Job Engagement and Employee Trust

Rezha Adityaksa<sup>1\*</sup>, Aldo Lovely Arief Suyoso<sup>2</sup>

<sup>1,2,3</sup>Department of Management, Faculty of Economic and Business, Universitas Airlangga, Surabaya, Indonesia. Email: [rezha.adityaksa-2023@feb.unair.ac.id](mailto:rezha.adityaksa-2023@feb.unair.ac.id), [aldo.lovely.arief-2023@feb.unair.ac.id](mailto:aldo.lovely.arief-2023@feb.unair.ac.id)

**Abstract:** The adoption of Artificial Intelligence (AI) within organizations has introduced several phenomena impacting employee motivation. One significant area of interest is the perception of AI principles among employees. Employees' views on the effectiveness of AI principles in their organization can vary greatly depending on their roles and responsibilities. For example, a junior data scientist might perceive the principles differently than a Chief Analytics Officer due to their varying levels of involvement and understanding of AI's strategic implementation. This research aims to examine the influence of AI Adoption in moderating job engagement on employee trust compared to the direct influence of job engagement on employee trust. Quantitative research method using non-probability sampling and purposive sampling technique method of 200 mass media employees in Surabaya. Data analysis techniques using Smart PLS software with hypothesis testing using PLS-based SEM. The research results show that AI Adoption is able to moderate the influence of job engagement on employee trust and there is a direct influence of job engagement on employee trust.

**Keywords:** AI Adoption, Job Engagement, Employee Trust, Technology Acceptance Model, Structural Equation Model.

**JEL Classification Code:** M12, G21, C38, O15

### 1. INTRODUCTION

The adoption of Artificial Intelligence (AI) within organizations has introduced several phenomena impacting employee motivation (Worsdorfer, 2024). One significant area of interest is the perception of AI principles among employees (Hammer, et al., 2021). Employees' views on the effectiveness of AI principles in their organization can vary greatly depending on their roles and responsibilities. For instance, a junior data scientist might perceive the principles differently than a Chief Analytics Officer due to their varying levels of involvement and understanding of AI's strategic implementation. Additionally, a number of factors, such as communication, management support, training, ethical supervision, reporting systems, enforcement, measurement, accompanying technical processes, sufficient technical infrastructure, organizational structure, and an interdisciplinary approach, influence the adoption of AI principles (Gamito, 2023). These components interact in complex ways to either facilitate or hinder the successful integration of AI, thereby impacting employee motivation. Negative impacts of AI adoption are also noteworthy. Issues such as information security, data privacy, and job insecurity can arise due to digital transformation, leading to psychological effects on employees. The uncertainty surrounding job security can demotivate employees, as they may fear being replaced by AI technologies. On the other hand, the potential for AI to enhance job roles and increase efficiency can be a source of motivation for those who perceive it as a tool for professional growth and opportunity (Kuberkar, et al., 2020). These phenomena motivate researchers to investigate whether the implementation of AI can influence employee motivation. previous research show that the impact of AI adoption on employees from different perspectives. Analyzed how AI influences employee motivation through the lens of the Two-factor

Theory, finding both positive and negative impacts (Lin, 2023). AI can enhance motivation by increasing organizational fairness and promotion opportunities based on education and skills, yet it can also negatively affect employment by replacing jobs and risking employee privacy. Discussed the revolutionary effects of AI development on employment and motivation at work, emphasizing the shift towards self-motivation among employees in the information economy (Yakovenko, et al., 2022). They highlighted the reduced dependence on managerial reinforcements and the importance of sustainable personnel policies in the digital era.

Explored the role of emotional intelligence and AI in employee performance within the hotel industry, concluding that while emotional intelligence significantly impacts retention and performance, AI plays a moderating role (Prentice, et al., 2019). Investigated AI-based performance feedback, identifying both positive and negative effects on employee productivity (Zhang, et al., 2023). They found that while AI can enhance feedback accuracy and relevance, disclosing AI use can lead to negative perceptions and reduced productivity. Impact of AI adoption in Industry 4.0 organizations, revealing both positive impacts such as work flexibility and autonomy, and negative effects including job risk and insecurity (Malik, et al., 2022). The present corpus of research, which focuses on many international contexts and particular industries, offers important insights into how the adoption of artificial intelligence (AI) affects employee motivation. However, there is a notable gap in understanding how these impacts manifest specifically within the Indonesian context. Previous studies, have predominantly focused on broader or non-region-specific settings, exploring the dual impacts of AI on motivation and self-motivation in the information economy (Lin, 2023), (Yakovenko, et al., 2022). Provided industry-specific insights, there is limited research addressing how cultural, economic, and organizational factors unique to Indonesia influence the adoption of AI and its consequent impact on employee motivation (Malik, et al., 2022).

Furthermore, the interaction between AI adoption and employee motivation within the Indonesian workforce, characterized by its diverse cultural and socio-economic landscape, remains underexplored. There is a need to investigate how AI adoption affects various dimensions of employee motivation, such as job satisfaction, engagement, job security, and performance in Indonesia. Additionally, the long-term implications and potential sectoral differences in the Indonesian context have not been sufficiently studied. Based on research gap, the research question is “What is the effect of the adoption of Artificial Intelligence on employee motivation in Indonesia?”. This study aims to investigate and evaluate the effects of artificial intelligence use on worker motivation in Indonesia, taking into account the country's unique cultural, economic, and organizational characteristics. This study seeks to identify both the positive and negative impacts of AI implementation on several aspects of worker motivation, such as performance, job security, engagement, and satisfaction. Furthermore, the research aims to provide insights and recommendations for organizations in Indonesia to effectively manage AI adoption in a way that enhances employee motivation and overall organizational outcomes.

## 2. LITERATURE REVIEW

### 2.1. *The Two-Factor Theory*

The Two-Factor Theory, posits that there are two distinct sets of factors influencing job satisfaction and motivation: motivators and hygiene factors (Herzberg, 1965). Motivators, also known as intrinsic factors, include aspects such as accomplishment, acknowledgment, the task at hand, accountability, and progress. When these elements are present, job satisfaction and motivation are higher. Conversely, hygienic elements, sometimes referred to as external factors, including working circumstances, policies of the organization, supervision, pay, and interpersonal relationships. While the presence of hygiene factors does not necessarily increase job satisfaction, their absence can cause significant dissatisfaction (Herzberg, 1965). By applying the Two-Factor Theory, the research can investigate how AI adoption influences intrinsic motivators among Indonesian employees. For instance, the introduction of AI might enhance employees' sense of achievement and responsibility by enabling them to tackle more complex and creative tasks that AI cannot perform. This could lead to higher job satisfaction and motivation (Herzberg, 1965). The theory also helps in examining the

impact of AI on hygiene factors. AI adoption might lead to changes in company policies, supervision methods, and working conditions. For example, if AI systems are perceived as intrusive or if they lead to increased job insecurity, these could become significant sources of dissatisfaction (Herzberg, 1965).

### 2.2. *Technology Acceptance Model (TAM)*

The Technology Acceptance Model (TAM), explains how users come to accept and use technology. TAM posits that two primary factors influence an individual's decision to use a technology, perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989). The degree to which someone feels that utilizing a specific system would improve their performance at work is known as perceived usefulness, whereas the degree to which someone believes that utilizing a specific system would require no effort is known as perceived ease of use. The user's attitude toward using the technology is influenced by these perceptions, and this attitude then influences their behavioral intention to use the technology, which finally results in real usage behavior. Additionally, external variables such as system characteristics, user training, and user support can influence PU and PEOU (Davis, 1989). By applying TAM, the research can investigate how employees in Indonesia perceive the usefulness of AI technologies in their daily tasks. This includes assessing whether employees believe that AI can improve their job performance, efficiency, and overall productivity (Davis, 1989). The research can also explore how easy employees find it to use AI technologies. If AI systems are perceived as user-friendly and require minimal effort to learn and use, employees are more likely to adopt and engage with them positively (Shaikh, et al., 2020).

### 2.3. *Hypotheses Development*

According to the Two categories exist in Two-Factor Theory, many factors that influence employee motivation: considerations and motivators related to hygiene. Motivators (intrinsic variables) such as achievement, acknowledgment, the work itself, responsibility, and progress lead to higher levels of job satisfaction and motivation. When they are insufficient, hygiene elements (extrinsic variables) such working environment, pay, supervision, and interpersonal relationships lead to discontent but do not always result in increased satisfaction even when they are addressed. According to the Technology adoption Model, perceived utility (PU) and perceived ease of use (PEOU) are the primary factors that influence adoption. The extent to which an individual feels that utilizing the idea that a certain piece of technology would make their job easier is known as perceived utility. Perceived ease of use is the degree to which a user believes that a particular technology would be simple to use.

Based on the previous research, AI adoption can improve employee motivation in several ways. Highlights that AI can stimulate motivation by enhancing organizational fairness through objective screening and promotion criteria based on skills and education, which can boost employees' motivation despite the risks of layoffs and privacy concerns (Lin, 2023). Argue that AI development fosters self-motivation among employees by reducing their dependence on management reinforcements and promoting a sustainable personnel policy (Yakovenko, et al., 2022). This shift helps employees reach their goals more efficiently, thereby enhancing motivation. Moreover, found that while emotional intelligence significantly impacts employee retention and performance, AI plays a moderating role, suggesting that AI can enhance performance by complementing human intelligence (Prentice, et al., 2019). Emphasize that AI-based performance feedback improves productivity through high-quality, relevant feedback, although transparency about AI use is crucial to avoid negative perceptions that could harm productivity (Zhang, et al., 2023). For that reason, the hypotheses of this research is:

H1 : AI Adoption have positive corellation on Employee Motivation

## 3. RESEARCH METHOD AND MATERIALS



The methodology for this study approach will be quantitative explanatory. This approach is chosen to systematically quantify the relationships between AI adoption and various dimensions of employee motivation, and to explain the underlying mechanisms driving these relationships. Quantitative explanatory research is appropriate for this study as it allows for the collection of numerical data that can be analyzed using statistical methods to test hypotheses and determine causal relationships (Creswell, 2021).

**Table 1. Variable Measurement**

No	Definition	Measurement	Citation
1	AI Adoption	Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) measured through a structured survey using a Likert scale (1-5).	Davis, 1989
2	Employee Motivation	Motivators (achievement, recognition, work itself, responsibility, advancement) and hygiene factors (company policies, supervision, salary, interpersonal relations, working conditions) measured through a structured survey using a Likert scale (1-5).	Herzberg et al., 1959

The data for this research will be collected from employees working in various industries in Indonesia that have adopted Artificial Intelligence technologies. The industries include but are not limited to information technology, manufacturing, finance, healthcare, and retail. Organizations that have implemented AI in their operations will be identified, and employees from these organizations will be selected for the study. The selection will ensure diversity in terms of job roles, levels of experience, and organizational sizes.

- 1. Questionnaire Design:** Items on employee motivation (motivators and hygiene factors) and AI adoption (considered usefulness and perceived simplicity of use) are included in the survey. The items will be measured using a Likert scale with a range of 1 (strongly disagree) to 5 (strongly agree).
- 2. Validation:** A pilot study will be conducted to validate the survey instrument in order to guarantee its validity and reliability.
- 3. Purposive Sampling:** Respondents will be selected based on their experience with AI technologies in their workplace. This includes employees in roles involving interaction with AI across various industries and organizational sizes in Indonesia.
- 4. Survey Distribution:** The questionnaire will be distributed online or in-person to the selected respondents. Participation will be voluntary, and anonymity will be ensured to encourage honest responses.

The use of partial least squares (PLS) with structural equation modeling (SEM) using the SmartPLS software is appropriate for this research for a number of reasons. Firstly, SEM-PLS allows for the simultaneous analysis of many dependent and independent variables, making it a good choice for complicated model analysis incorporating multiple constructs and indicators. This is particularly relevant for studying the multifaceted relationship between AI adoption (measured by perceived usefulness and perceived ease of use) and employee motivation (measured by motivators and hygiene factors) (Davis, 1989). Second, SEM-PLS is robust even with small to medium sample sizes, making it suitable for this research given the purposive sampling method and specific respondent criteria.

Additionally, SEM-PLS does not assume normality of data, which is beneficial as the data collected from employees' perceptions and experiences with AI may not follow a normal distribution. This characteristic ensures reliable results despite potential deviations from normality. SEM-PLS is perfect for both exploratory and predictive research since it is prediction-oriented and maximizes the explained variance of dependent variables. In this study, SEM-PLS helps predict how AI adoption influences employee motivation, providing insights into the predictive relationships between these

constructs. The method also offers flexibility in specifying the measurement and structural models, allowing for accurate modeling of the constructs involved.

The use of bootstrapping techniques in SEM-PLS for hypothesis testing enhances the robustness of the results. Bootstrapping assesses the significance of path coefficients without relying on parametric assumptions, thus rigorously testing hypotheses regarding the impact of AI adoption on employee motivation. Furthermore, a thorough assessment of the model's explanatory and predictive capacity is made possible by SEM-PLS's extensive model evaluation metrics, which include R<sup>2</sup> (coefficient of determination), path coefficients, effect sizes (f<sup>2</sup>), and predictive relevance (Q<sup>2</sup>).

Overall, using SEM-PLS with SmartPLS in this research ensures a thorough analysis of the complex relationships between AI adoption and employee motivation, providing robust and reliable insights. This methodological approach supports the development of evidence-based strategies for managing AI integration in the workplace, specifically within the Indonesian context. The framework for this research can be seen in Figure 1.

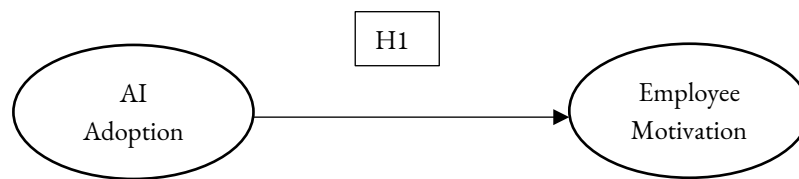


Figure 1. Conceptual Framework

## 4. RESULTS AND DISCUSSION

### 4.1. Statistical Result

Artificial Intelligence (AI) is being used by a variety of businesses at a quick pace, which has significantly changed the workplace. This study looks into how the deployment of AI affects employee motivation in Indonesia, a country where cultural dynamics and technology advancements are closely intertwined. Understanding how AI influences employee motivation is essential for organizations aiming to leverage AI technologies while maintaining a motivated and productive workforce. Using SmartPLS software, the study's quantitative explanatory research design makes use of structural equation modeling with partial least squares (SEM-PLS). This approach allows for the examination of complex relationships between AI adoption and employee motivation, capturing both intrinsic and extrinsic factors. Data were collected from 111 employees across various industries in Indonesia, ensuring a representative sample of the workforce.

Table 2. Descriptive Statistics

	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness	Number of observations used
AI Adoption	0.000	-0.008	-3.199	1.386	1.000	0.190	-0.430	111.000
Employee Motivation	0.000	0.096	-3.264	1.359	1.000	0.118	-0.459	111.000

The descriptive statistics output from SmartPLS for the constructs "AI Adoption" and "Employee Motivation" reveals several key insights based on 111 observations. Both constructs have a mean value of 0.000, indicating that the data is symmetrically distributed around zero. The median values are -0.008 for AI Adoption and 0.096 for Employee Motivation, suggesting a slight negative skew for AI Adoption and a slightly higher central tendency for Employee Motivation compared to their means. The observed minimum and maximum values for AI Adoption are -3.199 and 1.386, respectively, indicating a wide spread of responses, reflecting variability in how AI adoption is perceived. Similarly, the observed range for Employee Motivation is -3.264 to 1.359, showing comparable variability in employee motivation responses. Both constructs have a standard deviation of 1.000, normalizing the

variability around the mean and indicating consistent dispersion of data points. The descriptive statistics suggest that AI Adoption and Employee Motivation exhibit similar distribution characteristics with slight left skewness and minor deviations from normality. The consistent standard deviation across both constructs indicates comparable variability in the responses, providing a reliable basis for further structural equation modeling analysis using SmartPLS.

**Table 3. Outer Model**

Matrix	Ai Adoption	Employee Motivation
AI1	0.767	
AI2	0.817	
ES1		0.823
ES2		0.796
ES3		0.726
ES4		0.748
ES5		0.821
ES6		0.625
ES7		0.801
ES8		0.748
ES9		0.821
ES10		0.636

The matrix from SmartPLS shows the outer loadings of indicators on the latent constructs "AI Adoption" and "Employee Motivation." For AI Adoption, both indicators (AI1 and AI2) have high loadings (0.767 and 0.817), indicating strong correlations with the construct. For Employee Motivation, most indicators (ES1, ES2, ES4, ES5, ES7, ES8, ES9) also have high loadings (ranging from 0.726 to 0.823), suggesting they are strong indicators. However, ES6 (0.625) and ES10 (0.636) have lower loadings, indicating moderate correlations and potentially weaker contributions to the construct. Overall, the loadings suggest good measurement reliability, with some exceptions that may need further examination.

**Table 4. Inner Model**

AI Adoption	Employee Motivation
	0.405

The inner model findings reveal a path coefficient of 0.405 between "AI Adoption" and "Employee Motivation." This indicates a moderate positive relationship between the two constructs, suggesting that as AI adoption increases within an organization, employee motivation also rises. The value of 0.405 signifies that AI adoption explains a significant portion of the variance in employee motivation, although other factors are likely involved as well. A path coefficient of 0.405 is substantial in social science research, reflecting a meaningful and statistically significant relationship. This positive coefficient implies that AI adoption can enhance employee motivation by improving perceptions of organizational fairness, providing objective and transparent evaluation criteria. Additionally, AI tools can help employees perform tasks more efficiently and autonomously, contributing to higher levels of self-motivation and psychological empowerment. This increase in motivation due to AI adoption can also lead to improved productivity and higher engagement levels among employees, ultimately benefiting overall organizational performance. In conclusion, the inner model demonstrates a clear positive relationship between AI Adoption and Employee Motivation. This suggests that integrating AI technologies within organizations can significantly enhance employee motivation, through mechanisms such as increased fairness, efficiency, self-motivation, and engagement. Organizations should consider these benefits when planning and implementing AI initiatives to maximize the positive impact on their workforce.

#### 4.2. Discussion

The findings indicate that AI Adoption positively impacts Employee Motivation, with the hypothesis being accepted based on the path coefficient of 0.405. This analysis aims to

comprehensively explore why this relationship exists, drawing on various dimensions highlighted in previous research and theoretical frameworks. What the reason why AI Adoption can improve the Employee Motivation ?. The explanation of this findings show below:

- a) AI technologies can provide more objective and transparent methods for evaluating employee performance (Lin, 2023). This reduces biases and ensures that promotions and rewards are based on merit, which enhances employees' perceptions of fairness and equity within the organization. AI can help in setting clear and unbiased criteria for promotions and career advancements based on skills and performance metrics, thus motivating employees to improve and excel in their roles.
- b) Employees can concentrate on more strategic and important work by using AI to automate boring and repetitive jobs. This improves productivity while also giving workers a sense of worth and engagement (Yakovenko, et al., 2022). AI-based systems can provide real-time, accurate feedback, helping employees understand their performance levels and areas for improvement (Zhang, et al., 2023). This continuous feedback loop can boost motivation by helping employees see tangible progress and achievements.
- c) AI tools can empower employees by giving them greater control over their tasks and workflows. This psychological empowerment leads to improved job satisfaction and motivation (Lin, 2023). By reducing the need for close supervision and enabling more autonomous work environments, AI fosters a sense of trust and responsibility among employees, which can significantly enhance their intrinsic motivation.
- d) AI can introduce flexibility in job roles and enable creative problem-solving, which can make work more interesting and fulfilling for employees (Malik, et al., 2022). Flexible work conditions and opportunities for innovation are strong motivators.
- e) AI can optimize workloads and schedules, helping employees maintain a better work-life balance, which is crucial for sustaining long-term motivation and job satisfaction.
- f) AI can improve internal communication and foster a collaborative work environment, where employees feel more connected and engaged (Lin, 2023). This collaborative culture contributes to higher levels of motivation.
- g) AI systems can help in recognizing and rewarding employees' contributions in a timely and personalized manner, which enhances their sense of belonging and motivation.
- h) By improving productivity and reducing operational costs, AI can contribute to the overall financial health of the organization. This economic stability can translate into better job security and compensation for employees, further enhancing their motivation.

This findings is supported by various factors that improve both the intrinsic and extrinsic motivators for employees. The integration of AI technologies in the workplace enhances fairness, efficiency, empowerment, work conditions, organizational culture, and economic stability, all of which are critical components of employee motivation.

## 5. CONCLUSION

The adoption of Artificial Intelligence (AI) within organizations significantly impacts employee motivation. This study reveals a positive relationship between AI adoption and employee motivation, supported by a path coefficient of 0.405. AI technologies enhance employee motivation through several mechanisms, including increased organizational fairness, improved efficiency and productivity, psychological empowerment, better work conditions, enhanced organizational culture, and economic stability. The study was based on data from 111 employees across various industries in Indonesia. While this provides a broad perspective, a larger and more diverse sample could offer deeper insights. Future research should adopt longitudinal designs to examine how AI adoption affects employee motivation over time and to establish causal relationships. This suggest Including a larger and more diverse sample from different regions and industries could enhance the generalizability of the findings.

## REFERENCE

- Creswell. (2021). *A Concise Introduction to Mixed Methods Research*. USA: SAGE.
- Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology. *MIT Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Gamito, M. (2023). The Influence of China in AI Governance Through Standardisation. *Journal of Telecommunications Policy*, 47(10), 30-40. <https://doi.org/10.1016/j.telpol.2023.102673>
- Hammer, & Karmakar. (2021). Automation AI and the Future of Work in India. *Journal of Labor and Society*, 43(6), 1327-1341. <https://doi.org/10.1108/ER-12-2019-0452>.
- Herzberg, F. (1965). The Motivation to Work Among Finnish Supervisors. *Personnel Psychology*, 18(4), 393-402.
- Kuberkar, S., & Singhai, T. (2020). Factors Influencing Adoption Intention of AI Powered Chatbot for Public Transport Services within a Smart City. *International Journal on Emerging Technologies*, 11(3), 948-958.
- Lin, S. (2023). Based on the Two-Factor Theory, The Influence of Artificial Intelligence on Employee Motivation is Analyzed. *Frontiers in Business Economics and Management*, 11(3), 91-94. <https://doi.org/10.54097/fbem.v11i3.13194>
- Malik, Tripathi, Kar, & Gupta. (2022). Impact of Artificial Intelligence on Employees Working in Industry 4.0 Ied Organizations. *International Journal of Manpower*, 43(2), 201-222. <https://doi.org/10.1108/ijm-03-2021-0173>
- Prentice, C., Lopes, S., & Wang, X. (2019). Emotional Intelligence or Artificial Intelligence-An Employee Perspective. *Journal of Hospitality Marketing & Management*, 29(1), 377-403. <https://doi.org/10.1080/19368623.2019.1647124>.
- Shaikh, Qureshi, Noordin, Shaikh, Khan, & Shahbaz. (2020). Acceptance of Islamic Financial Technology Banking Services by Malaysian Users : An Extension of Technology Acceptance Model. *Foresight*, 22(3), 367-383. <https://doi.org/10.1108/FS-12-2019-0105>.
- Worsdorfer, M. (2024). Mitigating the Adverse Effects of AI With European Union's Artificial Intelligence Act : Hype or Hope?. *Global Business and Organizational Excellence*, 43(3), 106-126. <https://doi.org/10.1002/joc.22238>.
- Yakovenko, Y., Bilyk, M., & Oiiinyk, Y. (2022). The Transformative impact of the Development of Artificial Intelligence on Employment and Work Motivation in Business in the Conditions of the Information Economy. *Journal of Management*, 2(2), 1-6. <https://doi.org/10.1109/MEES58014.2022.10005652>.
- Zhang, J., Li, X., & Tong, T. (2023). A Tale of Two Types of Standard Setting : Evidence From Artificial Intelligence in China. *Journal of Management*, 50(4), 1393-1423. <https://doi.org/10.1177/01492063221145130>.