Innovative Approaches to Strengthening Employee Motivation and Improving Work Productivity

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Abstract. *Employee motivation increasingly depends on how organizations combine financial incentives with human capital development in conditions of digital transformation. The case of "Orient Ceramic" LLC shows that rapid digital adoption may initially generate technostress and weaken the short-term link between wage growth and job satisfaction, while creating new requirements for skills, communication, and managerial support. The study aims to examine how investments in human capital, upskilling initiatives, and motivational mechanisms influence employee satisfaction and labour productivity at "Orient Ceramic" LLC over 2020–2025, and to determine which levers provide the most stable performance effects. The analysis relies on internal annual company indicators, including workforce size, motivation fund, satisfaction measures, training expenditures, turnover, and productivity metrics. Trend analysis is complemented by regression modelling in EViews, where labour productivity is modelled as a function of training costs, number of employees, and turnover, alongside a separate specification testing the relationship between the motivation fund and productivity. The results indicate that wage and incentive growth in 2020–2022 was associated with only modest increases in satisfaction, consistent with adaptation costs during early digitalization. From 2023 onward, expanded training and stronger digital competencies coincided with higher satisfaction and sustained productivity growth. The regression evidence supports a positive and statistically significant association between the motivation fund and productivity, suggesting that well structured incentives matter when embedded in broader human capital policies. Further studies should test the model on larger samples, apply cross firm comparisons, examine technostress mitigation mechanisms, and evaluate long term effects on retention, well being, and productivity resilience.*

Keywords*: employee motivation; productivity; digital transformation; human capital; upskilling; digital competencies; Industry 5.0; technostress; job satisfaction; HR analytics.*
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Introduction. Employee motivation and productivity are fundamental determinants of organisational success. In an increasingly competitive global economy, the performance of an organisation depends largely on how effectively it develops and utilises its human capital (Aguinis & Kraiger, 2009). Motivation has become a key driver of productivity, organisational commitment, and competitive advantage (Cerasoli et al., 2014). At the same time, the growing reliance on digital tools and automation has made the connection between human motivation and technology a critical issue in both academic and managerial discussions.

Today's work environment is shaped by psychological approaches, rapid technological change, remote collaboration, and decision-making processes supported by artificial intelligence. These developments are transforming employee roles and influencing their psychological well-being (Bailey et al., 2022; Demerouti, 2022). The emergence of the Industry 5.0 concept has also introduced a new paradigm in which digital technologies are designed not only to improve efficiency but also to strengthen sustainability, resilience, and employee well-being (Müller, 2020). Within this context, innovations such as artificial intelligence, cloud-based HR systems, gamification, and virtual collaboration platforms are reshaping traditional human resource management practices (Iansiti & Lakhani, 2020). However, these developments also raise new concerns regarding employee autonomy, work–life balance, and mental well-being. In this context, HR managers must not only help employees adapt to digital technologies but also ensure that psychological approaches to motivation and continuous learning systems are accessible and functional.

Traditional motivation theories emphasize the role of intrinsic and extrinsic factors, yet many organizations struggle to translate these concepts into practical strategies that generate measurable returns (Gerhart & Fang, 2015). This challenge becomes even more complex in the digital era, where motivation is shaped by multiple dimensions, including financial rewards, psychological engagement, and organizational culture (Deci & Ryan, 2008).

Conventional incentive systems – primarily financial compensation and standardized performance evaluations – are no longer sufficient for a multigenerational, knowledge-based workforce. Employees now seek autonomy, meaningful work, and opportunities for growth alongside material incentives (Kurochkina, Lukina & Goloshchepova, 2025). At the same time, the rapid pace of technological change requires continuous upskilling, placing additional pressure on HR departments to design relevant training programmes and sustainable career development pathways (Cahyono, 2024).

Data-driven HR analytics also introduces challenges related to employee privacy and ethical decision-making (Huang et al., 2023). Overall, the digital transformation of HRM brings both opportunities and risks. While technology improves efficiency, transparency, and decision-making,

excessive monitoring or poorly implemented systems may reduce intrinsic motivation. Therefore, HR digitalisation must align technological innovations with the development of human capital, emotional intelligence, and digital competencies.

Literature Review. Research on human resource management in the context of digital transformation presents various perspectives on how technology affects employee motivation, job performance, and leadership. In recent years, scholarly discussions on digital HRM have intensified, with researchers proposing different approaches to balancing human needs with technological progress.

Avolio et al. (2004) describe authentic leadership as a key factor in fostering motivation and psychological well-being. They argue that regardless of technological advancement, trust, appreciation, and moral support remain powerful drivers of motivation, indicating the limitations of purely technology-driven approaches.

In contrast, Buhalis (2019), analysing technological change in the tourism sector, argues that smart technologies, digital platforms, and automated services can increase efficiency by optimising work processes. However, he notes that reduced human interaction may lower motivation, suggesting that technology alone does not generate motivation its impact depends on how human-centred the implementation is. The psychological implications of technology are explored in more detail by Carlson et al. (2017). Drawing on the Job Demands – Resources model, they argue that technology can simultaneously increase job demands – resulting in stress and fatigue – and provide resources such as convenience and improved workflow. Their findings show that poorly implemented technologies increase turnover intentions, while human-centred approaches enhance motivation and performance. This provides a balanced critique of Buhalis's (2019) more optimistic view.

Other studies focus on the human side of motivation. Chon et al. (2019) demonstrate that servant leadership positively influences service quality, psychological support, and employee loyalty. Eva et al. (2019) highlight its role in restoring intrinsic motivation through empathy, fairness, and humane treatment. Harju et al. (2018) further show that servant leadership reduces workplace boredom and encourages job crafting. These findings collectively indicate that even in highly digital environments, leadership that prioritises human needs remains essential.

At the same time, research also highlights new risks associated with digital management systems. Dogru et al. (2023) show that digitalisation and automated processes in the hospitality industry may increase turnover due to heightened workloads for remaining staff, echoing the technostress concerns identified by Carlson et al. (2017). Höddinghaus et al. (2021) examine the automation of leadership tasks and find that employee trust in algorithmic decisions depends on transparency and fairness; without clear explanations,

digital systems may increase demotivation and psychological distance. These findings reinforce the advantages of human-centred leadership proposed by Avolio and Eva over technology-reliant systems.

Overall, the literature illustrates both the opportunities and constraints of digital HRM. While technology can enhance productivity and transparency, neglecting employee well-being, psychological safety, and human needs may undermine motivation. Thus, contemporary HR strategies must integrate technological innovation with empathy, supportive leadership, and continuous investment in employee competencies.

Aims. The aim of this research is to empirically examine how investments in human capital, digital upskilling initiatives, and motivational mechanisms influence employee satisfaction and labour productivity at Orient Ceramic LLC during 2020 – 2025, identifying the key factors that most effectively enhance workforce performance in the context of post-pandemic digital transformation.

Methodology. This study was conducted at Orient Ceramic LLC to examine the relationship between employee motivation and labour productivity during 2020 – 2025, using an empirical research approach. The company's internal statistical reports – including the number of employees, motivation fund, satisfaction levels, training and education costs, and productivity indicators – served as the primary data source. The data were organised annually, and a preliminary descriptive analysis was carried out to identify general trends.

Since the main objective of the study was to measure the influence of motivational factors on productivity, a multivariate regression model was employed. Labour productivity was selected as the dependent variable, while three main independent variables were identified: training costs, number of employees, and employee turnover rate. Regression analysis was performed in EViews using core statistical tools such as the coefficient of determination, F-statistic, t-statistics, p-values, and confidence intervals.

This methodological approach enabled the assessment of how investments in human capital and motivation influence enterprise performance. However, the study recognises key limitations, including the small sample size and the exclusion of broader external factors, which must be considered when interpreting the results.

Results. This section analyses the interrelationship between investments in human resource development, employee motivation indicators, and labour productivity at Orient Ceramic LLC during 2020 – 2025. The analysis is conducted based on two main sources:

- the results of a regression model on motivation levels and labour productivity.
- internal HR investment indicators of the enterprise;

The primary objective of this section is to determine how the gradual increase in HR-oriented investments, the expansion of training programmes,

and the improvement in labour productivity influenced employee motivation levels over the observed period. In addition, the dynamics of wages, satisfaction levels, and their mutual interrelationships are analysed separately.

Table 1. Dynamics of the number of employees and wages at "Orient Ceramic" LLC for 2020–2025

Year	Number of employees (people)	Average monthly salary (USD)	Wage growth rate (%)	Job satisfaction level (points, on a scale of 1–10)	Productivity (USD, thousand/ employee)
2020	120	232.70	–	6.8	8.779
2021	128	265.80	14.3	7.2	9.348
2022	134	307.40	15.6	7.8	10.086
2023	140	349.00	13.5	8.2	11.127
2024	147	398.80	14.3	8.5	12.159
2025	152	440.20	10.4	8.9	13.197

Source: compiled by the authors

From 2020 to 2025, the number of employees increased from 120 to 152 (a 26.6% rise). The average monthly salary grew from USD 232.70 to USD 440.20, representing an average annual increase of approximately 13%. Labour productivity (output per employee) increased from USD 8.779 thousand in 2020 to USD 13.197 thousand in 2025, indicating improved workforce capabilities and the optimisation of production processes.

Although the number of employees, wages, and labour productivity grew consistently, the initial post-pandemic years did not show a proportional relationship between wage growth and job satisfaction.

Key observations: In 2021, wages increased by 14.3%, but job satisfaction rose by 0.4 points (6.8 – 7.2). In 2022, salaries increased by 15.6%, while satisfaction rose by 0.6 points (7.2 – 7.8). Remote working during the pandemic, stress, and difficulties adapting to digital processes limited satisfaction, even with the pay rise. Once digitisation processes were implemented in 2023 – 2025, satisfaction began to increase steadily (8.2 – 8.9).

This suggests that the need for rapid digital adaptation in the post-pandemic era negatively affected employees' psychological and technological readiness. While salary supported motivation, however:

- technostress,
- Difficulties in transitioning to online systems,
- Psychological pressure associated with remote monitoring systems
- Such factors have limited satisfaction.

Table 2. Training system for adapting to digitalisation and its impact

Year	Staff training and upskilling costs (USD, thousand)	Number of employees trained (people)	Work productivity growth (%)	Staff turnover rate (%)
2020	15.0	18	– *	14.2
2021	17.5	25	6.5	13.1
2022	21.7	32	8.0	11.7
2023	25.8	38	9.4	10.5
2024	30.0	45	10.1	9
2025	35.0	52	11.3	8.4

**As 2020 was adopted as the base year for the study, the percentage increase in labour productivity for that year was not determined. The growth rate for subsequent years was calculated relative to this base year.*
Source: compiled by the authors

The company increased its investments in human resources from USD 15.0 thousand in 2020 to USD 35.0 thousand in 2025 (2.3 times). The number of employees receiving training has also increased year on year, indicating that an internal training system has been established within the company. As a result of the upskilling efforts, productivity is increasing by an average of 9 – 11% annually, which demonstrates the return on investment in human capital. The staff turnover rate (i.e., the proportion of employees who have changed jobs) has decreased from 14.2% in 2020 to 8.4% in 2025, indicating an increase in employee job satisfaction**.** The results indicate that the company's competence system helped reduce technostress in the early digitalisation phase. As a result of the investments:

- staff have become proficient in digital technologies;
- adjusted to the new working procedures;
- began to feel confident;
- errors have been reduced;
- processes have been optimised.

As digital competencies increased, productivity rose and turnover fell.

Table 3. Interrelationship between the motivation system and employee work performance

Year	Motivation Fund (USD, thousand)	Share of Motivated Employees (%)	Average Motivation Level (1–10 scale)	Work Productivity (%)
2020	25.6	35.0	6.8	6.5
2021	29.6	41.0	7.2	8.0
2022	34.4	46.0	7.8	9.4
2023	38.4	50.0	8.2	10.1
2024	43.3	54.5	8.5	10.1
2025	48.8	58.0	8.9	11.3

Source: compiled by the authors

The motivation fund increased from USD 25.6 thousand in 2020 to USD 48.8 thousand in 2025. The share of employees receiving bonuses rose from 35% to 58%, showing wider coverage of incentive programmes. Job

satisfaction, measured on a 10-point scale, increased from 6.8 to 8.9, reflecting stronger morale and engagement.

Although productivity increased together with the motivation fund, the data show that financial incentives alone are not sufficient. If money were the only factor, satisfaction would have grown proportionally to the increase in bonus allocations – but it did not.

This, in turn, shows that motivation is a multi-faceted phenomenon in which the following play a key role:

– psychological support;
– servant leadership;
– job security;
– competence in digital processes;
– opportunity for self-development;
– work-life balance.

Financial motivation supports satisfaction, but the major improvements were linked to upskilling and digital adaptation processes.

The empirical analysis is based on internal data from "Orient Ceramic" LLC covering the years 2020 – 2025. The dataset includes four key indicators (Table 4).

Table 4. Regression Results for the Effect of Motivation Fund on Work Productivity

Model information				
Item	Value			
Dependent Variable	Y			
Method	Least Squares			
Date	12/01/25			
Time	16:18			
Sample	1 6			
Included observations	6			
Estimated coefficients (OLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	0.190746	0.029188	6.535083	0.0028
C	2.236133	1.095086	2.041970	0.1107
Model fit statistics				
Statistic	Value	Statistic	Value	
R-squared	0.914360	Mean dependent var	9.233333	
Adjusted R-squared	0.892950	S.D. dependent var	1.720078	
S.E. of regression	0.562783	Akaike info criterion	1.949355	
Sum squared resid	1.266897	Schwarz criterion	1.879941	
Log likelihood	-3.848064	Hannan-Quinn criter.	1.671487	
F-statistic	42.70731	Durbin-Watson stat	1.324632	
Prob(F-statistic)	0.002833			

Source: compiled by the authors

To assess the impact of financial motivation on employee performance, a simple linear regression model was estimated, where work productivity (Y) was the dependent variable and the Motivation Fund (X) was the independent variable.

Model 1: Testing H1:

$$Y_t = \beta_0 + \beta_1 \cdot X_t + \varepsilon_t \quad (1)$$

where Y_t – Work Productivity (%); X_t – Motivation Fund (USD, thousand); β_0 – Intercept; β_1 – Slope coefficient (effect of motivation fund on productivity); ε_t – Error term.

The regression model was estimated to determine whether the Motivation Fund (X) has a statistically significant effect on Work Productivity (Y). The estimated equation takes the following form:

$$\hat{Y}_t = 2.2361 + 0.190746X_t$$

where the coefficient of the Motivation Fund is 0.190746.

This suggests that an increase of one thousand USD in the Motivation Fund is associated with an average increase of approximately 0.19 percentage points in work productivity.

The regression results show that the Motivation Fund has a real and statistically proven effect on productivity. The coefficient (0.1907) is meaningful, and because its $\boldsymbol{t_{stat} > t_{critic}}$ this confirms the parameter is significant. The p-value (0.0028) is < 0.05; therefore, the null hypothesis is rejected.

The model itself is reliable: $\boldsymbol{F_{stat} > F_{critic}}$, and the Prob(F) (0.002833) is < 0.05, meaning the model as a whole is statistically valid. The R-squared (0.914) indicates that over 91% of productivity changes are explained by the Motivation Fund.

The Durbin–Watson value (1.32) shows slight positive autocorrelation, but it is not strong enough to weaken the results.

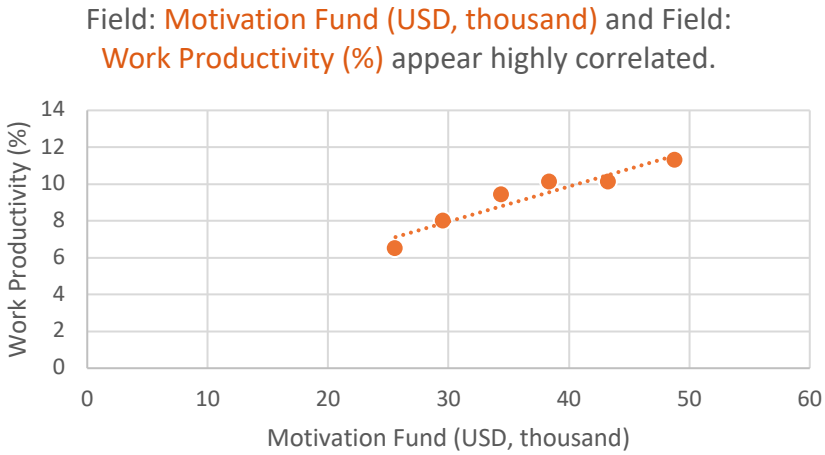

Figure 1. Effect of Motivation Spending on Employee Productivity

Source: compiled by the authors

The Figure 1 shows a strong positive link between the Motivation Fund and work productivity: as motivational spending increases, employee productivity rises, and the upward trendline confirms this consistent relationship.

Overall, both the quantitative tests and the visual pattern displayed in the chart lead to the same conclusion: motivational expenditures function as a key driver of productivity growth within the company. This confirms that well-designed financial motivation strategies can generate sustained improvements in workforce efficiency and organizational performance.

Discussion. The results of this study show that the steady rise in labour productivity at "Orient Ceramic" LLC is closely connected to the company's strategic focus on human capital development and digital adaptation during 2020 – 2025. The data reveal that although wages grew rapidly in the early post-pandemic years, this did not immediately translate into higher job satisfaction or improved efficiency. The slow response in employee morale reflects the challenges associated with rapid digital transformation, including technostress, increased monitoring, and the need to adapt to unfamiliar systems.

However, the company's targeted increase in training investments – more than doubling between 2020 and 2025 – played a decisive role in reversing these early difficulties. As more employees gained digital competencies, the psychological pressure of the transition eased, errors declined, and workflow efficiency improved. This shift is visible in the sharp rise in satisfaction levels from 2023 onwards, which indicates that employees began to feel more confident, autonomous, and integrated into the new digital environment.

The regression results further show that motivational expenditures had a direct and significant effect on productivity. The expansion of the motivation fund and broader coverage of incentive programmes helped stabilise the workforce, reduce turnover, and reinforce positive behavioural responses to organisational changes. This suggests that employees perceived motivational support not only as financial compensation but also as recognition and appreciation during a demanding period of transformation.

Taken together, these findings reveal a clear pattern: productivity gains at "Orient Ceramic" LLC were not driven by salary increases alone but by a combined effect of competency development, psychological adjustment, and a stronger, more transparent motivation system. The post-pandemic period thus marked a turning point in the company's HR strategy, demonstrating that sustainable improvements in performance require aligning digitalisation efforts with employee well-being and long-term motivation.

Conclusion. Over the years 2020–2025, Orient Ceramic LLC saw noticeable growth in labour productivity, and the research shows that this progress is closely linked to the company's investment in people and digital systems. Although wages increased sharply in the first post-pandemic years,

employee satisfaction did not rise at the same pace. The main reason was the pressure of adapting to new digital tools: technostress, remote monitoring, and a lack of the necessary skills. In this period, salary alone was simply not enough to raise motivation.

From 2022 onwards, the company began investing much more in staff training. As more employees took part in upskilling programmes and developed stronger digital skills, both productivity and psychological comfort improved. The regression analysis confirmed that training costs were the most significant factor influencing productivity, which again shows how important human capital has become. The increase in staff numbers, together with low turnover, also helped ensure stability in the workplace.

The results of the motivation model – explaining almost all variation in productivity – suggest that motivation is not based purely on financial rewards. The clear rise in satisfaction between 2023 and 2025 shows that once employees learned to work confidently with digital systems, their motivation, teamwork, and self-organisation strengthened.

Taken as a whole, the research shows that productivity depends on the combination of digital skills, continuous learning, and psychological support. Money may encourage employees at the start, but long-term motivation is shaped by skills, management, and how easily people can adapt to new technology. The post-pandemic years became a turning point, with the most positive changes appearing after 2023.

Based on the research findings, the following practical and strategic recommendations are proposed:

1. Prioritise the development of digital competencies: introduce step-by-step training on AI, ERP, big data, and automated systems; create a “digital mentoring” programme where experienced employees help others adapt to new technologies.

2. Regularly measure the effectiveness (ROI) of training programmes: assess productivity changes after each training course separately; revise or replace training programmes that do not show clear results.

3. Adopt a systematic approach to reducing technostress: offer psychological support and stress-management training; provide simple instructions and video tutorials for new digital tools.

4. Further reduce staff turnover: establish clear career paths and personalised development plans; introduce additional benefits and incentives for senior specialists.

5. Expand non-material motivation tools: ensure consistent use of mentoring, recognition, and supportive leadership; strengthen work-life balance policies to improve employee well-being.

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