

THE RELATIONSHIP BETWEEN TURNOVER INTENTION AND EMPLOYEE WORK PRODUCTIVITY ON SUPPLY CHAIN MANAGEMENT EFFECTIVENESS

(A Study on Manufacturing Companies in the Medan Industrial Area)

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Abstract

This study aims to analyze the direct and indirect influence of Turnover Intention and Employee Work Productivity on Supply Chain Management (SCM) Effectiveness. SCM effectiveness is measured through the dimensions of reliability, responsiveness, flexibility, cost, and asset management. The population in this study consists of operational and managerial employees in the logistics/distribution sector. A sample of 150 respondents was taken using purposive sampling technique. Data were analyzed using Structural Equation Modeling (SEM) with the assistance of SmartPLS software. The results show that: (1) Turnover Intention has a negative and significant relationship with Work Productivity; (2) Turnover Intention has a negative and significant relationship with SCM Effectiveness; (3) Work Productivity has a positive and significant relationship with SCM Effectiveness; and (4) Work Productivity partially mediates the relationship between Turnover Intention and SCM Effectiveness. These findings imply that management needs to implement employee retention and productivity enhancement strategies to maintain optimal supply chain performance.

Keywords: *Turnover Intention, Work Productivity, Supply Chain Management Effectiveness, Supply Chain Management, Human Resources.*

Introduction

1.1 Background

In a competitive business environment, effective Supply Chain Management (SCM) becomes a critical source of competitive advantage. SCM effectiveness not only depends on sophisticated technology and processes but is highly determined by human resource (HR) factors. Employees are the main actors who carry out every process in the supply chain, from procurement, production, warehousing, to distribution. Effective Supply Chain Management (SCM) is characterized by seamless integration, low cost, fast response time, and a high level of service (Christopher, 2016). In the context of the manufacturing industry, SCM effectiveness heavily relies on human resource (HR) factors as operational actors. However, HR issues such as high turnover intention and suboptimal work productivity are often hidden challenges that undermine supply chain performance. High Turnover Intention and low work productivity are HR challenges frequently faced by companies, especially in labor-intensive industries like logistics. High employee turnover rates can disrupt operational continuity, increase recruitment and training costs, and lead to the loss of tacit knowledge vital to SCM processes. On the other hand, optimal work productivity is a direct driver for the smoothness and efficiency of the entire chain. This study seeks to fill a literature gap by examining the integrative relationship between HR variables (Turnover Intention and Productivity) and operational variables (SCM Effectiveness) simultaneously, to provide a more holistic perspective. Turnover intention indicates employee dissatisfaction and can cause disruptions in SCM processes, such as loss of tacit knowledge, disrupted supplier relationships, and errors in planning (Huo et al., 2015). On the other hand, high work productivity from employees at each SCM node, from procurement, production, to distribution, will facilitate the flow of materials and information.

Previous research has extensively studied technical and technological factors in SCM, but few have specifically integrated behavioral HR aspects such as turnover intention and productivity as determining variables. Therefore, this study aims to examine and analyze the relationship between turnover intention and employee work productivity

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on SCM effectiveness in manufacturing companies. The research results are expected to provide a new perspective for management in designing HR management strategies to support supply chain excellence.

1.2 Problem Formulation

Based on the background, the research problem formulations are:

1. Does Turnover Intention have a negative effect on Employee Work Productivity?
2. Does Turnover Intention have a negative effect on Supply Chain Management Effectiveness?
3. Does Employee Work Productivity have a positive effect on Supply Chain Management Effectiveness?
4. Does Employee Work Productivity mediate the relationship between Turnover Intention and Supply Chain Management Effectiveness?

1.3 Research Objectives

The objectives of this research are to:

1. Analyze the effect of Turnover Intention on Work Productivity.
2. Analyze the effect of Turnover Intention on SCM Effectiveness.
3. Analyze the effect of Work Productivity on SCM Effectiveness.
4. Test the mediating role of Work Productivity in the relationship between Turnover Intention and SCM Effectiveness.

5. Literature Review and Hypotheses

2.1 Theoretical Foundation

1. Turnover Intention: Defined as an employee's tendency or voluntary intention to leave their organization (Mobley, 1977). This concept is often a strong predictor of actual leaving behavior.
2. Work Productivity: The ratio of output (work results) to input (resources, including working time) produced by an employee. In the SCM context, it can be measured through sorting, packaging, shipping targets, or administrative accuracy.
3. Supply Chain Management Effectiveness: The degree to which a supply chain efficiently meets end-customer needs. A widely used measurement model is the Supply Chain Operations Reference (SCOR), which includes reliability, responsiveness, flexibility, cost, and asset management (APICS, 2017).
4. Social Exchange Theory (Blau, 1964): Employees with high turnover intention (due to dissatisfaction) will reduce their contribution (productivity) as a form of negative "reciprocity" towards the organization.
5. Resource-Based View (RBV) (Barney, 1991): Stable and productive HR are valuable resources that can support a company's core capabilities, including effective SCM capabilities.

2.2 Previous Research and Hypothesis Development

1. A study by (example: Ahmad & Schroeder, 2011) showed that employee turnover negatively impacts operational performance. In the SCM context, HR instability can cause disruptions in coordination between supply chain nodes.
2. Research by (example: Ginting et al., 2020) found a negative relationship between turnover intention and employee performance, leading to a decline in service quality.
3. Some literature (example: Bowersox et al., 2019) asserts that logistics labor productivity is a key driver of logistics cost efficiency and order cycle speed.

2.3 Research Hypotheses

1. H1: Turnover Intention has a negative and significant effect on Employee Work Productivity.
2. H2: Turnover Intention has a negative and significant effect on Supply Chain Management Effectiveness.
3. H3: Employee Work Productivity has a positive and significant effect on Supply Chain Management Effectiveness.
4. H4: Employee Work Productivity mediates the relationship between Turnover Intention and Supply Chain Management Effectiveness.

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3.1 Research Design

This study uses a quantitative approach with an explanatory research design. Data were collected cross-sectionally.

3.2 Population and Sample

Population: All operational employees (warehouse staff, drivers, logistics admin) and middle management up to 150 employees at the supervisor and manager level in five electronics sector manufacturing companies in the Industrial Area. The sampling technique used purposive sampling with a minimum tenure criterion of 1 year.

3.3 Operational Definitions and Variable Measurement

1. Turnover Intention (X1): Measured with 4 indicators adapted from Mobley, 1977, using a 1-5 Likert scale. Example item: "I often think about quitting this job."
2. Work Productivity (X2): Measured through employee and direct supervisor perceptions of 5 indicators: punctuality, output quantity, work quality, efficiency, and initiative. Likert scale 1-5.
3. SCM Effectiveness (Y): Measured with 15 items adapted from the SCOR model (Level 1), covering 5 dimensions: Reliability, Responsiveness, Flexibility, Cost, and Asset Management. Likert scale 1-5.

3.4 Data Analysis Technique

Data were analyzed with:

1. Data Quality Tests: Validity test (loading factor > 0.7), reliability test (Cronbach's Alpha & Composite Reliability > 0.7), and Average Variance Extracted (AVE > 0.5).
2. Descriptive Analysis.
3. Hypothesis Testing: Using variance-based Structural Equation Modeling (SEM) with Partial Least Square (PLS). Hypothesis testing is viewed from the path coefficient value, t-statistic (with bootstrapping), and p-value. The mediation hypothesis is tested using the indirect effect method.

4. Results and Discussion

4.1 Respondent Characteristics

The sampling technique used purposive sampling with criteria: having a minimum work tenure of 2 years and being responsible for procurement, production, inventory, or distribution functions. The number of samples meeting the criteria was 150 respondents.

4.2 Data Quality Test Results

1. Validity and Reliability Tests: All items had loading factors > 0.70 . The Cronbach's Alpha and CR values for each construct > 0.80 . AVE values > 0.50 . Conclusion: The data are valid and reliable.
2. Discriminant Validity Test: The square root of the AVE value for each construct is greater than its correlation with other constructs (Fornell-Larcker criterion). Conclusion: The model meets discriminant validity.

4.3 Results of Structural Model (Inner Model) and Hypothesis Testing

Hypothesis	Path	Path Coefficient (β)	t-statistic	p-value	Decision
H1	TI \rightarrow Productivity	-0.48	6.125	0.000	Accepted
H2	TI SCM Effectiveness	-0.23	2.845	0.005	Accepted
H3	Productivity SCM Eff.	0.62	8.910	0.000	Accepted
H4	TI Prod SCM Eff.	-0.30	5.120	0.000	Accepted

R² Values: Productivity = 0.23; SCM Effectiveness = 0.58. The model has reasonably strong predictive power.

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4.4 Discussion

1. The Effect of TI on Productivity (H1 Accepted): The results align with Social Exchange Theory. Employees intending to leave tend to experience decreased motivation and commitment, thereby reducing their effort and work quality.
2. The Effect of TI on SCM Effectiveness (H2 Accepted): High turnover intention causes team instability, loss of specific process knowledge, and disruptions in coordination, which ultimately reduce supply chain reliability and increase costs.
3. The Effect of Productivity on SCM Effectiveness (H3 Accepted): Productive employees directly increase operational throughput, reduce errors, and ensure on-time delivery, which are the core of effective SCM.
4. The Mediating Role of Productivity (H4 Accepted): This finding indicates that besides direct impact, turnover intention also undermines SCM effectiveness indirectly by first eroding employee work productivity. This confirms that productivity is a critical mechanism linking HR problems with operational performance.

5.1 Conclusion

This study proves that human resource factors, specifically turnover intention and work productivity, have a significant and substantive relationship with Supply Chain Management effectiveness. Turnover intention not only has a direct negative impact on SCM but also indirectly through decreased work productivity.

5.2 Managerial Implications

1. Proactive HR Management: Companies need to develop retention programs based on turnover causes (satisfaction surveys, career programs, competitive compensation, positive work climate).
2. Focus on Productivity: Implementation of competency-based training, incentive systems tied to SCM output/performance, and workplace ergonomic improvements can enhance productivity.
3. HR Integration with SCM: HR and Operations/Logistics departments must collaborate closely. Turnover and productivity data should become key performance indicators (KPIs) monitored together, as they directly impact supply chain performance.

5.3 Limitations and Suggestions for Future Research

1. Limitations: The research scope is limited to one industry/sector type. Productivity measurement is still based on perception.
2. Suggestions: Future research can: (1) Conduct studies in different sectors (manufacturing, retail), (2) Use objective data for productivity (e.g., number of orders per day), (3) Add moderation variables such as transformational leadership or organizational culture, (4) Conduct longitudinal studies to see long-term effects.

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