Effect of Hard and Soft Skills on Employee Productivity Moderated by Emotional Intelligence

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Abstract. This study investigates the influence of hard skills and soft skills on employee productivity, with emotional intelligence examined as a moderating variable. Using an associative quantitative approach, the research involved the entire population of 130 employees, all selected through a saturated sampling technique. Data were collected via structured questionnaires and analyzed using appropriate quantitative statistical methods. The findings demonstrate that both hard skills and soft skills exert a significant positive impact on employee productivity. Moreover, emotional intelligence significantly moderates the relationship between hard skills and productivity, as well as between soft skills and productivity. These results emphasize that employee performance is not only determined by technical capabilities but also by interpersonal competencies supported by effective emotional regulation. The study highlights the importance for organizations to foster a balanced development of hard and soft skills, while simultaneously strengthening emotional intelligence, in order to maximize productivity, optimize employee engagement, and achieve overall performance outcomes.

Keywords: Hard Skills, Soft Skills, Emotional Intelligence, Employee Productivity, Human Resource Management

1 Introduction

Human resources (HR) are recognized as a key strategic component that contributes to an organization's achievement of short-term and future targets. In today's competitive global era, employee excellence is evaluated not just by technical proficiency (hard skills), but also by soft skills that allow individuals to adjust, communicate, and contribute effectively within increasingly complex work structures [1]. The presence of capable and adaptable personnel is essential for companies to uphold competitive strength, especially during rapid digital development and technological disruption [2]. According to the 2018 report of the Global Competitiveness Index (GCI) Findings from the World Economic Forum indicate that Indonesia held the fourth ranking position in the regional category ASEAN region in terms of labor skills, behind Singapore, Malaysia, and Brunei Darussalam. This indicates that although Indonesia has substantial demographic potential, the quality of its workforce competencies still needs improvement. The government has initiated skill enhancement programs such

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as vocational training, competency-based internships, and professional certification. However, active support from the industrial sector in developing both technical and non-technical competencies of employees remains a decisive factor in success [3].

Hard skills are defined as technical abilities that are teachable, measurable, and verifiable, and are typically obtained through formal education, structured training, or professional experience [4]. In the automotive sector, these include proficiency in sales administration systems, understanding product specifications, market trend analysis, and after-sales service procedures [5]. In contrast, , Soft skills include interpersonal abilities, including competencies such as effective communication, collaboration, leadership, time management, and adaptability, which complement technical expertise in supporting employee performance [6]. Previous studies indicate that a balance between hard and soft skills significantly enhances productivity [7-8].

The combination of hard skills and soft skills becomes fully effective only when supported by emotional intelligence, which plays a significant role in improving their impact. According to Goleman (2002), Emotional intelligence is understood as the capacity to recognize, interpret, and manage personal emotions while also being able to perceive and appropriately respond to the emotions of others appropriately to the emotions of others. Within professional environments, such competence enables individuals to handle pressure, remain consistently motivated, empathize with colleagues, and make rational decisions [10]. Empirical studies further suggest that emotional intelligence serves as a moderating element that amplifies the contribution of hard and soft skills (work competencies) to both performance outcomes and overall productivity [11, 12]

PT. Hadji Kalla Toyota Urip Sumoharjo Makassar, as one of the official Toyota dealers in Makassar, is facing the challenge of improving productivity amid intense competition in the automotive market. An initial survey conducted in October 2024 identified several constraints, such as limited mastery of the company's internal applications, low understanding of Kaizen principles, high sales targets, minimal employee interaction, and inadequate proficiency in information technology. These issues have the potential to hinder the achievement of sales targets and service quality, thereby necessitating comprehensive human resource development efforts that encompass technical aspects, interpersonal skills, and emotional management.

2 Literature Review

2.1 Hard Skills

Hard skills denote technical competencies that can be learned, measured, and verified through certifications or formal competency assessments [13]. These such skills are obtained through formal education, training, or work experience, and include specific competencies relevant to particular job roles [14]. In the automotive industry, hard skills may involve the ability to operate sales administration software, understand technical specifications of vehicles, conduct market analysis, and master after-sales service procedures.

According to Robbins (2014), hard skills are part of intellectual ability, involving processes of thinking, reasoning, and problem-solving. Research conducted in [15] found that hard skills have a significant positive influence on employee performance. Similar findings were reported by Akhmad Jafar & Wahyuni (2018), who indicated that hard skills significantly affect employee productivity.

2.2 Soft Skills

Soft skills, unlike hard skills, encompass non-technical capabilities that involve interpersonal communication, teamwork, leadership, and the ability to manage time effectively [16]. Such skills are critical for maintaining positive workplace interactions and for resolving conflicts in a constructive and sustainable manner [17].

In the workplace context, soft skills function as a complement to hard skills, as employees with strong technical abilities but lacking interpersonal competencies tend to face challenges in collaboration [17]. A study in [18] demonstrated that soft skills significantly influence employee productivity. On the other hand, [19] emphasized that labor market demand for soft skills is increasing, although their contribution to productivity requires adequate support from technical competencies.

2.3 Emotional Intelligence

Goleman (2002) defines Emotional Intelligence (EI) as the capacity to identify, comprehend, and regulate personal emotions while responding appropriately to the emotions of others. Within organizational settings, individuals with higher EI tend to manage work-related stress more effectively, sustain internal motivation, and establish cooperative and positive workplace relationships [8].

[9] argue that EI contributes not only to productivity but also to the development of supportive social networks within the workplace. [10] further demonstrated that EI acts as a moderating construct that reinforces the relationship between employees' job skills and their job satisfaction. Consequently, EI emerges as a strategic factor in amplifying the positive impact of hard and soft skills on employee performance.

2.4 Employee Productivity

Employee productivity reflects the extent to which individuals can deliver maximum output by effectively and efficiently utilizing organizational resources [1]. A range of determinants, such as technical proficiency, interpersonal competence, intrinsic motivation, work environment, and self-management capacity, contribute to variations in productivity [2].

Empirical evidence indicates that the synergistic effect of hard skills, soft skills, and emotional intelligence significantly enhances employee performance [3-4]. Accordingly, organizations striving for higher competitiveness must develop a comprehensive understanding of how these factors jointly affect productivity through human resource management strategies.

3 Methodology

3.1 Research Design

This study utilizes a quantitative associative research design using a causal–explanatory approach. The study seeks to examine the direct effects of hard skills and soft skills on employee productivity and to identify the moderating influence of emotional intelligence. The causal–explanatory framework is considered appropriate because it supports hypothesis testing and provides a systematic explanation of variable relationships. In the context of human resource management, the study emphasizes the role of employability skills in improving employee performance and organizational productivity. The rationale for choosing a quantitative method is to ensure objectivity, accuracy, and replicability. Quantitative methods are also appropriate for testing hypotheses through statistical tools, allowing the researcher to generalize findings across the study
population.

3.2 Research Location and Period

The study was conducted at PT. Hadji Kalla Toyota Urip Sumoharjo Makassar, an automotive company engaged in sales and customer service. This company was selected due to its dynamic work environment, which requires employees to combine technical expertise (hard skills) with interpersonal competence (soft skills). The research took place between October 2024 and February 2025, covering the phases of preliminary survey, questionnaire distribution, data collection, and analysis.

3.3 Population and Sample

The study population comprised all 130 employees of PT. Hadji Kalla Toyota Urip Sumoharjo Makassar. Given the relatively limited size of the population, a census (saturated sampling) method was applied, whereby every employee was included as a respondent. This strategy minimizes sampling error and ensures that the findings accurately reflect the entire workforce.

The respondents varied in gender, age, tenure, and educational attainment, providing diverse perspectives that enrich the analysis of how hard skills, soft skills, and emotional intelligence influence productivity.

3.4 Data Collection Procedure

For this research, primary data were acquired utilizing a structured questionnaire distributed to employees. The instrument employed a Likert scale with five response categories intended to measure responses, enabling the capture of variations in attitudes and perceptions related to the study variables. To enhance validity and ensure response accuracy, a pilot test was conducted with a small employee sample, and feedback from this process was used to refine the wording and clarity of the questionnaire items.

3.5 Research Instrument

The questionnaire consisted of four sections representing the main variables:

- Hard Skills (X1): Measured through indicators such as technical proficiency, problem-solving capability, and task-specific knowledge.
- Soft Skills (X2): Measured through communication ability, teamwork, adaptability, leadership, and conflict management.
- Emotional Intelligence (Z): Measured through domains of self-awareness, emotion regulation, motivation, empathy, and social proficiency, following Goleman's framework.
- Employee Productivity (Y): Measured through indicators of efficiency, quality of work, timeliness, and overall performance outcomes.

All constructs were operationalized using multiple-item measures adapted from established literature, ensuring content validity. Cronbach's alpha and composite reliability were then assessed to verify the internal consistency of the measurement instrument.

3.6 Data Analysis Technique

or analytical purposes, the study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) as the primary statistical approach. facilitated by SmartPLS software. This approach was deemed appropriate because it accommodates complex analytical models that include moderating variables and is particularly well suited to research with smaller sample sizes. The analytical process involved the following steps:

- Descriptive Statistics: Used to outline respondent characteristics, including gender, age, and tenure.
- Outer Model Evaluation (Measurement Model): Performed to test indicator reliability, convergent validity, determined based on factor loadings and the Average Variance Extracted (AVE), in addition to discriminant validity (based on cross-loadings).
- Inner Model Evaluation (Structural Model): Conducted to determine path the evaluation of model coefficients together with the coefficient of determination (R^2) as an indicator of explanatory power.
- Hypothesis Testing: Carried out through a bootstrapping procedure.

3.7 Ethical Considerations

All respondents participated voluntarily, and confidentiality was strictly maintained. The data were used exclusively for academic purposes and presented in aggregate form to prevent identification of individual respondents.

4 Results

4.1 Respondent Characteristics

Table 1 presents the distribution of respondents based on gender, age, and length of employment at PT. Hadji Kalla Toyota Urip Sumoharjo Makassar.

Table 1. Respondent Characteristics

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	81	62%
	Female	49	38%
Age	18–25 years	36	28%
	26–35 years	70	54%
	>35 years	24	18%
Work Tenure	<3 years	46	35%
	3–5 years	53	41%
	>5 years	31	24%

The majority of respondents were aged 26–35 years (54%) and had 3–5 years of work experience (41%), indicating that most employees were in a productive age range with moderate work experience. The measurement model assessment, including loading factors, composite reliability, AVE, and discriminant validity, is presented in Table 2.

Table 2. Measurement Model Assessment.

Variable	Indicator	Loading Factor	Composite Reliability	AVE	Discriminant Validity
Hard Skill (X1)	X1.1	0.842	0.774	0.691	Yes
	X1.2	0.870			
	X1.3	0.708			
Soft Skill (X2)	X2.1	0.819	0.825	0.576	Yes
	X2.2	0.787			
	X2.3	0.724			
	X2.4	0.703			
	X2.5	0.754			
Employee Productivity (Y)	Y1	0.740	0.841	0.602	Yes
	Y2	0.750			
	Y3	0.832			
	Y4	0.817			
	Y5	0.733			

Variable	Indicator	Loading Factor	Composite Reliability	AVE	Discriminant Validity
Emotional Intelligence (Z)	Z1	0.701	0.959	0.661	Yes
	Z2	0.797			
	Z3	0.889			

Table 2 reports the measurement model results for the four constructs: Hard Skills (X1), Soft Skills (X2), Employee Productivity (Y), and Emotional Intelligence (Z). The Hard Skills variable (X1), measured using three indicators (X1.1–X1.3), demonstrated factor loadings exceeding the acceptable threshold of 0.70, with a composite reliability value of 0.774 and an AVE of 0.691. These findings confirm adequate reliability and convergent validity, indicating that the construct effectively represents technical competencies, including operational expertise, domain knowledge, and analytical problemsolving capability.

The Soft Skills construct (X2) includes five indicators (X2.1–X2.5) with loading values between 0.703 and 0.819, composite reliability of 0.825, and AVE of 0.576, all of which satisfy the required reliability and validity benchmarks. This construct encompasses interpersonal and intrapersonal capacities, including communication, teamwork, adaptability, and emotional regulation.

For Employee Productivity (Y), five indicators (Y1–Y5) demonstrated loadings ranging from 0.733 to 0.832, yielding a composite reliability of 0.841 and an AVE of 0.602. These findings suggest that the indicators consistently measure employee performance outcomes, including goal attainment, efficiency, and work quality.

The Emotional Intelligence construct (Z), measured through three indicators (Z1–Z3), recorded a high composite reliability value of 0.959 and an AVE of 0.661. These results demonstrate strong measurement reliability and indicate that the dimensions of emotional intelligence—self-awareness, self-regulation, and empathy—substantially contribute to enhancing employee performance.

Table 3. R-Square and Adjusted R-Square

Variable	R-Square	R-Square Adjusted
Employee Productivity (Y)	0.706	0.694

The explanatory power of the model, represented by the R-square and adjusted R-square values, is reported in Table 3. For Employee Productivity (Y), the R-Square (R^2) value is 0.706, while the adjusted R^2 is 0.694. These results suggest that the joint contribution of hard skills, soft skills, and emotional intelligence, along with their moderating effects, explains approximately 70.6% of the variation in employee productivity. The remaining 29.4% is influenced by other determinants outside the scope of this study, including organizational support, workplace conditions, and employes intrinsic motivation.

Table 4. Structural Model Assessment (Path coefficient)

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (|O/STDEV|)	P Values	Significance
Hard Skill (X1) → Employee Productivity (Y)	0.299	0.295	0.083	3.594	0.000	Significant
Soft Skill (X2) → Employee Productivity (Y)	0.344	0.359	0.091	3.759	0.000	Significant
Emotional Intelligence (Z) → Employee Productivity (Y)	0.280	0.272	0.081	3.433	0.000	Significant
Emotional Intelligence (Z) × Hard Skill (X1) → Employee Productivity (Y)	-0.379	-0.356	0.105	3.605	0.000	Significant
Emotional Intelligence (Z) × Soft Skill (X2) → Employee	0.186	0.169	0.094	1.978	0.024	Significant

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (|O/STDEV|)	P Values	Significance
Productivity (Y)						

The structural model assessment, including path coefficients, t-statistics, p-values, and significance decisions, is summarized in Table 4. Path coefficient results reveal that all hypotheses are validated with significant pvalues (< 0.05).

- H1: Hard Skills → Employee Productivity
  The path coefficient (β = 0.299, t = 3.594, p = 0.000) indicates a significant positive effect. This means that higher technical skills, such as operational mastery and problem-solving ability, directly improve employee productivity at PT. Hadji Kalla Toyota Urip Sumoharjo Makassar.
- H2: Soft Skills → Employee Productivity
  The path coefficient (β = 0.344, t = 3.759, p = 0.000) confirms that soft skills positively and significantly influence productivity. Employees with strong interpersonal, communication, and teamwork skills are more adaptable and efficient in meeting work targets.
- H3: Emotional Intelligence → Employee Productivity
  The path coefficient (β = 0.280, t = 3.433, p = 0.000) shows that emotional intelligence significantly enhances productivity, indicating that employees who can manage emotions effectively tend to perform better.
- H4: Emotional Intelligence × Hard Skills → Employee Productivity
  The interaction term (β = –0.379, t = 3.605, p = 0.000) reveals a negative moderating effect. This suggests that at higher levels of emotional intelligence, the direct effect of hard skills on productivity slightly decreases, likely because emotional regulation can overshadow technical performance factors.
- H5: Emotional Intelligence × Soft Skills → Employee Productivity
  The coefficient (β = 0.186, t = 1.978, p = 0.024) indicates a positive and significant moderating effect. Emotional intelligence enhances the effectiveness of soft skills in improving employee productivity.

5 Discussion.

The findings indicate that hard skills significantly enhance employee productivity. Consistent with the work of [9], the mastery of technical abilities allows employees to carry out tasks more efficiently and within deadlines. In the case of PT. Hadji Kalla Toyota Urip Sumoharjo Makassar, competencies such as sales administration system proficiency, solid product knowledge, and familiarity with after-sales procedures play a direct role in meeting performance targets. Similar conclusions were drawn in [10], who emphasized that the development of hard skills not only increases work efficiency but also improves the quality of services delivered.

In addition, soft skills were also found to have a positive effect on productivity. This result supports the study in [11]. which stated that interpersonal skills, effective communication, and teamwork enhance synergy among employees and improve the quality of customer interactions. In the competitive automotive industry, soft skills serve as essential capital for maintaining customer loyalty and increasing service satisfaction [12]. Thus, a well-balanced combination of hard and soft skills offers a competitive advantage for the company.

The moderating role of emotional intelligence (EI) in both relationships reinforces [13] assertion that EI enables individuals to manage stress, understand others' emotions, and maintain healthy workplace relationships. The studies in [14, 15] also support the idea that EI can maximize the utilization of both technical and non-technical skills, particularly in work environments that demand quick adaptation to change. In this study, employees with high EI were found to be more effective in integrating their hard and soft skills to achieve optimal productivity.

The R^2 value of 0.706 indicates that the research model has strong explanatory power [16]. However, the remaining 29,4% of productivity variation may be influenced by other factors such as work motivation, organizational culture, and leadership style [17]. This opens up opportunities for future research to explore these variables. Practically, companies can design integrated training programs that combine technical skill enhancement, interpersonal ability development, and emotional intelligence cultivation, in order to improve employee productivity in a sustainable manner.

6 Conclusion

This study examined the influence of hard skills and soft skills on employee productivity and assessed the moderating role of emotional intelligence at PT Hadji Kalla Toyota Urip Sumoharjo Makassar. The results indicate that hard skills have a positive and significant effect on productivity: employees who demonstrate strong technical competencies—such as comprehensive product knowledge, effective use of sales systems, and familiarity with service procedures—are better able to achieve performance targets. Soft skills also exert a positive and significant influence, as capabilities including effective communication, collaboration, and leadership support smoother workflows and enhance the quality of customer service. In addition, emotional intelligence moderates the relationship between both types of skills and productivity, implying that employees with stronger emotional intelligence are more capable of leveraging their technical and interpersonal strengths to attain higher performance. Overall, the model shows strong explanatory power, with an R^2 value of 0.706, meaning that hard skills, soft skills, and emotional intelligence together explain 70.6% of the variance in employee productivity. From a practical perspective, the findings suggest the need for integrated training programmes that simultaneously strengthen technical competence, develop interpersonal capabilities, and cultivate emotional management and empathy, thereby supporting employees who are technically capable, socially effective, and resilient in dynamic work settings.

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