








Impact of Balanced Scorecard Implementation on Employee Well-Being: Evidence from a Manufacturing Company in Vietnam

Edsel A. Patal¹, Nguyễn Sinh Công², Trịnh Huy Ngọc³, Jesus P. Briones^{4*},
Joanna Paula E. Verano⁴

¹Bureau of the Treasury, Philippines

²Binh Duong University, Vietnam

³Scientific Institute of Human Resource Management, Vietnam

⁴Southern Luzon State University, Philippines

Received: April 30, 2025

Revised: June 5, 2025

Accepted: July 9, 2025

Online: July 31, 2025

Abstract

The well-being of employees is crucial for providing prompt and committed production of high-quality products and services in manufacturing industries. This study examined the relationship between the implementation of the balanced scorecard (BSC) and employee well-being (EWB) in a manufacturing company in Vietnam. Recognizing the importance of both BSC as a strategic tool and EWB as a driver of organizational success, the researchers aimed to address the limited research directly evaluating the impact of BSC implementation on the wide range of EWB dimensions. Using a quantitative-descriptive research method, data were collected from 350 employees of a manufacturing company in Vietnam through a self-structured questionnaire, formatted in HMIS scientific survey software, and distributed via electronic mail and messenger. The data were analyzed using frequency, percentage, weighted mean, and simple linear regression analysis. The findings revealed a high level of BSC implementation and a correspondingly high level of EWB within the studied company. The findings revealed a significant positive relationship between all dimensions of BSC and the key dimensions of EWB. The study concluded that BSC implementation has a positive influence on EWB, providing a clearer understanding of organizational strategy, increasing employees' sense of purpose, and aligning individual efforts with strategic goals. The study also proposed guidelines for BSC implementation to enhance EWB further. The study provides managers with practical, evidence-based recommendations on how the use of BSC can improve and maintain EWB for the mutual benefit of both the organization and its employees.

Keywords: *Balanced Scorecard, Employee Well-being, Job Satisfaction, Organizational Commitment, Vietnam Manufacturing Company, Work Engagement*

INTRODUCTION

In the rapidly evolving technology landscape, manufacturing companies have made significant strides in meeting the ongoing needs and expectations of consumers. To navigate increasing global competition, firms must continually strive to ensure the prompt and reliable supply of high-quality products and services to their clients, thereby securing a competitive edge. Consequently, according to [Katkar et al. \(2024\)](#), to uphold organizational commitments to customers, employees across all levels, ranging from marketing and design to production and assembly, as well as supply chain management and logistics, are subjected to significant physical and mental stress, often leading to burnout. This has resulted in well-being imbalances for numerous employees, prompting some to resign from the organization in certain instances. According to [Kin et al. \(2022\)](#), a significant number of companies acknowledge the importance of human resources in achieving business objectives. Consequently, employee turnover has become

Copyright Holder:

© Patal, Công, Ngọc, Briones, & Verano. (2025)

Corresponding author's email: jbriones@slsu.edu.ph

This Article is Licensed Under:



a significant and most costly business obstacle a company may encounter. In today's competitive business market, manufacturing companies utilize industry trends to attract and retain workers. One step is to identify improvements to employee well-being (EWB) and create a more flexible and supportive working environment through the implementation of a balanced scorecard (BSC).

In today's modern business era, the importance of BSC implementation in company operations as a strategic performance measurement and management tool cannot be ignored. It provides a comprehensive and balanced view by operationalizing strategy into measurable objectives across multiple perspectives, including financial, customer, internal processes, and learning. The BSC guides strategic action, monitors key information, empowers proactive management, supports strategic planning and change management, and contributes to organizational outcomes, including sustainability (Kumar et al., 2024). On the other hand, EWB is fundamentally important for company operations. When employees are healthy and mentally sound, their job performance and productivity tend to increase, while their motivation and focus also tend to improve. Furthermore, EWB is crucial in reducing employee turnover, which saves significant costs and maintains stable operations. Prioritizing well-being enhances employer branding and attracts qualified talent, ultimately contributing to overall business success and the achievement of organizational objectives (Chang, 2024).

Several international studies pointed out the importance of BSC as a management tool (Yawson & Parros, 2023; Suarez, 2023; Yeshaw et al., 2025) and in the achievement of overall organizational performance (Cignitas et al., 2022; Zorek, 2020; Gupta et al., 2020; Sibarani, 2023). Moreover, prior studies across industry sectors indicated that effective BSC implementation enhances employees' job satisfaction (Meng et al., 2024; Baxi & Atre, 2024), employee engagement (Yosores et al., 2023; Abdulrahman et al., 2022) and organizational commitment (Perkins, 2022; Dilshan et al., 2023). Conversely, several studies (Kang et al., 2025; Tawse & Tabesh, 2023) have highlighted uncertainties regarding the link between BSC and firm performance. In Vietnam, recent local studies on the impact of BSC implementation were focused on organizational performance (Nguyen & Quynh, 2022; Ta et al., 2022; Lan et al., 2023). A local study also applied the BSC model to investigate the impact of BSC implementation on the performance of Vietnamese enterprises, aiming to support their success and sustainability development in alignment with global integration trends (Ha et al., 2022).

Based on the cited studies, the BSC implementation has not been thoroughly analyzed and evaluated across all EWB dimensions. These studies independently focused on specific EWB dimensions, such as job satisfaction, work engagement, and organizational commitment. Furthermore, despite the widely acknowledged importance of both the BSC as a strategic tool and EWB as a driver of organizational performance, no study has explicitly assessed the impact of BSC adoption on a wide variety of EWB dimensions in Vietnamese manufacturing companies. Thus, this study, situated in the context of Vietnam as the research locale, is significant. Based on the researchers' knowledge, this study is the first of its type and considers the current importance of BSC implementation on relevant EWB dimensions.

To further justify the conduct of the study, the subject manufacturing company currently confronts numerous challenges that affect its operations and profitability. In times of inflation, the company faces higher expenses for raw materials, shipping, transportation, and labor, prompting them to consider increasing prices or cutting costs while maintaining quality and employee satisfaction. Additionally, manufacturing industry problems, such as a lack of skilled personnel, supply chain issues, digitization, and automation challenges, are also considered critical factors that slow down the company's growth. This situation has led to EWB imbalances for many employees, prompting some to leave the organization. The company recognises the importance of identifying ways to enhance EWB and address these issues, ultimately retaining employees. It

wants to determine if the implementation of BSC in recent years has significantly supported this goal.

Thus, this study aimed to determine the impact of BSC implementation on EWB of a manufacturing company in Vietnam. Specifically, this study analyzed the level of implementation of the BSC in terms of financial, customer, internal process, and learning and growth dimensions. This study also determined the EWB in terms of job satisfaction, work engagement, and organizational commitment. Further, the study also assessed whether there is a significant relationship between BSC implementation and EWB. Ultimately, the researchers proposed guidelines for BSC implementation to sustain the well-being of employees. The study makes a theoretical contribution by empirically validating that the implementation of the BSC, a cornerstone strategic management tool, positively and significantly influences EWB, as conceptualized by Fisher's theory, thereby enriching both the EWB theory with practical organizational drivers and the strategic management literature.

LITERATURE REVIEW

Aligned with the objectives of this research, the researchers conducted a comprehensive review of related literature obtained from diverse sources to provide a clear understanding of the topic at hand. The following are presented in this section: the underpinning theory of this study; the concepts of BSC and EWB; and the relationship between BSC and EWB.

Employee Well-Being Concept Theory

This study is grounded in Fisher's Theory of Employee Well-Being (EWB), a model developed in 2014. The theory has been divided into three dimensions: job satisfaction, organizational commitment, and work engagement (Cignitas et al., 2022). Organizations focused on job satisfaction, organizational commitment, and the ability to increase productivity in the organization. Hence, employee feelings and attitudes are important for the satisfaction level. Employee engagement or retention has been defined by researchers as greater work calling, organizational commitment, and low employee turnover, in association with employees' positive perception of the meaning and personal development they gain through work. Being happy at work should be related to job satisfaction, engaging in various activities at work, and experiencing the vigor, flow, emotions, and motivation that can be felt at work. A person with high job satisfaction typically has a positive attitude towards their job. Well-being at work is a concept connected to how satisfied employees are with their jobs and how the company treats them (Vorma et al., 2024).

The research relies on the EWB theory, which is crucial in the manufacturing sector as it affects productivity, safety, and overall business performance. For employees, well-being is important as it is strongly linked to job satisfaction. According to Voordt and Jensen (2023), happy and healthy workers tend to be more productive and are less prone to accidents, leading to lower healthcare costs and reduced absenteeism. Therefore, the EWB theory is relevant to this study, considering the importance of EWB in enhancing morale, job contentment, and employee retention, thus benefiting the organization's workforce. Measuring these aspects of employees enables the study to capture their level of contentment with their job and empirically assess the strength of their attachment to the organization, as well as their satisfaction with their work activities.

Balanced Scorecard (BSC)

According to several studies (Cignitas et al., 2022; Zorek, 2020; Gupta et al., 2020; Thuong & Singh, 2023; Bshayreh et al., 2024), BSC is a widely used and highly influential management tool that was introduced to improve managerial insight into organizational performance. It functions as a strategic management process that enables the communication and evaluation of

accomplishments regarding an organization's mission statements and strategies. The BSC provides a structured framework for organizations to manage and evaluate their performance across multiple dimensions effectively. The BSC typically incorporates the importance and relevance of four dimensions. These include financial, customer, internal business process, and learning and growth aspects.

The financial perspective dimension shows the long-term objectives of organizations aimed at providing value to improve profitability and achieve other financial goals. It is designed to tell the story of the strategy and evaluate its cost-effectiveness, enabling an organization to assess and measure its results. The second dimension, which is customer perspective, measures the organizations' performance in terms of customers' experiences with the value created by the organization. Companies identify their target customers and market segments, seeking to deepen relationships by identifying and delivering the value propositions that meet their needs. From an internal business process perspective, the third dimension relates to internal decisions and processes focused on providing added value to customers. It is achieved by identifying customer needs and developing new products and services through innovation to meet these demands. On the other hand, the fourth dimension from a learning and growth perspective involves identifying how a company can continuously improve and enhance its capabilities. It includes indications demonstrating learning and growth levels, such as whether product enhancements or manufacturing technique evolutions have occurred.

Employee Well-Being (EWB)

The studies by [Harshitha and Senthil \(2021\)](#) and [Bosede \(2024\)](#) described EWB as a key area of human resource development. It significantly influences performance measurement, employee productivity, employee development, and motivation. Employees are considered a key element in realizing an organizations' strategies. EWB encompasses various aspects of an employee's health, happiness, and satisfaction within the workplace. It extends beyond just physical health to include mental, emotional, intellectual, and social well-being. Companies should implement EWB measures to satisfy employees and enhance organizational productivity.

Several studies ([Supardi et al., 2023](#); [Perkins, 2022](#); [Yosores et al., 2023](#); [Cunanan et al., 2025](#)) have confirmed that EWB is composed of three key dimensions: job satisfaction, organizational commitment, and work engagement. Job satisfaction refers to the emotional response of employees and others to work situations. It is influenced by factors such as the nature of the work itself, promotion opportunities, benefits, salary, the physical work environment, supervision, and social relations with colleagues. On the other hand, organizational commitment encompasses an employee's thoughts and actions related to their dedication to the organization. It includes their willingness to work towards organizational goals and their likelihood of continuing to work with the organization. Lastly, work engagement is described as a positive effect associated with the job and work setting. It indicates feelings like persistence, vitality, energy, dedication, absorption, enthusiasm, alertness, and pride. Work engagement occurs when employees find meaning, autonomy, impact, and connection in their work. Furthermore, promoting a highly engaged workforce requires a comprehensive support system in the workplace and efficient workload management.

Relationship of BSC and EWB

According to several researchers ([Elmetwaly et al., 2022](#); [Keddy, 2024](#); [Yawson & Parros, 2023](#); [Meng et al., 2024](#); [Suarez, 2023](#)), the BSC, which consists of four perspectives (financial, customer, internal process, learning and growth), leads to improved employees' performance. According to these studies, a well-implemented BSC can provide employees with a clearer

understanding of the organizations' strategy, which may increase their sense of purpose. BSC is a practical strategic planning and management tool that helps organizations reach their goals and objectives by identifying the organizations' needs and aligning them with its most essential assets: the people, customer relationships, and the capacity for innovation. As employees see the impacts of their contributions, they can feel a greater sense of personal accomplishment, contributing to a high overall sense of employee engagement. Employees can view the BSC as a proxy for the organizations' values, and alignment with these values can lead to increased engagement. Moreover, the above studies confirmed that the relationship between BSC and job satisfaction reveals the multifaceted impact of the performance management system on employee job satisfaction, involving both material and spiritual incentives, the clarity of work objectives and responsibilities, impartial performance evaluation, and effective feedback and guidance. These prior studies also pointed out that knowledge management practices, together with employee work engagement, have a positive impact on BSC perspectives, supported by the organizations' outstanding performance in terms of internal business processes and learning and growth perspectives, while it showed very satisfactory performance in terms of customer and financial perspectives.

Conversely, another group of researchers (Kang et al., 2025; Tawse & Tabesh, 2023) emphasized the uncertainties surrounding the relationship between BSC implementation and firm performance, as well as the conditions or factors that lead to varied outcomes for BSC implementation projects. A segment of their studies suggested that the BSC is more of a persuasive rhetoric rather than a compelling theory. They highlighted a deficiency of empirical evidence to support the theoretical link and causality among the four dimensions of the BSC framework, despite its apparent logic. They also criticized the BSC for failing to include human-relations components and for being rigid in highlighting causal relationships at a specific point, which may not align with changing connections that adapt to the environment. According to them, the essential step of creating causal connections is frequently overlooked in practice. Their research indicated that strategies focused on financial and customer aspects have a positive impact on future corporate and employee performance; however, no notable effect is observed on present performance. Furthermore, they confirmed that internal business processes and the learning and growth perspectives exhibit no statistically significant correlation with the current or future performance of the company and its employees. Thus, this study verified whether the dimensions of EWB are affected by BSC implementation. About this study, the researchers considered the null hypothesis:

Ho: There is no significant relationship between BSC implementation and EWB.

To test this hypothesis, the study employed a simple regression analysis model, where BSC (measured through financial, customer, internal business process, and learning and growth) serves as the independent variable, and EWB (measured through job satisfaction, organizational commitment, and work engagement) is the dependent variable.

RESEARCH METHOD

The study used a descriptive-quantitative research method to conduct a clear and systematic analysis of the specific variables related to BSC and EWB within a particular manufacturing company. According to Thomas and Zubkov (2023), this describes a sample/population to provide insight into its characteristics. Therefore, a population, situation, or phenomenon can be accurately and systematically described. The study considered a sample size of 350 employees from the overall population of 2,489 employees in the company, as determined using the Raosoft sample size calculator, with a 95% confidence level and a 5% acceptable margin of error. According to Memon

et al. (2020), this online calculator, which requires inputs for a study's population size, confidence level, and margin of error, helps determine sample size for social science research.

A stratified random sampling method was employed to select the study's respondents. This method ensures that different employees are represented in each department within the company. This approach aims to increase the precision of estimates by dividing the population into internally homogeneous subgroups and then randomly selecting samples within each stratum (Iliyasu & Etikan, 2021). As indicated in Table 1, the researchers stratified the population based on functional unit or department within the company. Then, the total predetermined sample size of 350 was allocated proportionally across the strata. The next step involved compiling employee lists and randomly selecting respondents within each stratum, ensuring that every member has an equal chance of being selected. Then, the researchers validated the representativeness of the final sample to ensure that it accurately reflects the overall population, thereby enhancing the reliability and generalizability of the research results.

Table 1. Determination of Sample Proportion per Stratum

Functional Unit	No. of Employees	Proportion (%)	Sample Size
Production (6 plants) Department	2,185	87.80	307
Sales Department (1 branch)	161	6.50	23
Administration Department	143	5.70	20
Total	2,489	100.00	350

The researchers' self-structured questionnaire was designed to be straightforward and devoid of complex questions, facilitating specific responses. The self-structured questionnaire is influenced by the work of Cignitas et al. (2022), which drew on some items from the BSC implementation and EWB dimensions. The questionnaire consists of two main sections: BSC Implementation (including Financial, Customer, Internal Process, and Learning & Growth perspectives) and EWB (covering Job Satisfaction, Work Engagement, and Organizational Commitment). Respondents were asked to rate each statement using a 5-point Likert scale (1.00-1.80=Strongly Disagree; 1.81-2.60=Disagree; 2.61-3.40=Neutral; 3.41-4.2=Agree; 4.21-5.00=Strongly Agree). To ensure the validity of the instrument, the questionnaire was assessed by two experts in organizational management.

The experts applied specific criteria to assess the validity of the questionnaire, which include evaluating whether the items consistently and accurately measure the study's variables and whether it can collect factual data without bias. Their recommendations were considered in finalizing the questionnaire. Then, the final questionnaire was pilot tested on 35 respondents outside the study population. The pilot test results were subjected to Cronbach's Alpha reliability testing to confirm the internal consistency of the instrument, ensuring that the questionnaire was reliably measuring the study's objectives. In interpreting Cronbach's alpha to determine the internal consistency of Likert scale questions, the following were used: $\alpha \geq 0.9$ = Excellent; $0.9 > \alpha \geq 0.8$ = Good; $0.8 > \alpha \geq 0.7$ = Acceptable; $0.7 > \alpha \geq 0.6$ = Questionable; $0.6 > \alpha \geq 0.5$ = Poor; $0.5 > \alpha$ = Unacceptable. The pilot test yielded Cronbach's alpha scores ranging from 0.739 to 0.819 (Table 2), indicating reliability levels ranging from acceptable to excellent, as a score above 0.70 is considered reliable (Frost, 2024).

Table 2. Reliability Analysis

Indicators	Cronbach's Alpha	No. of Items
Dimensions of BSC		
Financial	0.819	5
Customer	0.756	5
Internal Process	0.753	5
Learning and Growth	0.789	5
Dimensions of EWB		
Job Satisfaction	0.764	5
Work Engagement	0.739	5
Organizational Commitment	0.750	5

The data collection for the survey took place from March 21, 2025, to March 27, 2025. A survey questionnaire was distributed using a Web-Based HMIS scientific survey software form to 350 company employees via email and the Messenger application. Ethical considerations include voluntary survey participation, with respondents given informed consent prior to answering the questionnaire. Data confidentiality was maintained throughout the study to comply with ethical research guidelines. The collected data, considered sufficient for data analysis, were tallied, tabulated, and analyzed using frequency and percentage, weighted mean, and simple linear regression analysis. The data were analyzed using SPSS software to present both descriptive and inferential statistics, including tests for assumptions of linearity and homoscedasticity. Frequency and percentage are used to present the demographic profile of the respondents. At the same time, the weighted mean is employed in the analysis of the BSC and EWB dimensions, as it offers a more precise depiction of the general trend or average by allocating weights to each data point, indicating its relative significance. The research employed simple linear regression due to its lower data requirements and assumptions, making it easier to comprehend and illustrate the relationship between BSC and EWB variables. Consistent with the current number of variables used in the research, this approach also illustrates the relationship between two variables: an independent variable and a dependent variable (Bangdiwala, 2018).

FINDINGS AND DISCUSSION

This section presents the study's findings on the impact of BSC implementation on EWB in a manufacturing company in Vietnam. This section interprets these findings in the context of their relevance to improving EWB in the workplace. The results are structured across various tables, providing a comprehensive overview of the respondents.

Profile of the Respondents

An overview of the respondents' profile information is summarized in Table 3. The 350 employees who served as the study's respondents were affiliated with the subject manufacturing company.

Table 3. Profile of the Respondents

Profile Indicator	Frequency	Percentage
Sex		
Male	319	91.14
Female	31	8.86

Profile Indicator	Frequency	Percentage
<i>Age</i>		
20-30 years old	107	30.57
31-40 years old	157	44.86
41-50 years old	65	18.57
51-60 years old	21	6.00
<i>Educational Attainment</i>		
College Undergraduate	120	34.29
Bachelor's Degree	223	63.71
Master's Degree	7	2.00
<i>Department</i>		
Production Department	307	87.71
Sales Department	23	6.57
Administration Department	20	5.71
<i>Years in Service</i>		
Under 5 years	89	25.43
5-10 years	120	34.29
11-15 years	81	23.14
over 15 years	60	17.14

Table 3 indicates that many respondents were male, aged 40 years or younger. Additionally, most of them held bachelor's degrees, and nearly all were assigned to the production department of the manufacturing company. Moreover, participants differed in their tenure with the company, with 5 to 10 years being the most frequent. The findings from the respondents' profile data indicated balanced demographics, a diverse workforce, and a stable workforce.

The demographic profile findings align with [Ryland's \(2024\)](#) research, indicating that Vietnam has a dynamic and educated young labor force. This demographic profile of the company employees offers a valuable reservoir of talent equipped with the skills and enthusiasm needed to propel manufacturing excellence.

BSC Implementation

BSC is implemented with several dimensions, including financial, customer, internal process, and learning and growth. Table 4 summarizes the level of implementation of the BSC in a manufacturing company in Vietnam.

Table 4. BSC Implementation

Dimensions	Mean	Descriptive Rating
Financial	4.60	Strongly Agree
Customer	4.70	Strongly Agree
Internal Process	4.57	Strongly Agree
Learning and Growth	4.71	Strongly Agree
Mean of Means	4.65	Strongly Agree

Table 4 indicates that respondents experienced BSC implementation across multiple areas. All the dimensions, including financial, customer, internal process, and learning and growth, have a descriptive rating of "Strongly Agree". The results show 'Strongly Agree' in the financial perspective, reinforcing the overall perception that the company effectively addresses the financial

concerns of its employees, thereby supporting their well-being and aligning financial incentives with organizational performance goals. The findings align with the study by [Bandonu and Nugroho \(2023\)](#), which showed that the measurement of financial performance revealed that the planning and implementation of strategies provide fundamental improvements to corporate profits. Additionally, the data results from a customer perspective strongly indicate that the company is highly committed to delivering quality customer service and integrating customer feedback to meet and exceed expectations, key components of sustaining customer satisfaction and loyalty. The findings are also consistent with the study by [Terziev et al. \(2020\)](#), which suggests that for logistics personnel, delivery time is a result. However, from a customer relationship perspective, it is considered a force that fosters customer loyalty.

The results from internal processes indicate that the organization is successfully reinforcing the company's commitment to supporting employees in their operational roles. The results support the research of [Algobaisi and Sweiti \(2023\)](#), which suggests that the internal operations perspective focuses on internal operational factors and procedures that contribute to companies achieving excellence in all product and service fields, thereby measuring the company's future performance and contributing to the achievement of desired goals. Finally, the results in learning and growth demonstrate that the company fosters a culture of learning, alignment, and clarity—essential components for long-term growth and high performance. Additionally, the study supports [Pierce's \(2022\)](#) research, stating that the learning and growth perspective of the BSC encompasses the aspects of the organization's environment that must be in place to encourage and enable employees to find new ways to innovate using data. Employees need to have the skills, tools, and willingness to pursue data analytics.

Overall, the Mean of Means for implementation across these dimensions was 4.65, also rated as "Strongly Agree". This suggests that the company effectively addresses financial concerns, delivers quality customer service, supports employees in operational roles, and fosters a culture of learning that promotes long-term growth and high performance. While the study's results appeared beneficial to the manufacturing company, one perceived limitation is that it did not verify whether all levels/ ranks of employees were well-represented as respondents, as this was not considered a criterion for profiling the respondent-employees. The study, therefore, cannot confirm whether these are overall sentiments of employees, regardless of their levels/ ranks, because of the possibility that the effectiveness of the BSC implementation may be rated higher by supervisors and managers compared to their rank-and-file counterparts. According to [Kuenzi et al. \(2019\)](#) organizational deviancy occurs when there is disagreement between supervisors' ratings of themselves and their subordinates' ratings of the supervisors.

Employee Well-Being (EWB)

EWB is influenced by several dimensions that can affect job satisfaction, work engagement, and commitment to an organization. Table 5 summarizes the level of EWB in a manufacturing company in Vietnam.

Table 5. EWB

Dimensions	Mean	Description Rating
Job satisfaction	4.58	Strongly Agree
Work Engagement	4.68	Strongly Agree
Organizational Commitment	4.79	Strongly Agree
Mean of Means	4.68	Strongly Agree

All the dimensions, including satisfaction, work engagement, and organizational commitment, have a descriptive rating of "Strongly Agree". The results in job satisfaction indicate that the company successfully cultivates a motivating, growth-oriented, and supportive work

environment, which significantly contributes to employees' job satisfaction and overall well-being. The results align with prior studies (Arendon et al., 2023; Baxi & Atre, 2024; Gubi et al., 2024) regarding the importance of job satisfaction as a critical aspect of an organization, serving as a cornerstone for understanding employee motivation, engagement, and overall well-being in the workplace. Furthermore, the results in work engagement reveal that the company effectively cultivates a work culture grounded in teamwork, mutual respect, clear communication, and employee involvement—critical components of high employee engagement and organizational productivity. The results of the study also support those of Abdulrahman et al. (2022), who found that workers' work engagement is a voluntary emotional commitment influenced by organizational support, mutual trust among team members, and personal passion. These results in organizational commitment collectively indicate a strong alignment between individual and organizational values, mission clarity, and a positive work culture, making this organization a model for fostering long-term employee commitment. Lastly, the results align with the study by Dilshan et al. (2023), which highlights that organizational commitment refers to the degree to which employees are motivated to continue participating in the organization through their behaviors and values.

The Mean of Means for EWB was 4.68, also rated "Strongly Agree". This reflects the company's effective cultivation of a positive work environment, fostering teamwork and communication, and aligning employee and organizational values. Overall, the results indicate that the manufacturing company is increasingly recognizing the benefits of prioritizing employee well-being, which can lead to reduced absenteeism, improved morale, and enhanced job performance. The results of the study align with the findings of Concepcion et al. (2024), who emphasized the importance of relevant EWB initiatives that can enhance employee outcomes and foster a more engaged workforce.

Relationship of BSC and EWB

The relationships between the four dimensions of BSC and the three dimensions of EWB were analysed using simple regression analysis. Regarding the null hypothesis described by the researchers, which states that there is no significant relationship between BSC implementation and EWB, Table 6 presents the assumption checks on the relationship between BSC and EWB. In contrast, Table 7 presents the results of the statistical analysis.

Table 6. Assumptions Checks Between the Relationship of BSC and EWB

BSC	EWB	Linearity	Homoscedasticity	Interpretation
Financial	Job Satisfaction	Met	Borderline	No nonlinear trend in residuals, Slight funnel pattern observed
	Work Engagement	Met	Met	No curvature, random scatter, even residual spread
	Organizational Commitment	Met	Borderline	Residuals randomly scattered, Slight funnel pattern observed

BSC	EWB	Linearity	Homoscedasticity	Interpretation
Customer	Job Satisfaction	Met	Met	No curve; residuals are randomly spread, Constant spread of residuals
	Work Engagement	Met	Borderline	Residuals randomly scattered, Slight increase in residual spread
	Organizational Commitment	Met	Borderline	No visible nonlinear trend, Slight increase in residual spread,
Internal Process	Job Satisfaction	Met	Borderline	Residuals randomly distributed, Slight non-constant spread
	Work Engagement	Met	Met	Random scatter of residuals, Constant spread of residuals
	Organizational Commitment	Met	Borderline	Residuals are randomly scattered, Slight variability in spread
Learning and Growth	Job Satisfaction	Met	Met	Random scatter of residuals, Constant variance
	Work Engagement	Met	Met	No curve or trend in residuals, Consistent residual spread
	Organizational Commitment	Met	Borderline	Random spread around zero, slightly unequal variance

Table 6 presents the assumptions between all dimensions of the BSC (financial, customer, internal process, and learning and growth) and the key dimensions of EWB, including job satisfaction, work engagement, and organizational commitment. The assumption tests indicate that the status of linearity and homoscedasticity between variables in the study is met, with the variance of the residuals being constant across all levels of the independent variable. This means that the simple regression test used in the study produced unbiased, consistent, and efficient estimates of regression coefficients and their standard errors.

The findings align with the study of [Katsileros et al. \(2024\)](#), which states that homoscedasticity, also referred to as the homogeneity of variances, assumes that different groups or treatments have the same variance, even if they come from different populations. It is essential to test for homoscedasticity because violating this assumption increases the likelihood of falsely rejecting the null hypothesis, even when the distributions are normally distributed. The homoscedasticity assumption ensures the validity of test statistics and p-values in variance tests.

On the other hand, the study of [Bless and Wänke \(2023\)](#) on linearity between study variables is also important in regression analysis, indicating a straight-line connection between the independent variable and the dependent variable. This assumption is essential for the accuracy of linear regression models. The extent to which a variation in the dependent variable corresponds to variations in the independent variables defines linearity and is represented when the data aligns along a straight line.

Table 7. Relationship Between BSC Implementation and EWB

BSC	EWB	r	r ²	p-value	Interpretation
Financial	Job Satisfaction	0.615	0.378	0.001	Significant
	Work Engagement	0.600	0.360	0.001	Significant
	Organizational Commitment	0.575	0.331	0.001	Significant
Customer	Job Satisfaction	0.446	0.199	0.001	Significant
	Work Engagement	0.556	0.309	0.001	Significant
	Organizational Commitment	0.600	0.360	0.001	Significant
Internal Process	Job Satisfaction	0.648	0.420	0.001	Significant
	Work Engagement	0.44	0.194	0.001	Significant
	Organizational Commitment	0.551	0.304	0.001	Significant
Learning and Growth	Job Satisfaction	0.652	0.425	0.001	Significant
	Work Engagement	0.62	0.384	0.001	Significant
	Organizational Commitment	0.659	0.434	0.001	Significant

Note: If the p-value is less than or equal to 0.001, reject the null hypothesis. Otherwise, it fails to reject the null hypothesis.

As Table 7 shows, all dimensions of BSC implementation (financial, customer, internal process, and learning and growth) have a significant relationship with key dimensions of EWB, including job satisfaction, work engagement and organizational commitment. Therefore, the null hypothesis is rejected for these variables. Overall, BSC's focus on various organizational perspectives (financial, customer, internal processes, and learning & growth) can drive overall organizational performance. This can lead to increased job security, better compensation, and improved working conditions, all of which contribute to EWB. The results suggest that enhancing EWB—through satisfaction, engagement, and commitment not only benefits individuals but also plays a critical role in driving the strategic execution of organizational goals via the BSC framework.

The findings align with previous studies ([Suharto & Suprpto, 2023](#); [Loriwan et al., 2020](#); [Meng et al., 2024](#)), which demonstrated that a performance management system like BSC is a crucial component of organizational management and significantly affects employees' job satisfaction; work engagement significantly influences the BSC dimensions, and perceived organizational commitment significantly influences employee performance, which can make workers feel more engaged and content with their work. The results support the study by [Shellow \(2022\)](#), which suggests that companies recognize employee achievements, creating a work environment that promotes psychological safety, provides employees with adequate resources, and has well-defined roles and responsibilities through BSC implementation. This, in turn, is expected to improve employee performance, increase employee retention, and enhance job satisfaction in the workforce.

Proposed Guidelines on BSC Implementation to Sustain EWB

Table 8 outlines the proposed guidelines on BSC implementation to sustain EWB. These guidelines aim to foster enhanced BSC implementation that encourages strong engagement and employee loyalty, thereby further enhancing EWB and productivity. The proposed guidelines align with the recommendations of previous researchers (Gunawan, 2024; Wardiman & Lukman, 2023; Zorek, 2020), who state that proper BSC implementation links the company's vision and mission to strategy through four perspectives: financial, customer, internal business process, and learning and growth. Through a combination of financial and non-financial metrics, BSC are essential tools for assessing and enhancing organizational performance in areas including increased profitability, operational effectiveness, customer happiness, and staff innovation and development.

Table 8. Proposed Guidelines on BSC Implementation to Sustain EWB

Indicators	Proposed Guidelines	Expected Outcomes
BSC		
Financial	<p>Utilizing a Balanced Scorecard (BSC) Approach</p> <ol style="list-style-type: none"> a. Define clear strategic objectives for each perspective, such as profitability, customer satisfaction, operational efficiency, and employee capabilities b. Identify key performance indicators (KPIs) for each objective and set challenging yet achievable targets <p>Develop concrete programs and projects to promote the achievement of established targets</p>	This holistic view allows the company to not only focus on financial results but also on the factors that drive future success, such as customer satisfaction, operational efficiency, and employee capabilities.
	<p>Scenario Planning</p> <ol style="list-style-type: none"> a. Use scenario planning techniques to model various growth and profitability scenarios b. Analyze potential trade-offs between growth and profitability <p>Make data-driven decisions that achieve an optimal balance between growth and profitability</p>	
Customer	Define Customer-Focused Objectives	The company can expect improved customer

Indicators	Proposed Guidelines	Expected Outcomes
	<ul style="list-style-type: none"> a. Identify key customer segments b. Determine desired customer outcomes c. Translate strategic goals into customer objectives <p>Develop Relevant KPIs</p> <ul style="list-style-type: none"> a. Choose metrics that align with customer objective b. Consider metrics that measure customer experience <p>Implement Initiatives to Drive Customer Value</p> <ul style="list-style-type: none"> a. Focus on improving product quality and reliability b. Provide excellent customer service c. Innovate and develop new products and services <p>Monitor, Review, and Adjust</p> <ul style="list-style-type: none"> a. Monitor progress towards customer-focused objectives and identify areas where improvements are needed b. Use data to understand what is driving customer satisfaction and loyalty <p>Adapt to changing customer needs and market conditions to ensure continued success</p>	<p>relationships, better product development, and ultimately, increased profitability.</p>
Internal Process	<p>Identify Key Internal Processes</p> <ul style="list-style-type: none"> a. Focus on processes with customer impact <p>Identify and measure the company's core competencies; the critical</p>	<p>The company can expect to see significant improvements in operational efficiency, product quality, and overall business performance. This includes reducing lead times, enhancing employee skills,</p>

Indicators	Proposed Guidelines	Expected Outcomes
	<p>skills and technologies needed for market leadership</p> <p>Develop Operational Measures</p> <p>a. Create specific, measurable Key Performance Indicators (KPIs) for each key process</p> <p>Cascade the Scorecard</p> <p>a. Break down the corporate scorecard into individual scorecards for departments and teams</p> <p>b. Ensure each level of the organization is aligned with the overall strategy</p> <p>Set Targets and Initiatives</p> <p>a. Establish challenging but achievable targets</p> <p>b. Identify concrete projects and programs to improve performance and achieve targets</p> <p>Monitor, Review, and Refine</p> <p>a. Identify areas for improvement and make necessary adjustments to strategies and initiatives</p>	<p>and leveraging technology to streamline processes.</p>
<p>Learning and Growth</p>	<p>Human Capital</p> <p>a. Develop and enhance employee skills</p> <p>b. Foster a positive work environment, encourage employee involvement in decision-making, and provide opportunities for growth and advancement</p> <p>c. Assess and manage performance</p> <p>d. Implement succession planning</p> <p>Information Capital</p> <p>a. Invest in technology Enhance data management</p>	<p>The company can expect to see improvements in innovation, employee skill development, and a more adaptable workforce, ultimately leading to sustained competitive advantage and improved overall performance</p>

Indicators	Proposed Guidelines	Expected Outcomes
	<ul style="list-style-type: none"> b. Establish processes for capturing, storing, and sharing knowledge within the organization to improve problem-solving and innovation <p>Organizational Capital</p> <ul style="list-style-type: none"> a. Foster a learning culture b. Promote innovation Enhance teamwork and collaboration c. Support leadership development 	
EWB		
Job Satisfaction	<p>Clarity and Communication</p> <ul style="list-style-type: none"> a. Explain the BSC's purpose b. Link BSC to individual roles c. Keep employees informed about progress, challenges, and adjustments to the BSC <p>Employee Involvement</p> <ul style="list-style-type: none"> a. Involve employees in the development process b. Create opportunities for feedback c. Foster a culture of collaboration d. Recognize and reward contributions 	The company will be fostering a culture of continuous improvement, and enhancing accountability and transparency. The BSC clarifies expectations and empowers employees, leading to greater job satisfaction. The BSC will help employees feel valued and supported, which can further enhance their commitment to the organization.
Work Engagement	<p>Communication and Clarity</p> <ul style="list-style-type: none"> a. Make sure everyone understands the company's overall vision, strategy, and how the BSC helps achieve it b. Demonstrate how each employee's work contributes to the overall BSC objectives and how their performance is measured <p>Foster a Supportive Culture</p> <ul style="list-style-type: none"> a. Value Performance and Strategic Focus 	The company can expect improved alignment of organizational goals, enhanced performance measurement, and increased employee motivation and ownership, leading to more effective strategy implementation and achieving desired results.

Indicators	Proposed Guidelines	Expected Outcomes
	<ul style="list-style-type: none"> b. Encourage Open Communication c. Recognize and Reward Success <p>Implement and Iterate</p> <ul style="list-style-type: none"> a. Monitor the BSC's effectiveness and make necessary adjustments b. Regularly communicate the BSC's performance and progress to employees, keeping them informed and engaged 	
<p>Organizational Commitment</p>	<p>Clear Communication and Transparency</p> <ul style="list-style-type: none"> a. Communicate the benefits of the BSC, how it aligns with the company's strategy, and how it will improve performance b. Employ strategy maps and other visuals to illustrate the cause-and-effect relationships between strategic objectives and metrics <p>Leadership Commitment and Support</p> <ul style="list-style-type: none"> a. Appoint a dedicated project manager to lead the BSC implementation and ensure its successful deployment b. Create a culture of shared ownership and responsibility for achieving BSC goals <p>Alignment with Company Culture</p> <ul style="list-style-type: none"> a. Evaluate the company's current culture and identify any potential barriers to BSC implementation b. Implement strategies to address any resistance to change, such as providing 	<p>The company can expect improved operational efficiency, enhanced quality management, and a more aligned workforce. This, in turn, leads to better financial performance, increased customer satisfaction, and a culture of continuous improvement.</p>

Indicators	Proposed Guidelines	Expected Outcomes
	training and support to employees	

As prior studies conducted by [Gunawan \(2024\)](#), [Gandini et al. \(2021\)](#), and [Li \(2025\)](#) suggested, maximizing the BSC is essential to better align with individual company needs and to improve accuracy and decision-making. BSC must have continuous updates and customization to address specific industry challenges. Successful implementation relies heavily on management commitment, an organizational culture that supports innovation and learning, and the effective use of technology. An enhanced BSC method makes it easier to create a more structured and comprehensive picture of the employee's satisfaction, the company's organizational commitment, and employees' work engagement in the future.

CONCLUSION

The results indicated that the company has a high level of BSC implementation across its financial, customer, internal process, and learning and growth dimensions, and a correspondingly high level of EWB in terms of job satisfaction, work engagement, and organizational commitment. Based on the study's findings, a significant positive relationship exists between the implementation of the BSC and EWB in the Vietnamese manufacturing company examined.

The study suggested that BSC implementation can positively influence EWB by providing a clearer understanding of organizational strategy, potentially increasing employees' sense of purpose, and aligning individual efforts with strategic goals. When employees see the impact of their contributions to the organization's success, as facilitated by the BSC framework, it can lead to a greater sense of personal accomplishment and higher employee engagement. Furthermore, a well-implemented BSC can contribute to job security, better compensation, and improved working conditions, all of which enhance EWB. The proposed guidelines in the study emphasize the importance of balancing financial metrics with other perspectives, clear communication about the BSC, establishing clear goals and performance metrics, providing training, and linking individual contributions to the overall strategy to sustain and enhance EWB.

Thus, the research highlighted that prioritizing EWB through practical BSC implementation benefits not only employees but also plays a crucial role in achieving organizational goals and fostering sustainability. It also suggested how theoretical concepts related to employee motivation, engagement, and commitment can be operationalized through a widely used management tool, such as the BSC. In conclusion, the study empirically validated that the implementation of the BSC has a positive and significant influence on EWB, as conceptualized by Fisher's theory. EWB, considered a vital element in the success of the organization, takes precedence over other factors that affect organizational success. This study further extends the relevance of effective BSC implementation, enabling organizations to increase employee satisfaction while also promoting organizational commitment and job engagement.

LIMITATIONS AND FURTHER RESEARCH

Several limitations should be acknowledged in the study. First, the research was conducted within a single manufacturing enterprise. This context-specific approach may limit the generalizability of the findings to other industries or regions. Second, although quantitative research design enables the identification of statistical relationships between variables, it inherently limits the exploration of deeper contextual factors. Third, the study focused exclusively on three components of EWB: job satisfaction, organizational commitment, and work engagement.

The exclusion of other dimensions such as work-life balance, mental health, and psychological safety may result in an incomplete understanding of EWB.

Future studies should consider adopting longitudinal designs to explore how BSC implementation influences employee outcomes over time. To address these issues, first expand the research scope to include organizations across various industries. Second, employ mixed methods approaches, incorporating qualitative techniques to capture richer insights into how employees perceive and internalize BSC practices. Third, investigate potential mediating or moderating variables, such as leadership style and perceived organizational support that may influence the BSC–EWB relationship. Lastly, conduct longitudinal research to evaluate the long-term impacts and clarify causal mechanisms.

The researchers recommend that further studies be conducted on the specific impacts of BSC on EWB. This will provide insights into a more comprehensive and nuanced understanding of how strategic performance management tools, such as the BSC, influence not only EWB but also overall organizational effectiveness.

REFERENCES

- Abdulrahman, B. S., Qader, K. S., Jamil, D. A., Sabah, K. K., Gardi, B., & Anwer, S. A. (2022). Work engagement and its influence in boosting productivity. *International Journal of Language, Literature and Culture*, 2(6), 30–41. <https://doi.org/10.22161/ijllc.2.6.3>
- Algobaisi, A., & Sweiti, I. (2023). The role of the balanced scorecard in evaluating the efficiency of spending in Saudi public universities: An applied study to the colleges of Qassim University. *Saudi Journal of Economics and Finance*, 7(2), 90–114. https://saudijournals.com/media/articles/SJEF_72_90-114.pdf
- Arendon, R. A. M., Briones, J. P., & Baldovino, F. P. (2023). Quality of life and job performance of employees of a construction company in Doha, Qatar, during the 2022 FIFA World Cup. *Inclusive Society and Sustainability Studies*, 3(2), 64–76. <https://doi.org/10.31098/issues.v3i2.1977>
- Gunawan, B. R. M. (2024). Implementation of balanced scorecard to achieve the company's strategic objectives. *Eduvest - Journal of Universal Studies*, 4(3), 818–826. <https://doi.org/10.59188/eduvest.v4i3.1064>
- Bandonno, A., & Nugroho, S. H. (2023). The assessment of company performance target using balanced scorecard methods. *International Journal of Professional Business Review*, 8(5), e01968. <https://doi.org/10.26668/businessreview/2023.v8i5.1968>
- Bangdiwala, S. I. (2018). Regression: Simple linear. *International Journal of Injury Control and Safety Promotion*, 25(1), 113–115. <https://doi.org/10.1080/17457300.2018.1426702>
- Baxi, B., & Atre, D. (2024). Job satisfaction: Understanding the meaning, importance, and dimensions. *Journal of Management and Entrepreneurship Research*, 18(2), 34–40. <https://www.researchgate.net/publication/380364720>
- Bless, H., & Wänke, M. (2023). The crucial role of linearity when comparing effects across studies. *Nature Reviews Psychology*, 2, 516–517. <https://doi.org/10.1038/s44159-023-00220-w>
- Bosede, O. D. A. (2024). Employee well-being and organizational performance of private universities in South-South, Nigeria. *International Journal of Research in Education and Sustainable Development*, 4(4), 47–64. <https://doi.org/10.5281/ZENODO.11115302>
- Bshayreh, M. M., Qawqzeh, H. K., Al-Momany, I. A. A., Saleh, M. M. A., & Al Qallap, K. D. H. (2024). The influence of balanced scorecard perspectives on the firms' performance: Evidence from the banks in the developing market. *Corporate and Business Strategy Review*, 5(2), 243–254. <https://doi.org/10.22495/cbsrv5i2art21>

-
- Cignitas, C. P., Arevalo, J., & Crusells, J. (2022). The impact of strategy performance management methods on employee well-being: A case study to analyse balanced scorecard effects. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4044256>
- Chang, R. (2024). The impact of employees' health and well-being on job performance. *Journal of Education, Humanities and Social Sciences*, 29, 372–378. <https://doi.org/10.54097/9ft7db35>
- Concepcion, B. J. W., Cruz, L. B. O., Chavez, A. L. A., Briones, J. P., & Abante, M. V. (2024). Employees' work-life balance and career contentment in a Philippine local government unit. *Applied Quantitative Analysis*, 4(2), 146–159. <https://doi.org/10.31098/quant.2760>
- Cunanan, E. J. R., Santos, C. L. D., Esguerra, J. B., Briones, J. P., & Abante, M. V. (2025). Relationship between nano-entrepreneurship and employees' work-life balance in a local government unit in the Philippines. *International Journal of Entrepreneurship, Business and Creative Economy*, 5(1), 54–73. <https://doi.org/10.31098/ijebce.v5i1.2764>
- Dilshan, M., Iddagoda, A., & Dissanayake, H. (2023). Organizational commitment and its drivers: A study of a selected organization. *Akademia Zarządzania*, 7(3), 135–156. <https://doi.org/10.24427/AZ-2023-0039>
- Elmetwaly, A. S., Mansour, N. M., & Essawy, M. (2022). Evaluation of balanced scorecard practices and their impacts on employees' performance in hotels. *African Journal of Hospitality, Tourism and Leisure*, 11(3), 1008–1019.
- Frost, J. (2024). *Cronbach's alpha: Definition, calculations & example*. Statistics By Jim. <https://statisticsbyjim.com/basics/cronbachs-alpha/>
- Gandini, A., Suhartini, D., & Susilowati, E. (2021). Sustainability balanced scorecard: Enhancing financial performance. *Proceedings of the 7th International Conference of Economic, Business and Government Challenges 2024*, 7(1), 201–210.
- Gubi, J. M. P., Morales, M. J. N., & Briones, J. P. (2024). Consumerism culture and its impact on employees' work effectiveness: The case of a national government agency in the Philippines. *International Journal of Entrepreneurship, Business and Creative Economy*, 4(1), 49–61. <https://doi.org/10.31098/ijebce.v4i1.1985>
- Gupta, D. A., Sharma, S., & Maheshwari, M. (2020). Customer perspective of balanced scorecard: An empirical view of company's performance from customer outlook (An inter-bank and inter-sector comparison of public and private sector banks in India). *Pacific Business Review International*, 12(10), 80–88.
- Ha, D. T., Le, T., Fisher, G., & Nguyen, T. T. (2022). Factors affecting the adoption extent of the balanced scorecard by Vietnamese small- and medium-sized enterprises. *Accounting Research Journal*, 35(4), 543–560. <https://doi.org/10.1108/ARJ-08-2020-0221>
- Harshitha, L., & Senthil, B. (2021). Impact of employee well-being on organizational performance in workplace. *Wesleyan Journal of Research*, 14(30), 27–38.
- Ilyyasu, R., & Etikan, I. (2021). Comparison of quota sampling and stratified random sampling. *Biometrics & Biostatistics International Journal*, 10(1), 24–27. <https://doi.org/10.15406/bbij.2021.10.00326>
- Kang, H., Meng, F., & Na, H. J. (2025). Evaluating the current and future of corporation and hotel industry performance by analyzing CEO messages using the SBSC framework assessment. *Sustainability*, 17(5), 2109. <https://doi.org/10.3390/su17052109>
- Katkar, P., Waghe, A., & Mundhe, S. D. (2024). Employee well-being and performance: The role of HR practices. *IOSR Journal of Business and Management*, 26(11), 39–46. <https://doi.org/10.9790/487X-2611123946>
- Katsileros, A., Antonetsis, N., Mouzaidis, P., Tani, E., Bebeli, P. J., & Karagrigoriou, A. (2024). A comparison of tests for homoscedasticity using simulation and empirical
-

- data. *Communications for Statistical Applications and Methods*, 31(1), 1–35. <https://doi.org/10.29220/CSAM.2024.31.1.001>
- Keddy, E. (2024). Motivating employees using a balanced scorecard. *International Journal of Co-Operative Accounting and Management*, 7(2), 24–44.
- Kin, L. W., Ahmad, N., Kamaruddin, N. K., & Raja Mamat, T. N. A. (2022). Human resource practices and employee retention in manufacturing industry. *Research in Management of Technology and Business*, 3(2), 113–131.
- Kuenzi, M., Brown, M. E., Mayer, D. M., & Priesemuth, M. (2019). Supervisor-subordinate (dis)agreement on ethical leadership: An investigation of its antecedents and relationship to organizational deviance. *Business Ethics Quarterly*, 29(1), 25–53. <https://doi.org/10.1017/beq.2018.14>
- Kumar, S., Lim, W. M., Sureka, R., Jabbour, C. J. C., & Bamel, U. (2024). Balanced scorecard: Trends, developments, and future directions. *Review of Managerial Science*, 18(8), 2397–2439. <https://doi.org/10.1007/s11846-023-00700-6>
- Lan, T. T. N., Oanh, L. T. T., Hăng, T. T. T., & Chi, T. T. K. (2023). Developing a balanced scorecard for automobile and motorcycle manufacturers: A case study at Honda Vietnam Company. *TNU Journal of Science and Technology*, 229(03), 66–74. <https://doi.org/10.34238/tnu-jst.8675>
- Li, W. (2025). Effectiveness of the balanced scorecard in enhancing firm performance. *Journal of Human Resource Development*, 7(1), 44–50. <https://doi.org/10.23977/jhrd.2025.070107>
- Loriwan, L., Ayu, S. F., & Lubis, A. (2020). The application of the balanced scorecard method in review from the perspective of employee satisfaction levels at PT. Perkebunan Nusantara III (Persero) Kebun Merbau Selatan. *Jurnal Ekonomi*, 11(03), 1297–1305.
- Memon, M. A., Ting, H., Cheah, J., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2), i–xx.
- Meng, L., Liu, K., & Zhang, Y. (2024). Research on employee job satisfaction caused by performance management system. *Modern Economics & Management Forum*, 5(4), 615–617. <https://doi.org/10.32629/memf.v5i4.2531>
- Nguyen, T., & Quynh, N. (2022). Establishing a management system based on the balanced scorecard (BSC) and key performance indicators (KPIs) at Saigon VRG Investment Corporation. *UEH Digital Repository, University of Economics Ho Chi Minh City*. <https://digital.lib.ueh.edu.vn/handle/UEH/64159>
- Perkins, H. (2022). *Organizational commitment profiles and employee well-being: A latent profile analysis* (Master's thesis, Louisiana State University and Agricultural and Mechanical College). https://doi.org/10.31390/gradschool_theses.5571
- Pierce, E. (2022). A balanced scorecard for maximizing data performance. *Frontiers in Big Data*, 5, Article 821103. <https://doi.org/10.3389/fdata.2022.821103>
- Ryland, M. (2024). *March 2024 Vietnam manufacturing report*. BritCham Vietnam. <https://britchamvn.com/wp-content/uploads/2024/04/Manufacturing-report-march-24-fixed.pdf>
- Shellow, A. L. (2022). *The relationship between employee engagement, job satisfaction, and employee performance in the federal government* (Doctoral dissertation, Walden University). Walden Dissertations and Doctoral Studies, 13770. <https://scholarworks.waldenu.edu/dissertations/13770/>
- Sibarani, B. E. (2023). What do we know about balanced scorecard and its benefit? A systematic literature review. *Jurnal Dinamika Akuntansi Dan Bisnis*, 10(1), 133–148. <https://doi.org/10.24815/jdab.v10i1.29351>

- Suarez, M. M. G. (2023). Knowledge management practices, employee work engagement and balanced scorecard: Basis for organizational performance framework. *International Journal of Research Studies in Management*, 11(5), 23–28. <https://doi.org/10.5861/ijrsm.2023.1050>
- Suharto, B., & Suprpto, S. (2023). The role of organizational commitment and employee engagement in mediating the impact of perceived organizational support on employee performance. *Dinasti International Journal of Management Science*, 4(6), 1215–1225. <https://doi.org/10.31933/dijms.v4i6.1960>
- Supardi, A. M., Salehah, M., & Komalasari, S. (2023). The role of workplace well-being on employee work satisfaction. In A. Fattah, M. A. Basori, M. A. Fu'ady, & N. Sholichah (Eds.), *Proceedings of the Conference of Psychology and Flourishing Humanity (PFH 2022), Advances in Social Science, Education and Humanities Research* (Vol. 728, pp. 318–327). Atlantis Press. https://doi.org/10.2991/978-2-38476-032-9_33
- Ta, T. T., Doan, T. N., Tran, H. N., Dam, T. A., & Pham, T. M. Q. (2022). Factors affecting the application of balanced scorecard to enhance operational efficiency of listed companies: The case of Vietnam. *Cogent Business & Management*, 9(1), 2149146. <https://doi.org/10.1080/23311975.2022.2149146>
- Tawse, A., & Tabesh, P. (2023). Thirty years with the balanced scorecard: What we have learned. *Business Horizons*, 66(1), 123–132. <https://doi.org/10.1016/j.bushor.2022.03.005>
- Terziev, V., Georgiev, M., & Andreeva, O. (2020). Balanced scorecard – Analysis of theoretical and applied solution. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3735895>
- Thomas, D., & Zubkov, P. (2023). Quantitative research designs. In *Quantitative Research for Practical Theology* (pp. 103–114).
- Thuong, C. V., & Singh, H. (2023). The impact of a balanced scorecard on enterprise performance in Ho Chi Minh City, Vietnam. *International Journal of Organizational Leadership*, 12(2), 198–215. <https://doi.org/10.33844/ijol.2023.60359>
- Voordt, T. V. D., & Jensen, P. A. (2023). The impact of healthy workplaces on employee satisfaction, productivity and costs. *Journal of Corporate Real Estate*, 25(1), 29–49. <https://doi.org/10.1108/JCRE-03-2021-0012>
- Vorma, E., Kamola, L., & Caune, J. (2024). Factors affecting well-being of employee: An empirical study of manufacturing companies. In N. Callaos, E. Gaile-Sarkane, N. Lace, B. Sánchez, & M. Savoie (Eds.), *Proceedings of the 28th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI 2024* (pp. 177–184). International Institute of Informatics and Cybernetics. <https://doi.org/10.54808/WMSCI2024.01.177>
- Wardiman, I., & Lukman, S. (2023). Balanced scorecard and strategy map design in the company (Case study at PT. Astra Agro Lestari). *Quantitative Economics and Management Studies*, 4(2), 238–245. <https://doi.org/10.35877/454RI.qems1464>
- Yawson, R. M., & Paros, A. K. B. (2023). Systems perspective of the use of the balanced scorecard for organization development and change. *SAGE Open*, 13(4). <https://doi.org/10.1177/21582440231218064>
- Yosores, J. B., Naparota, L. C., & Cabalida, E. S. (2023). Workplace well-being and work engagement among employees in the Department of Public Works and Highways First and Third District Engineering Offices. *International Journal of English Literature and Social Sciences*, 8(1), 130–150. <https://doi.org/10.22161/ijels.81.18>
- Yeshaw, S., Asrade, G., Hagos, A., Chanie, M. G., & Worku, N. (2025). Practice of balanced scorecard implementation and its contributing factors among public primary hospital professionals in Central Gondar Zone, Northwest Ethiopia. *Frontiers in Public Health*, 12, 1424133. <https://doi.org/10.3389/fpubh.2024.1424133>

Zorek, T. J. (2020). *Successful balanced scorecard implementation strategies for a manufacturing organization* (Doctoral dissertation, Walden University). Walden Dissertations and Doctoral Studies, 8353. <https://scholarworks.waldenu.edu/dissertations/8353>