

แนวทางการพัฒนาแรงงานช่างฝีมือของอุตสาหกรรมเครื่องประดับไทย

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาลักษณะองค์กรที่มีอิทธิพลต่อการพัฒนาฝีมือแรงงานในอุตสาหกรรมเครื่องประดับไทย การจัดการความรู้มีอิทธิพลต่อผลการพัฒนาฝีมือแรงงานในอุตสาหกรรมเครื่องประดับไทย ปัจจัยการพัฒนาฝีมือแรงงานมีอิทธิพลต่อผลการพัฒนา และแนวทางการพัฒนาฝีมือแรงงานในอุตสาหกรรมเครื่องประดับไทย กลุ่มตัวอย่าง คือ ผู้ผลิตเครื่องประดับที่จดทะเบียนบริษัทและมีการใช้เพชร พลอย มุก และหงส์เป็นวัตถุดิบ จำนวน 297 คน สำหรับการวิจัยเชิงปริมาณนี้ ผู้วิจัยใช้แบบสอบถามในการเก็บข้อมูล และสำหรับการวิจัยเชิงคุณภาพ ผู้วิจัยสัมภาษณ์ผู้เชี่ยวชาญจำนวน 17 คน ในอุตสาหกรรมเครื่องประดับไทยโดยใช้การสัมภาษณ์เชิงคุณภาพในรูปแบบกึ่งโครงสร้าง สำหรับการวิเคราะห์ข้อมูลเชิงปริมาณนั้น ผู้วิจัยใช้ค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน การวิเคราะห์ความแปรปรวนแบบทางเดียว และสถิติการทดสอบพหุคุณ สำหรับการวิเคราะห์ข้อมูลเชิงคุณภาพนั้น ผู้วิจัยใช้วิเคราะห์วิเคราะห์เชิงเนื้อหา ผลการศึกษา พบว่า การจัดการความรู้ด้านการระบุความรู้และการถ่ายทอดความรู้ มีอิทธิพลต่อผลการพัฒนาฝีมือแรงงานที่ระดับ .05 นอกจากนี้ยังพบว่ามีกลยุทธ์ที่แตกต่างกันจำนวน 8 ประการที่สามารถใช้ในการส่งเสริมการพัฒนาช่างฝีมือของอุตสาหกรรมเครื่องประดับไทย ซึ่งหน่วยงานภาครัฐและผู้ประกอบการสามารถใช้ประโยชน์จากผลการศึกษาในครั้งนี้

คำสำคัญ: แรงงานงานฝีมือ การพัฒนา อุตสาหกรรมเครื่องประดับ

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GUIDELINES FOR DEVELOPMENT OF SKILLED CRAFTSMEN OF THAI JEWELRY INDUSTRY

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Abstract

This research aimed to examine how organizational characteristics influence the result of skilled labor development in the Thai jewelry industry; how knowledge management influences the result of skilled labor development in the Thai jewelry industry; how the factors of skilled labor development influence the result of the development of skilled labor in the Thai jewelry industry; and how guidelines can be developed for the development of skilled labor in the Thai jewelry industry. The sample consists of 297 jewelry manufacturers registered to use diamonds, gemstones, pearls, and gold as raw materials. For quantitative research, questionnaires were utilized to collect quantitative data. For qualitative research, seventeen experts in the Thai jewelry industry were interviewed qualitatively in a semi-structured format. In the data analysis related to quantitative approach, percentage, mean, standard deviation, one-way ANOVA, and multiple regression statistics were employed. For qualitative approach, content analysis was employed. The result of the study indicated as follows. Knowledge management in the fields of knowledge identification and knowledge transfer influences labor development outcomes. Craftsmanship was statistically significant at the .05 level, skills development factors influence skilled labor development outcomes at the .05 level, and guidelines for developing skilled labor are statistically significant at the .05 level. In addition, it was discovered that there are eight distinct strategies to promote development of skilled craftsmen of Thai jewelry industry. Accordingly, the governmental agencies and entrepreneurs can benefit this study result.

Keywords: Craftsmanship Labor, Development, Jewelry Sector

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Introduction

The international jewelry industry has the potential to be a market leader in the international jewelry industry. because it is an industry that emphasizes the use of expertise, refinement, and uniqueness in the design and production of jewelry by artisans who prioritize the form and production of beautiful jewelry, possesses an identity and quality that conform to global standards. There are 621 registered factories that produce jewelry using diamonds, gemstones, pearls, and gold as raw materials. There are 621 factories employing 89,486 individuals. Jewelry products have the highest export sales in the country at 383,976.7 million baht, followed by automobile industry equipment and components at 932,501.3 million baht and computers. The export sales of equipment and components ranked second at 633,150,20 million baht (Thai Ministry of Commerce, Division of Trade Statistics, 2019).

However, skilled labor in the Thai jewelry industry is declining due to the deteriorating eyes of an aging labor force. and the gradual retirement of skilled workers, resulting in a skilled labor shortage. In addition, the entry of the younger generation into the industry began to decline. Furthermore, being a jeweler requires a great deal of patience and sophistication. Consequently, it is essential that the next generation of workers acquire more production skills (S Kroon, De Klerk, & Dippenaar, 2003; Succi, 2015; Bai, & Liu, 2018). Government officials have recognized the significance and necessity of cultivating skilled labor in the industry. Support measures have been issued in order to promote Thailand as a trading hub for gems and jewelry. By increasing the industry's competitiveness, the economic sector will advance in a stable manner.

This research intends to concentrate on the growth of artisans in the Thai jewelry industry in order to satisfy the industry's demand for increased knowledge, skills and a positive attitude toward the industry, as well as preserving the identity of Thai jewelry by retaining workers and leading Thailand to become the world's gem and jewelry trading hub. This will significantly increase Thailand's economic prosperity, stability, and sustainability. Using the concept of knowledge management of the Office of the Thai Government System Development Board: PORN Theory of Human Resource Management and the concept of human resource development of Chuangtrakul as a research guide, the factors influencing the development of skilled labor in the Thai jewelry industry will be investigated.

The exchange of knowledge places a greater emphasis on providing or imparting knowledge. It would seem that individuals learn new information before they share it with

others because they feel the need to be knowledgeable before doing so. However, in today's world, the exchange of information and the acquisition of new information occur in tandem and at the same time. This is due to the fact that individuals feel the need to acquire new information and share it with others in order to acquire new information or to validate existing information (King, 2011). Literately, evidence from previous studies advocates the impact of knowledge transfer on both individual and organizational level such as employee performance (Dong et al., 2017; Duan, & Sheng, 2018), organizational competitiveness (Argote, & Ingram, 2000), innovation and reputation (Stanovcic, Pekovic, & Bouziri, 2015), organizational profits and market share growth (Zack, McKeen, & Singh, 2009; Ahmed et al., 2020).

Taken the consequence of this paper into consideration, the following part from the introduction would be objective of the study, conceptual framework, hypotheses and research methodology describing about the population and sample size, research instruments, data collection and data analysis. Meanwhile, the remaining parts are about the research result, conclusion and discussion as well as research implications for governmental agencies and entrepreneurs.

Objective of the Study

To investigate the organizational characteristics that influence the development of artisan labor in the Thai jewelry industry.

To investigate how knowledge management influences the growth of artisan labor in the Thai jewelry industry.

To investigate the factors of artisan development that influence the results of artisan labor development in the Thai jewelry industry.

To present guidelines for the development of skilled jewelry workers in Thailand.

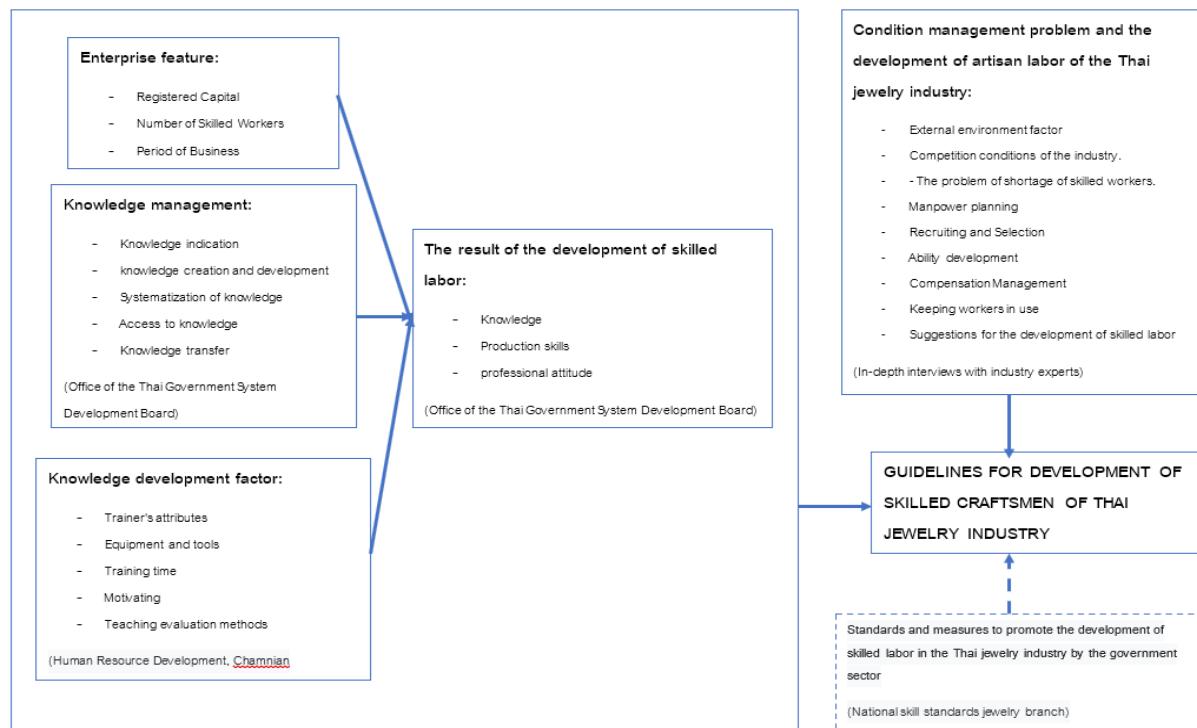
Hypotheses

Hypothesis 1. When classified according to organizational characteristics, the results of the development of jewelry craftsmen vary.

Hypothesis 2. Knowledge management influences the growth of Thai jewelry industry craftsmanship labor.

Hypothesis 3. Factors affecting the development of craftsmanship labor in the Thai jewelry industry that contribute to the growth of craftsmanship.

Conceptual Framework



Research Methodology

This research utilizes both quantitative and qualitative methods. The following are the procedures and methods for conducting research:

The population and sample utilized in the study. This study's sample population was divided into two groups for quantitative and qualitative research. The population consists of those involved in Thailand's jewelry industry, such as entrepreneurs registered as jewelry manufacturers who use diamonds, gemstones, pearls, and gold as raw materials. The Thai Gem and Jewelry Traders Association, as well as, 17 Thai jewelry manufacturers. There are 621 entrepreneurs registered as manufacturers of jewelry using diamonds, gems, pearls, and gold as raw materials (Ministry of Industry, 2018). The quantitative research sampling employed a specific sampling technique. Sample groups were derived from Krejcie & Morgan's prefabricated tables with a confidence level of 95% (Krejcie & Morgan, 1970). Using simple random sampling, a total of 242 representative samples were obtained from the population.

Research instruments: A questionnaire to collect quantitative data from the sample group. Five experts who inspected the tool's quality (Index of Item Objective Congruence: IOC) were used to determine the IOC value of 0.81, and 30 revised questionnaires were used for testing. Try-out with jewelry manufacturers with similar characteristics to the

sample group was analyzed. Using Cronbach's Alpha Coefficient, it was determined that the questionnaire's reliability coefficient was 0.979. The semi-structured interview form was used to collect qualitative data from the second group of samples, which included experts on the development of skilled labor in the Thai jewelry industry as well as questions about the evolution of craftsmanship labor in the Thai jewelry industry.

Data collection: In-depth interview Seventeen experts' opinions were elicited through an interview. Questionnaires via google forms were utilized to generate an online questionnaire form. and coordinate with business owners to solicit their participation in answering the questionnaire.

Data Analysis. Quantitative data collection using descriptive statistics. These included frequency and percentage, One-Way ANOVA utilizing the F-test and t-test, and Multiple Regression Analysis (MRA). The data collection for the qualitative research was based on the principle of content analysis.

Results

The findings of a study on how knowledge management influences the growth of artisan labor in Thailand's jewelry industry It was discovered that the factors indicating knowledge, knowledge transfer, knowledge creation and development, and access to knowledge had a statistically significant effect on the skill development outcomes of the Thai jewelry industry at the levels of .01, .05, .05, and .05, respectively, with coefficients = .234, .196, .151, and .136, while the storage aspect had no statistically significant effect on the development of skilled labor in the Thai jewelry industry.

According to the findings of a study of factors affecting the development of artisan labor in the Thai jewelry industry, the characteristics of the trainers' equipment and tools, as well as their motivational time in teaching and teaching assessment methods, have the greatest impact on the development of artisan labor at the statistically significant level of .01, .01, .01, and .05, with coefficients = .274, .200, .117, .111, and .084, in influencing the development of artisans in the Thai jewelry industry as a whole.

The development of skilled workers in the Thai jewelry industry is governed by the following eight approaches. Approach 1: Educate workers in accordance with international production standards. Approach 2: Create incentives for skill development through internal competitions as opposed to national ones. Approach 3: Organize a training system for the organization's employees with the assistance of highly experienced professionals. Approach 4

promotes innovation in contemporary design and manufacturing. Approach 5 reinforces at all organizational levels the shared values of entrepreneurial thinking and good relationships. Approach 6: Gems and jewelry using modern information and communication technologies. Approach 7 emphasizes knowledge assessment. The skills and production capacities of workers will result in substantial growth. And, approach 8 is to build a brain corpus of knowledge in gems and jewelry by preparing senior employees with expertise in gem and jewelry manufacturing to become qualified trainers.

Discussion and Conclusion

From the study of recommendations for the growth of skilled labor in the Thai jewelry industry, the research findings can be summed up as follows:

A study of the organizational characteristics that influence the outcomes of Thai jewelry industry skilled labor development. It can be concluded that entrepreneurs who have been in the jewelry industry for more than 15 years demonstrate the stability of the entrepreneur's business, thereby gaining the confidence of seasoned workers in the entrepreneur's perseverance. Continuous labor has equipped them with knowledge, comprehension, and abilities in the production field. In addition, there is a knowledge exchange among the workers. In accordance with Noknoi (2016), the results of a study on the skill development required in preparation for entry into the ASEAN Economic Community revealed that entrepreneurs with less than one year of business experience have a lower need for skill development. Entrepreneurs who have been in business for 16 to 20 years have a greater need for skill development than other groups. Entrepreneurs who have been in business for 11–15 years and 6–10 years have greater skill development needs than entrepreneurs who have been in business for 1–5 years.

A study of the effects of knowledge management on the development of artisan labor in the Thai jewelry industry. It was determined that the information contained in the workforce in the practice sector should be recorded in the form of a video clip so that the workers have the opportunity to study. Including bringing in outside experts in jewelry manufacturing to educate artisan labor in both theory and practice, so that labor can be developed both from experience and video transfer in accordance with concepts and theories. Development of the Office of the Public Sector Development Commission's bureaucratic system (2005) Knowledge management in the organization is accomplished by collecting the knowledge held by individuals within the organization. Or documents to develop into a system

so that personnel in the organization can access knowledge and develop themselves as knowledgeable workers; this will result in the organization's having the capability to function at the highest level possible. The study result also responds to the study Sukortpromme, Onputtha, and Jotikasthira (2019) who studied about the effect of employee's knowledge learning, knowledge sharing and working skill on employee value in anonymous tire manufacturing company. Their study found that employee had opinion towards knowledge learning, knowledge sharing, working skill and employee values in high level as well as knowledge sharing can have an impact on working skill. Accordingly, there is a potentially endless number of methods to disseminate information. Also, the study done by Onputtha, Sriboonlue, and Sriboonlue (2021) revealed that knowledge Transfer can link to creative behavior, green service behavior and environmental performance in logistics service industry. It is important that the organizations should recognize ways to create employees' creativity and knowledge transfer through organization's activities to better employees' services and organizational performance.

A study of the factors affecting the results of the development of artisan labor in the Thai jewelry industry. It was discovered that entrepreneurs should increase their knowledge of being a trainer for senior workers in the enterprise in order to become a trainer for the enterprise in transferring knowledge in the jewelry manufacturing process and having a positive attitude toward the labor profession. Craftsman of the jewelry industry and attaches importance to evaluating the training of trainee workers so that the effectiveness of the training objectives will result in increased production efficiency and decreased production losses. It also results in production times that are consistent with those required by foreign operators. Consumers are satisfied with the satisfactory quality of the work. In accordance with Jamnien Chuangtrakul's theory and practice of human resource development (Chuangtrakul, 2010), employee development as well as the organization as a whole focus on developing the potential of employees and emphasizing the importance of meeting people's needs in order to motivate them. Higher to deliver a dynamic and growth-oriented organization or to thrive in a rapidly changing environment, the organization can become dynamic and expand. There are many ways to reveal methods to share knowledge in the organization. These can include formal and informal methods, as well as explicit and implicit approaches. Some examples include writing books, such as work manuals, which provide information about the work; holding meetings within an organization in order to maintain current news and information; posting on online media; receiving training at a conference or workshop centered on a specific

topic; and engaging in social activities, which encourage individuals to talk to one another and share information in an informal setting (Syed-Ikhsan, & Rowland, 2004; Sukortpromme, Onputtha, & Jotikasthira, 2019).

Instructions for the growth of skilled labor in the Thai jewelry sector It was determined that it should include the following eight approaches:

Approach one: Educating workers in accordance with international production standards today's international entrepreneurs and consumers place a premium on environmental consciousness, as a result of international operators' and consumers' needs.

Approach two: Incentivize skill development by transforming internal contests into national contests. The measure of achievement in the skill development of entrepreneurial labor should encourage the organization of a skilled labor competition both within and outside the enterprise on a regional and national scale. In accordance with the policy of promoting Thailand as a center for gem and jewelry trading, to stimulate the skill development of workers to increase their potential in jewelry production, thereby instilling workers with a sense of pride in their profession and increasing the production potential of businesses.

Approach three: Organize job training for the organization's employees by highly seasoned professionals. Entrepreneurs should encourage work instruction in both theory and practice so that workers have knowledge of jewelry manufacturing and good manufacturing skills, which will aid in reducing production losses and production-related issues. It is also intended to equip less-experienced workers with the skills and capacity to produce. Problem solving during the manufacturing process. It also reduces the organization's skilled labor shortage by transferring knowledge from those with experience and expertise in jewelry production within the same organization.

Approach four: Encourage and promote innovative design and contemporary manufacturing. Entrepreneurs should encourage employees to generate new jewelry designs. By applying the Thai identity's wisdom as a guide, along with the concept of foreign identity, to the creation of exotic and contemporary jewelry pieces. Production standards are aligned with social and environmental responsibilities in order to create a positive image for the organization and satisfy consumers with modern production techniques and processes. In addition, it improves the production skills and abilities of workers.

Approach five: Improve shared values of entrepreneurial thinking and positive relationships throughout the organization. To encourage workers to take pride in their work, entrepreneurs should make plans to inform and educate them about the operators'

objectives, goals, and needs, as well as the importance of workers in achieving the objectives at each stage. Participate in leading the entrepreneur's organization in order to achieve its goals.

Approach six: Support for gem and jewelry knowledge management with contemporary information and technology systems. Entrepreneurs should encourage employees to use their free time to acquire knowledge about the jewelry manufacturing process through self-development. Both the knowledge gained from the knowledge and experience of skilled and experienced employees as well as the knowledge gained from outside experts are considered. This stimulates workers' desire for self-improvement, which has a positive effect on the productivity of entrepreneurs.

Approach seven: Emphasizes knowledge assessment. Serious development in skills and worker production capacity for serious entrepreneurs are required to provide a knowledge evaluation. Skills and productivity of workers on an individual basis, so that workers are aware of their knowledge level. Their skills and abilities inspire workers to increase their knowledge. Capacity to enhance the capacity to meet the needs of entrepreneurs.

Approach eight: Create a repository of gem and jewelry knowledge by transforming senior employees with expertise in gem and jewelry manufacturing into effective trainers. Entrepreneurs should provide both document and video formats for knowledge storage. Production technique in order to be a brain corpus in applying the stored knowledge as a guideline for labor development, each period's problems and methods for problem-solving must be documented.

Research Limitations

This study lacked in-depth interviews with government agencies and universities involved in labor development, including the Ministry of Labor and universities. This has occurred due to the government's announcement that government agencies will reduce service as a result of the COVID-19 epidemic. This allows the researcher to conduct in-depth interviews with only entrepreneurs, experts, and private agencies involved in the Thai jewelry manufacturing industry.

Recommendations from the study

According to the findings of a study on the development guidelines for artisans in the Thai jewelry industry, the development of artisans in the Thai jewelry industry lacks sufficient

support and promotion. With these findings, the researcher is in a position to make recommendations regarding the growth of artisan labor in the Thai jewelry industry for employees to develop knowledge, production skills, and a positive career attitude. It also has the following effects on the enhancement of entrepreneurs' competitiveness in the jewelry industry:

Recommendations for governmental agencies

Government agencies involved in labor development should be governed by a policy. Industry promotion in terms of export promotion Using the Deming W. Edwards cycle of quality control (Deming, 2015) to achieve concrete efficiency and effectiveness in the industry, integrate the following to support and promote the development of craftsmen in the jewelry industry through planning, practice, inspection, and enhancements:

First, support and encourage entrepreneurs to train workers in accordance with international standards in the production of jewelry, integrating agencies related to the development of skilled labor, such as the Ministry of Labor, in order to provide sufficient space and resources for labor development in the jewelry industry.

Second, support and promote the competition of the skilled artisans in Thailand's jewelry industry on both the regional and national levels. This will get foreign business owners to realize how important skills and abilities are in making jewelry and how the jewelry industry in Thailand is getting more skilled workers.

Third, support and promote workers who meet skilled labor requirements. The jewelry field has been developed to train workers interested in entering the industry in order to alleviate the industry's labor shortage and trainer shortage issues.

Fourth, support and encourage the industry to create modern design and production innovations. To build confidence in foreign entrepreneurs, resulting in wealth, stability, and sustainability for the country's export income, by developing and disseminating knowledge sets to encourage industrial workers to come up with design ideas that incorporate both Thai and foreign identities.

Fifth, encourage and facilitate the training of workers and entrepreneurs in entrepreneurship skills. To promote shared values, the Department of Labor and Welfare provides workers with knowledge and understanding of the needs of workers and entrepreneurs. Collectively, instill a sense of self-worth and pride in the accomplishments of the organization.

Sixth, support and encourage entrepreneurs to utilize modern technology for information systems to manage organizational knowledge. To establish a collection to collect and transfer knowledge to the industry and provide a national guideline for the collection and storage of industry knowledge. As a result, existing knowledge will not disappear and new knowledge can be developed.

Seventh, according to skilled labor standards, support and promote the management of skill level assessment in the Thai jewelry manufacturing industry. To know the number of workers in the jewelry industry who have been evaluated at all skill levels and stored in a database in order to improve and develop their production skills.

Eighth, encourage and aid the Department of Vocational Education. The Ministry of Education utilizes both theoretical and practical knowledge of the Thai jewelry industry to create and integrate it into the body of knowledge on gems and jewelry in Thailand, so that it may be utilized in the development of the Thai jewelry industry in a manner that is appropriate and consistent with the labor development policy.

Lastly, conduct an audit and evaluate the efficiency and effectiveness of the operations of operators in the jewelry industry in order to promote continuous improvement, which will have an impact on the policy's achievement. Thailand will keep being a place where gems and jewelry are traded and made for people all over the world.

Recommendation for entrepreneurs

Entrepreneurs should prioritize the improvement of craftsmanship in the Thai jewelry industry, which will satisfy foreign entrepreneurs. In order to reduce the problem of a lack of skilled labor in the jewelry industry, it is necessary to instill a sense of pride in workers for their contributions to the Thai jewelry industry. Therefore, the development of skilled labor for entrepreneurs should be planned, practiced, and audited to produce concrete improvements in the development of skilled labor for entrepreneurs, resulting in an increase in the entrepreneurs' efficiency and effectiveness. Conform to Deming Edwards' quality control cycle (Deming, 2015), which includes the following:

First, experts in international jewelry production standards should provide workers with on-the-job training in production skills in accordance with international standards so that workers can acquire knowledge, production skills to reduce the problem of production waste and foster a positive attitude towards the establishment's craftsmanship.

Second, support and encourage the organization of competitions in the design and production of jewelry for workers in the workplace, so that workers can express their potential and ideas in jewelry design and production, leading to design innovations. In addition, the production of jewelry for entrepreneurs will be used to introduce new products to foreign entrepreneurs and pave the way for development. Refine and improve workplace production processes.

Third, encourage the organization to teach jewelry production to its employees in order to expand the knowledge of employees with insufficient production experience. To assist in alleviating the shortage of skilled labor and train existing skilled workers to acquire additional skills and competencies in the field of production.

Fourth, support and encourage employees to generate new jewelry designs. By applying the Thai identity's wisdom as a guide, along with the concept of foreign identity, to the creation of exotic and contemporary jewelry pieces.

Fifth, enhance the creation of shared values among the organization's employees by informing and informing workers about the objectives, goals, and needs of entrepreneurs as well as the significance of labor in the operation of the business to achieve each period's objectives. It is time for employees to take pride in their contributions to leading the entrepreneur's organization to achieve its goals.

Sixth, encourage and support workers' development by providing knowledge about gems and jewelry, as well as a location and modern information technology for workers to find knowledge on their own. Under the direction and assistance of personnel responsible for information system maintenance,

Seventh, provide a knowledge evaluation, skills, and productivity assessment of workers on an individual basis, so that workers are aware of their knowledge level. Their skills and abilities inspire workers to increase their knowledge. Abilities can be enhanced.

Eighth, after collecting knowledge in both document and video form for the assigned task and production technique, in order to apply the knowledge that has been stored as a guideline for labor development and to prevent problems from arising during future production, each period's problems and methods for resolving them will be compiled into a brain corpus.

Last, examine the results of the implementation of the development of skilled labor among entrepreneurs in order to enhance and create more effective action plans for the future.

Recommendation for further study

A study on the health of workers in the Thai jewelry industry as information on the organization's development will lead to the creation of a high quality of life for the organization's employees.

There should be a conduction of a comprehensive analysis of international jewelry manufacturing standards in order to raise the standards of Thai jewelry production to an international level.

References

Ahmed, T., Khan, M. S., Thitivesa, D., Siraphatthada, Y., & Phumdara, T. (2020). Impact of employees engagement and knowledge sharing on organizational performance: Study of HR challenges in COVID-19 pandemic. *Human Systems Management*, 39(4), 589-601.

Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82(1), 150-169.

Bai, J., & Liu, J. (2018). A study on the influence of career growth on work engagement among new generation employees. *Open Journal of Business and Management*, 6(02), 300.

Center for Gem and Jewelry Information. (2020). *The 2019 import and export status of Thai gems and jewelry*. Bangkok: Thailand Gem and Jewelry Institute (Public Organization).

Chuangtrakul, J. (2010). *The theory and practice of human resource management*. Bangkok: SE-ED.

Deming, W. E. (2558, March 27). *PDCA central to continuous improvement*. Retrieved from National Productivity Institute. <https://www.ftpi.or.th/2015/2125>

Dong, Y., Bartol, K. M., Zhang, Z. X., & Li, C. (2017). Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior*, 38(3), 439-458.

Duan, W., & Sheng, J. (2018). How can environmental knowledge transfer into pro-environmental behavior among Chinese individuals? Environmental pollution perception matters. *Journal of Public Health*, 26(3), 289-300.

Industrial Works Department Ministry of Industry. (2018). *Number of gem and jewelry industry factories (cumulative) January through March of 2018* Institute of Textile Industry Development, Industrial Information and Digital Center, Bangkok. Thai Textile Information: [#](https://thaitextile.org/th/insign/detail.253.1.0.html)

John W. Best & James V. Kahn. (1998). **Research In Education**. A Viacom Company: United State of America.

King, W. R. (2011). **Knowledge sharing**. In **Encyclopedia of Knowledge Management**, Second Edition (pp. 914-923). IGI Global.

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. In **Educational and Psychological Measurement**, 607-610.

Kroon, J., De Klerk, S., & Dippenaar, A. (2003). Developing the next generation of potential entrepreneurs: co-operation between schools and businesses?. **South African Journal of Education**, 23(4), 319-322.

Nonaka I. (2007). The Knowledge Creating Company. **Howard Business Review**, 85, 162-171.

Onputtha, S., Sriboonlue, U., & Sriboonlue, O. (2021). The Role of Knowledge Transfer among Creative Behavior, Green Service Behavior and Environmental Performance in Logistics Service Industry. **Journal of Management Information and Decision Sciences**, 24, 1-12.

Ritthirong, C. (2015). Difficulties in Thailand's ability to produce qualified workers for the ASEAN Economic Community labor market. **Diversity of Population and Society in Thailand**, 129-147.

Stanovcic, T., Pekovic, S., & Bouziri, A. (2015). The effect of knowledge management on environmental innovation: The empirical evidence from France. **Baltic Journal of Management**, 10(4), 413-431.

Succi, C. (2015). **Soft skills for the next generation: Toward a comparison between employers and graduate students' perceptions**. Milano: Franco Angeli.

Sukortpromme, S., Onputtha, S., & Jotikasthira, C. (2019). The Effect of Employee's Knowledge Learning, Knowledge Sharing and Working Skill on Employee Value in Anonymous Tire Manufacturing Company. **International Journal of Applied Computer Technology and Information Systems**, 9(1), 29-37.

Syed-Ikhsan, S. O. S., & Rowland, F. (2004). Knowledge management in a public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. **Journal of Knowledge Management**, 8(2), 95-111.

Thai Trade Statistics Division, Commerce Ministry (2019). **Summary of export value statistics for Thailand Bangkok: Information and Communication Technology Center Office of the Minister of Commerce's Permanent Secretary**.

Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance: an exploratory analysis. **Journal of Knowledge Management**, 13(6), 392-409.