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# Enhancing Production Efficiency through Organizational Support and Workforce Competence in the Health and Beauty Supplement Industry, Samut Sakhon Province

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**Abstract**

*This study examines the influence of organizational support and competence on production efficiency in a comprehensive health and beauty supplement manufacturing business in Samut Sakhon Province. The research investigates the role of organizational support, including investments in technology and personnel development, and how these factors contribute to the enhancement of employee competence. The study also explores the direct and indirect effects of these variables on production efficiency. The structural model testing reveals that organizational support has a positive direct effect on production efficiency, with a coefficient of $0.73$ ($p < 0.01$). Additionally, competence (COMC) demonstrates a direct effect on production efficiency (PROE), with a coefficient of 0.65 ($p < 0.01$). The results indicate that organizational support indirectly influences production efficiency through competence, with an indirect effect coefficient of $0.36$, leading to a total effect of $0.65$. The findings highlight the importance of organizational support and employee competence in improving production efficiency in the context of health and beauty supplement manufacturing. The study provides valuable insights for organizations seeking to enhance their production processes and optimize employee performance through strategic investments in technology and training. The research contributes to the body of knowledge on the relationship between organizational support, competence, and* operational efficiency, offering practical recommendations for business improvement in this sector.

**Keywords:** Organizational Support, Competence, Production Efficiency, Health and Beauty Supplement Manufacturing, Structural Model, Samut Sakhon Province.

## 1. INTRODUCTION

The global market for health and beauty supplements has been experiencing rapid growth, driven by increasing consumer awareness of health, wellness, and personal care (Zhi Chao, Wongkumchai, & Worapongpat, 2023). In this competitive industry, businesses must continuously enhance their production efficiency to maintain a competitive edge and meet consumer demands (Lee & Kwon, 2022). Efficiency in production is not solely dependent on technological advancements; rather, it also heavily relies on organizational support and the competence of the workforce (Worapongpat & Chaoluang, 2024). Therefore, understanding how organizational factors influence employee performance and production outcomes is critical for companies aiming to thrive in this sector (Liu, Niyomsilp, & Worapongpat, 2020).

In the context of health and beauty supplement manufacturing, particularly in Samut Sakhon Province, businesses face various challenges in optimizing production processes, integrating new technologies, and improving employee skills (Worapongpat, 2024c). Many organizations are investing in automation and technology to improve operational efficiency; however, the effect of these investments on employee competence and the subsequent impact on production efficiency remains underexplored (Michalski, 2024). Additionally, the role of organizational support in fostering employee competence and its indirect effect on production outcomes presents a significant area of study (Selim, 2020).

This research addresses the gap in understanding the relationship between organizational support, employee competence, and production efficiency in the health and beauty supplement manufacturing sector (Worapongpat, 2024b). By exploring these factors, the study provides insights into how businesses can strategically invest in workforce development and technological advancements to enhance their operations (Worapongpat, 2024a). The findings of this research are significant for businesses in the health and beauty industry, as they offer actionable recommendations to improve production efficiency, strengthen employee skills, and maintain organizational competitiveness in a rapidly evolving market (Spitzer & Kreca, 2022).

This study is timely and relevant, as it responds to the growing need for businesses to adapt to industry changes while optimizing internal processes. The research contributes to the body of knowledge by providing evidence of how organizational factors influence production efficiency and offers practical implications for improving business performance in the health and beauty supplement sector

**Research Objectives**

1.To evaluate the direct and indirect effects of organizational support and employee competence on production efficiency in the health and beauty supplement industry.

2.To provide practical recommendations for enhancing production efficiency and contributing to academic knowledge on organizational support, employee competence, and production efficiency.

## 2. LITERATURE REVIEWS

1. Organizational Support

Organizational support refers to the resources or essentials provided by an organization to assist business operations, such as capital, materials, or infrastructure (Worapongpat, 2023a). This support helps businesses operate efficiently and sustainably (Worapongpat, 2023g).

2. Organizational Promotion

Organizational promotion focuses on motivating employees or stakeholders to work toward shared goals (Worapongpat, 2021b). It may involve training or development programs that enhance skills and knowledge. This promotion affects employee engagement and can boost work efficiency (Tao, Wongkumchai, & Worapongpat, 2024).

3. Organizational Assistance

Organizational assistance refers to providing consulting or resolving issues that arise during production or business operations (Worapongpat, 2021a). This assistance helps businesses overcome obstacles and ensures smooth workflows (Worapongpat, 2023f).

4. Organizational Endorsement

Organizational endorsement refers to the organization's support for the business through assurance or assistance, ensuring operations run without interruptions or obstacles, such as

financial support or measures to maintain long-term stability (Tiscini, Martiniello, & Lombardi, 2022).

5. Organizational Provision of Support

Organizational provision of support refers to the allocation of financial resources or personnel to enable businesses to operate and grow efficiently (Worapongpat, 2020). This resource allocation supports operational capabilities and ensures business competitiveness in the market (Worapongpat, 2023e).

6. Organizational Care

Organizational care refers to creating a positive work environment where employees feel motivated and satisfied. A positive environment helps improve employee commitment and job satisfaction, which directly impacts production efficiency (Wei, Worapongpat, & Prompanyo, 2020).

7. Organizational Assistance as a Resource

Organizational assistance as a resource means that the organization acts as a source of advice or problem-solving support to ensure business operations continue smoothly despite obstacles or production issues (Worapongpat, 2023d).

8. Promotion and Support from Organizations

This refers to the integration of promotion and support, where organizations not only provide resources but also encourage creativity and business development to enhance capabilities and competitiveness (Worapongpat & (Narong Uttamavangso/Sendaranath), 2024).

9. Organizational Resource Support

Organizational resource support means providing the necessary resources for business operations, such as personnel, technology, or investment. This type of support helps businesses run smoothly and strengthens their ability to compete (Worapongpat, 2023c).

10. Ongoing Organizational Assistance

Ongoing assistance means that organizations provide continuous support over time, tracking progress and helping businesses grow while addressing challenges as they arise (Worapongpat, Limlertrid, Zangphukieo, Wongkumchai, & Muangmee, 2023).

Organizational support in various forms, such as promotion, assistance, endorsement, and care, directly impacts production efficiency and business competitiveness (Yicheng, Worapongpat, & Wongkumchai, 2024). This is especially important in the health and beauty supplement industry, which requires skill development and competence to meet the challenges of producing high-quality products (Worapongpat, 2023b).

***Research Conceptual Framework***

1. Exogenous Variables: Organization Support, which consists of 3 sub dimensions:Investment in Automation and Technology Human Resource Development Creating a Learning and Innovation Supportive Environment

2. Mediator Variables: Employee Competency, which consists of 3 sub dimensions: Knowledge and Skill Competency Adaptability Competency Creativity Competency

3. Endogenous Variables: Production Efficiency, which consists of 2 sub-dimensions: Productivity Improvement Quality Improvement

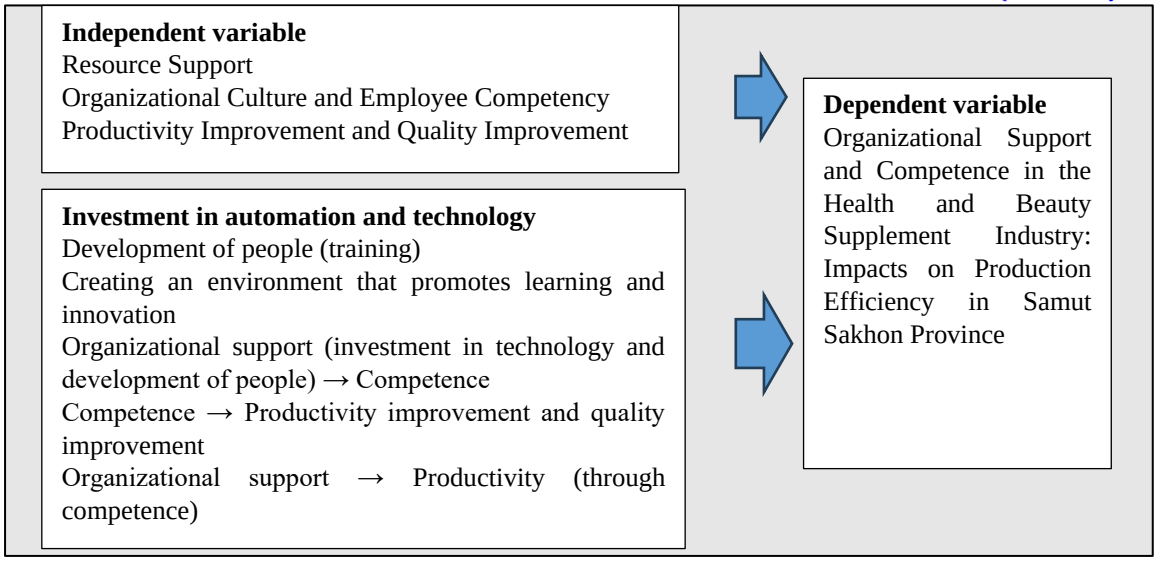


**Figure 1:** Research Conceptual Framework

## 4. RESEARCH METHODOLOGIES

This study employs a quantitative research design, utilizing questionnaires as the primary data collection tool. The research methodology is outlined as follows:

### 4.1 Population and Sample

1.1 Population

The population includes executives and employees of a full-cycle health and beauty supplement manufacturing business located in Mueang District, Samut Sakhon Province, specifically SCG Grand Co., Ltd., and its affiliated companies.

1.2 Sample

The sample consists of executives and employees from the aforementioned population. Since the exact population size is unknown, the sample size was determined using Cochran's formula (1977) for an unknown population. Based on a confidence level of 95%, a margin of error of 5%, and an assumed proportion of 0.5, a minimum sample size of 385 was required. To account for potential errors during data collection, a total of 400 samples were collected.

The sampling technique employed was purposive sampling, with data collection conducted over five months, from August 1, 2023, to November 30, 2023.

### 4.2 Research Instruments

The research instruments comprised the following: Interview Form: To gather qualitative insights.

**4.2.1 Questionnaire:** Designed to assess the following components:
Resource Support

Organizational Culture
Employee Competency
Productivity and Quality Improvement

The questionnaire underwent the following quality assurance steps:
Consultation and Revision: The questionnaire was reviewed and revised based on feedback from academic advisors.

Expert Validation: Three experts evaluated the questionnaire to assess content validity using the Index of Item-Objective Congruence (IOC) The IOC values ranged between 0.80 and 1.00.

Pilot Testing: The revised questionnaire was tested on 30 non-sample respondents. Discrimination indices ranged from 0.25 to 0.75, and reliability was calculated using Cronbach's alpha (1951), yielding a reliability coefficient of 0.95.

### 4.3 Data Collection

Data were collected from two primary sources:

Secondary Data: Document research, including books, academic papers, research studies, and relevant electronic media.
Primary Data: Questionnaires distributed to the sample group.

### 4.3 Data Analysis and Statistics

The data were analyzed as follows:
Preliminary Analysis:

Multivariate normality was assessed using Mahalanobis Distance to detect multivariate outliers.

Normal distribution was verified by examining skewness and kurtosis.
Measurement Model Analysis:

Construct validity and unidimensionality of the data were assessed.
Linear relationships among variables were examined.
Structural Equation Modeling (SEM):

Path analysis was conducted to evaluate direct and indirect relationships.
Descriptive and Inferential Statistics:

Descriptive statistics included percentages, means, and standard deviations.
Multivariate regression analysis and path analysis were performed using statistical software.

## 5. RESULTS AND DISCUSSIONS

### 5.1 Results

**Table 1:** Data Analysis From the research findings, it was found that:

| Category | Variable | Mean | Opinion Level |
|---|---|---|---|
| Demographic Information of Respondents | Gender: Female | 74.60% | - |
| | Age: 26-35 years | 54.70% | - |
| | Age: 36-45 years | 42.10% | - |
| | Education Level: High School (Grade 6) | 50.50% | - |
| | Work Experience: 16+ years | 37.20% | - |
| Resource Support | Investment in Automation and Technology to Enhance Production Efficiency | 3.81 | High Level |
| | Human Resource Development to Enhance Skills | 3.85 | High Level |
| | Creating a Learning and Innovation Supportive Environment | 3.88 | High Level |
| Organizational Culture and Employee Competency | Knowledge and Skill Competency | 4.20 | High Level |
| | Adaptability Competency | 3.94 | High Level |
| | Creativity Competency | 4.14 | High Level |
| Productivity and Quality Improvement | Productivity Increase | 4.21 | High Level |
| | Quality Improvement | 4.17 | High Level |

**Summary of Analysis from the Table:**

- Resource Support: Overall, the average is at a high level. The investment in technology, human resource development, and the creation of a learning-supportive environment are highly valued by the organization.
- Organizational Culture and Employee Competency: Employees rated their competencies highly, particularly in terms of knowledge and skills.
- Productivity and Quality Improvement: Both productivity increase and quality improvement are also rated highly, with the highest mean score for productivity increase and quality improvement.

**Table 2:** Analysis of Variable Components (Measurement Model)

| Variable | Factor Loading |
|---|---|
| Investment in Automation and Technology | 0.834 |
| Human Resource Development (Training Programs) | 0.820 |
| Creating a Learning and Innovation Supportive Environment | 0.795 |

Summary of Analysis from the Table:

- Investment in Automation and Technology: The factor loading of 0.834 indicates that this component has the greatest influence in developing and improving the production efficiency of the organization.
- Human Resource Development through Training Programs: With a factor loading of 0.820, this variable is also highly influential in developing employee capabilities.
- Creating a Learning and Innovation Supportive Environment: The factor loading of 0.795 indicates that this factor plays a significant role in supporting learning and fostering innovation within the organization.

**Table 3:** Structural Model Testing

| Hypothesis | Coefficient | t-value | p-value | Test Result |
|---|---|---|---|---|
| Organizational Support (Investment in Technology and Human Resource Development) → Competence | 0.77 | 6.26 | < 0.001 | Positive and statistically significant effect |
| Competence → Productivity Increase and Quality Improvement | 0.81 | 5.11 | < 0.001 | Positive and statistically significant effect |
| Organizational Support → Production Efficiency (through Competence) | 0.58 | 4.21 | < 0.001 | Indirect positive and statistically significant effect |

Summary of Test Results:

- Organizational Support (Investment in Technology and Human Resource Development): This has a positive effect on competence with a coefficient of 0.77 and a t-value of 5.35, indicating a statistically significant relationship (p-value < 0.001).
- Competence: This has a positive effect on productivity increase and quality improvement with a coefficient of 0.81 and a t-value of 5.11, indicating a statistically significant relationship (p-value < 0.001).
- Organizational Support: This has an indirect positive effect on production efficiency through competence, with a coefficient of 0.58 and a t-value of 4.21, indicating a statistically significant relationship (p-value < 0.001).

### 5.2 Discussion

In this study, we explored the influence of organizational support, employee competencies, and production efficiency in the health and beauty supplement industry. Based on the results from the structural model testing, we can draw several key conclusions and insights.

1. Organizational Support's Impact on Employee Competencies The findings demonstrate that organizational support, particularly in the form of investments in automation, technology, and human resource development, plays a significant role in enhancing employee competencies. Specifically, the investment in technology and the development of human resources (training programs) were shown to have a positive impact on employees' knowledge, skills, adaptability, and creativity. These competencies are crucial

for improving production efficiency (Chen, Worapongpat, & Wongkumchai, 2024; Worapongpat, 2025f). This aligns with previous studies suggesting that a supportive environment and investment in employee development can enhance both individual and organizational performance.

2. Employee Competencies as a Mediator The results indicate that employee competencies act as a mediator between organizational support and production efficiency. The competencies of employees in terms of knowledge, skills, adaptability, and creativity have a direct positive effect on the increase in production output and quality improvement These findings are consistent with the idea that a skilled and adaptable workforce is a key driver of production effectiveness and innovation within organizations.(Dongjie, Wongkumchai, & Worapongpat, 2024; Worapongpat, 2025e).The positive influence of employee competencies on production performance highlights the importance of continuous professional development and training programs in achieving organizational goals.

3. Indirect Impact of Organizational Support on Production Efficiency One of the most insightful findings is the indirect effect of organizational support on production efficiency through employee competencies This suggests that while direct investments in technology and human resources are important, their full impact on production efficiency is realized through their enhancement of employee competencies. (Gongjing, Worapongpat, & Wongkumchai, 2024; Worapongpat, 2025d).Thus, the effective utilization of organizational resources requires a workforce that is not only equipped with the necessary tools and training but also empowered to innovate and adapt to changing conditions.

4. Practical Implications These findings offer several practical implications for managers in the health and beauty supplement industry and other similar sectors:Focus on Workforce Development: It is crucial for organizations to continue investing in the training and development of their employees. This includes both technical skills and soft skills such as adaptability and creativity, which are essential for fostering innovation and improving production processes. Enhance Organizational Support: Companies should prioritize creating a supportive work environment that promotes learning and innovation. (Issa & Hanaysha, 2023; Worapongpat, 2025c).This can be achieved by integrating advanced technologies, automating processes, and providing opportunities for professional growth. Strategic Alignment: The alignment between organizational support, employee competencies, and production efficiency should be emphasized in strategic planning. (Jaouhari, Travaglia, Giovannelli, Picco, Oz, Oz, & Bordiga, 2023; Worapongpat, 2025b).Companies should ensure that their resources are utilized effectively, and that employees are empowered to contribute to the continuous improvement of production quality and output.

5. Limitations and Future Research While this study provides valuable insights into the role of organizational support and employee competencies in production efficiency, it is important to acknowledge some limitations. For instance, the study is based on a specific industry (health and beauty supplements), and the results may not be directly transferable to other sectors. Future research could explore similar models in different industries to validate the generalizability of the findings. Additionally, the study could investigate the role of external factors such as market competition and consumer demand in influencing the effectiveness of organizational support and employee competencies. (Jianyu, Wongkumchai, & Worapongpat, 2024; Worapongpat, 2025a). In conclusion, the study highlights the critical role of organizational support and employee competencies in driving production efficiency. Organizations that invest in their workforce and foster a supportive, innovative environment

are likely to experience improvements in both productivity and quality. This provides a roadmap for companies looking to enhance their operational performance in an increasingly competitive market.

### 5.3 Originality and Body of Knowledge

This study offers several contributions to the existing body of knowledge in the fields of organizational behavior, human resource management, and production efficiency, particularly within the context of the health and beauty supplement industry. By analyzing the relationships between organizational support, employee competencies, and production efficiency, this research provides novel insights into how these factors interact and influence operational performance.

#### 5.3.1 Originality of the Study

This research presents an original approach by linking organizational support with employee competencies as key drivers of production efficiency in the health and beauty supplement sector. While there is a significant body of work on organizational support and its effects on employee outcomes, few studies have explicitly explored the indirect pathways through which organizational resources (e.g., technology and human resource development) influence production outcomes by enhancing employee competencies.

The study expands on existing literature by introducing a structural model that examines the direct and indirect effects of organizational support on production efficiency. It is particularly unique in how it positions employee competencies, such as adaptability and creativity, as mediators that connect organizational support to production performance outcomes. This perspective provides a deeper understanding of how investments in technology and workforce development can lead to measurable improvements in operational performance.

#### 5.3.2 Contribution to Existing Knowledge

Organizational Support and Employee Development: The findings reinforce the importance of organizational investments in both technology and human resources. By highlighting the positive effect of such investments on employee competencies, this study adds to the growing body of literature on the role of continuous training and technological advancements in improving employee performance and, by extension, organizational outcomes.

Employee Competencies as a Mediator: The study's contribution lies in establishing employee competencies as a key mediating factor between organizational support and production efficiency. The identification of knowledge, adaptability, and creativity as essential competencies further enriches the understanding of what constitutes an effective workforce in a highly competitive industry.

Production Efficiency as a Multifaceted Concept: By examining production

efficiency through both output (increased productivity) and quality improvement, this research broadens the traditional scope of production efficiency studies. It provides a more nuanced understanding of how organizations can optimize performance by balancing both quantity and quality, which is crucial in the highly competitive health and beauty sector.

### 5.3.3. Implications for Future Research

This study opens several avenues for future research:

Cross-Industry Comparisons: Future research could extend the model tested in this study to other industries, such as manufacturing, technology, or service industries, to assess the generalizability of the findings. Comparing how organizational support and employee competencies influence production efficiency in various sectors could provide deeper insights into sector-specific dynamics.

Longitudinal Studies: A longitudinal study examining the long-term impact of organizational support on employee competencies and production efficiency would provide valuable insights into how investments in these areas affect organizational performance over time. This approach would allow for a more comprehensive analysis of cause-and-effect relationships.

Impact of External Factors: While this study focused on internal factors, external elements such as market demand, customer satisfaction, and competitive pressure could also be incorporated into future models to better understand their role in shaping organizational performance outcomes.

## 6. CONCLUSION AND SUGGESTIONS

In conclusion, this study makes a significant contribution to the body of knowledge by introducing a comprehensive model that links organizational support, employee competencies, and production efficiency. The originality of this research lies in its focus on the mediating role of employee competencies and the integration of technological and human resource investments in shaping organizational outcomes. The study's findings offer valuable practical implications for organizations seeking to enhance their operational performance and provide a solid foundation for future research.

### 6.1 Suggestions

Based on the findings of this study, several practical and strategic suggestions can be made for organizations in the health and beauty supplement industry, as well as for future research in the field.

Enhancing Organizational Support through Investment in Technology Organizations should continue to prioritize investments in automation and advanced technology systems that directly enhance production efficiency. By upgrading technological infrastructure, companies can streamline production processes, reduce costs, and improve the speed and

consistency of output. Given the high coefficient of impact that investment in technology has on employee competencies and production efficiency, firms in this sector should explore further opportunities to integrate cutting-edge technologies, such as AI and machine learning, into their production systems. Recommendation for Action: Develop a roadmap for adopting new technologies, regularly assess the technological needs of the organization, and allocate resources to research and development of automation systems to stay competitive.

Focus on Continuous Employee Development and Skill Enhancement The research suggests that training and development play a pivotal role in improving employee competencies, particularly in technical and managerial skills. Organizations should invest in continuous education and professional development programs aimed at enhancing not only technical knowledge but also leadership, adaptability, and creative problem-solving skills. This would ensure that employees are well-equipped to handle changes in production processes and market demands. Recommendation for Action: Implement ongoing training programs, mentorship, and skill-enhancement workshops that align with industry trends and the evolving needs of the workforce. Consider incorporating digital learning platforms for flexible training opportunities.

Fostering a Culture of Innovation and Learning Creating an organizational culture that promotes innovation, continuous learning, and knowledge sharing can contribute significantly to improving employee competencies. Encouraging employees to share ideas, collaborate, and experiment with new methods can lead to breakthroughs that enhance both individual and organizational performance. Recommendation for Action: Establish forums, workshops, and cross-departmental collaboration platforms to encourage employees to propose innovative solutions. Reward creative thinking and problem-solving that lead to tangible improvements in production processes.

Aligning Employee Competencies with Organizational Goals Organizations should ensure that the competencies being developed among their employees are aligned with the strategic goals and production targets. This alignment is crucial for optimizing production efficiency. The focus should be on building competencies that directly influence the desired outcomes, such as increased productivity and quality improvement.

Recommendation for Action: Conduct regular assessments to identify the competencies that are most crucial to organizational success and ensure that training programs focus on these specific areas. Also, establish clear links between individual performance and organizational goals to foster a sense of purpose and motivation among employees.

Monitoring and Evaluating the Impact of Organizational Support It is important for organizations to continuously monitor the effectiveness of their support systems, such as training programs, technology investments, and employee development initiatives. Regular assessments can help identify areas of improvement and ensure that the resources allocated to these initiatives are being used efficiently.

Recommendation for Action: Set up key performance indicators (KPIs) to measure

the impact of organizational support on production efficiency. Regular feedback loops and performance reviews can help fine-tune these programs for optimal results.

Future Research Directions Future research could further explore the long-term impact of organizational support and employee competencies on production efficiency, particularly in the health and beauty supplement industry. Longitudinal studies could offer a deeper understanding of how these factors evolve over time and provide a clearer picture of their sustained impact on organizational performance.

### 6.2 Suggestion for Future Studies:

Industry Comparisons: Conduct studies in other industries to assess the generalizability of the findings. Understanding whether similar patterns hold in manufacturing, service sectors, or other industries could offer new perspectives on how organizational support and employee competencies influence production efficiency.

***Role of External Factors:*** Future research could examine the influence of external factors such as market trends, customer expectations, and regulatory changes on the relationship between organizational support, employee competencies, and production efficiency.

***Impact of Digital Transformation:*** Investigating the role of digital transformation in improving organizational performance, particularly in the context of automation and AI, would be highly relevant for organizations looking to stay ahead in an increasingly digital economy.

### 6.2 Implementation of Strategic Recommendations

Organizations in the health and beauty supplement sector should consider implementing the suggestions mentioned above to build a robust and future-ready workforce capable of driving higher production efficiency. By aligning employee development with technological advancements and fostering an environment of continuous improvement, businesses can achieve sustained competitive advantages in the market.

Recommendation for Action: Develop a strategic plan that integrates technological investments with a focus on developing employee competencies. Ensure that the leadership team is committed to creating an environment that nurtures both innovation and efficiency, aligning organizational goals with employee skill development.

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