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Retaining knowledge workers for effective digital transformation

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Abstract

The purpose of this research is to examine key factors affecting knowledge worker's retention for digital transformation. This research is motivated by recent statistics that show that more than 70% of small and medium enterprises (SMEs) have yet to undergo large-scale digital transformation due to the failure to retain knowledge workers who can collect and disseminate information effectively through the application of digital technology. Although it is widely recognized that the knowledge worker is an important asset for the digital transformation of SMEs, there is a dearth of studies that focus specifically on how to retain knowledge workers in Malaysia. This research adopts a quantitative research design. Questionnaires were distributed to 200 respondents in SMEs in central urban cities in Malaysia. Purposive sampling was used to collect data where the respondents needed to fulfill criteria such as being currently working in SMEs and their job scope being related to idea generation, information handling, digital transformation, and strategic planning. This study discovers unique findings, such as that, compared to compensation, training and development, work environment, and work-life balance; they play a more significant role in motivating knowledge workers to stay in SMEs post-COVID-19 pandemic, which can enrich the literature on knowledge worker's retention in developing countries. Serving as one of the pioneer studies in Malaysia and Southeast Asia that focuses on examining important factors to retain knowledge workers in SMEs post-COVID-19 pandemic, this finding benefits SME practitioners and policymakers in devising effective strategies to retain knowledge workers for effective digital transformation.

Keywords: Digital transformation, Knowledge workers, Retention, SMEs, Training and development, Work environment, Work-life balance.

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1. Introduction

Digital transformation refers to using technology to enhance the customer experience and expedite business processes [1]. The coronavirus disease 2019 (COVID-19) pandemic has accelerated the digital transformation of small and medium enterprises (SMEs) [2].

Knowledge worker's retention hinders the digital transformation process of SMEs in Malaysia post-COVID-19 pandemic [1]. Knowledge workers are an important key resource for SMEs in developing countries to survive in the wave of digital transformation. The success of SMEs in digitalization relies on the capability of the organizations to place knowledge workers in the most appropriate job positions to formulate a strategic digital blueprint for the organizations [2].

Successful knowledge worker's retention allows SMEs in Malaysia to enter foreign markets easily through the utilization of online communications, online transactions, e-commerce, and digital enterprise systems [1]. Digitalization has also been seen as an opportunity for small businesses to enter foreign markets [3].

More than 70% of SMEs have not yet undergone large-scale digital transformation because of their failure to retain knowledge workers who can collect and disseminate information effectively through the application of digital technology [1, 2]. They face difficulties in retaining the knowledge workers needed to help achieve the digital transformation goal of the company. SMEs lack adequate knowledge workers that can lead and advise them with all-round changes in business strategy, organization, and operation [2]. Most SMEs have a strong desire for digital transformation, but they fail to retain knowledge workers who have clear strategic goals in technology development and business capacity building [4]. The knowledge worker turnover rate in SMEs in Malaysia is two times (10.1%) higher than in Japan (5%) [2]. This implies that Malaysian companies are less successful in retaining knowledge workers and tend to lose more productivity and valuable knowledge compared to their counterparts in Japan [1]. It is essential to examine factors affecting knowledge workers in SMEs because SMEs comprise 99.2% of the businesses in the world. It also contributes over 59% of employment [5] and 33% of the national income in Malaysia [3]. As SMEs in Malaysia are still in the beginning stages of digitalization and there is an urgent need for knowledge worker's retention in pursuit of the digital transformation goal, this study is carried out to determine the key reasons why a knowledge worker intends to stay in SMEs.

In the beginning of this paper, the authors identify knowledge gaps through intensive literature reviews. Hypotheses are formed, and research framework is formulated. Data collection method is explained before data analysis is carried out to test the hypothesis. Result and practical implications are discussed before a recommendation is given to motivate knowledge worker's retention in SMEs.

1.1. Knowledge Gaps

Recent human capital management literature (Year 2020-2022) was found to have conducted insufficient investigations on knowledge worker's retention in SMEs in Malaysia [2, 6]. Most recent previous studies in year 2020-2022 such as Ahmad, et al. [2]; Shah, et al. [5]; Rahajeng and Handayani [3] and Wahab, et al. [6] focused on the influence of knowledge trust, knowledge-oriented leadership, and environmental uncertainty in retaining administrative and executive staff in organizations. Although knowledge workers are an important asset for the digital transformation of SMEs [7], there is a dearth of studies that focus specifically on how to retain knowledge workers in Malaysia. Moreover, training and development and work-life balance are not covered in the previous human capital management literature [5, 8, 9], although these factors are believed to play an essential role in affecting knowledge worker's retention post-COVID-19 pandemic.

Serving as one of the pioneer studies in Malaysia and Southeast Asia that focuses on examining important factors to retain knowledge workers in SMEs, this study bridges the knowledge gaps by assisting SME operators to identify key measures to retain knowledge workers in pursuits of digital transformation. This study is important as the COVID-19 pandemic has accelerated the digitalization of key businesses in SMEs like digital marketing and e-commerce [2, 5, 6]. The risk of infection has led consumers to gradually shift towards online purchases, which in turn motivates more SMEs to implement digital transformation.

2. Literature Reviews

A knowledge worker is a person with high skill and knowledge in innovating the ideas [1]. Knowledge workers can help organizations increase performance and lead companies to be successful [5].

In the digital economy, knowledge workers' retention is a bigger challenge globally [7]. In the United States, America has a high percentage of knowledge workers leaving the company. In Europe, young workers are decreasing due to low birth rates and immigration rates [8]. In China, the knowledge worker's shortage is very serious due to the ageing population [1].

Malaysia is facing a serious knowledge worker shortage as a lot of the skilled knowledge workers are leaving overseas [1]. According to Shah, et al. [5] Malaysia's knowledge worker's retention ratio remains low. It has not reached a decline in Malaysia's talent retention rating. The Malaysian government has introduced a Resident Pass, a program to retain highly-qualified knowledge workers to work longer than 10 years in Malaysia by rewarding them with citizenship [1]. Besides, the Malaysian government has also provided 3300000 jobs in SMEs to attract knowledge workers to work in Malaysia [2].

2.1. Knowledge Worker's Retention for Digital Transformation

Knowledge worker's retention for digital transformation refers to the willingness of experienced and skilled workers to maintain an existing employment relationship with the existing employer to assist the organization in transforming into a digital business post-COVID-19 pandemic. It can be perceived as the likelihood of continued organizational membership

[7]. Based on [Khaksar, et al. \[9\]](#), knowledge workers' retention depends on how well the organization takes care of skilled worker's feelings and requirements, and does everything to cater to knowledge workers' needs, from effective human resource management to a strategic plan to retain knowledge workers [1]. Knowledge worker's retention is an important aspect that deserves attention from the SMEs' management. Without knowledge workers, it is hard for SMEs to move forward and overtake their rivalries [2]. It is crucial to attract knowledge workers to stay in the company [2].

2.2. Training and Development

Training and development refers to a series of staff advancement activities aimed at helping knowledge workers acquire cutting-edge technology, knowledge, and skills to improve their job performance [2]. Training and development are more focused on employee growth and future performance than the job position [8]. Training and development are an educational process in the organization to enhance the knowledge workers' skills, and expertise towards forming a professional image and attitude at the workplace [1].

Training and development are important when keeping knowledge workers. Top knowledge workers can help companies attain better organizational performance but need more time and money for training and hiring [10]. Knowledge workers are important to SMEs as ¼ of the SMEs, in Malaysia need to increase the budget for the training and development program to hire and train more knowledge workers [7]. Training and development significantly improve knowledge worker's retention, as training and development improve their skills to adapt to changing work and add value for the organization's long-term sustainability [9]. Training and development also helps to retain knowledge workers by enhancing technical skills, teamwork, interpersonal skills, and work confidence towards managing business risk and adversity [7].

Training and development are important drivers of retention success. Training and development can enhance knowledge workers' ability to manage and utilize the time and resources of an organization towards better organizational goal attainment [11].

2.3. Compensation

Compensation refers to the money awarded to knowledge workers in recognition of contribution, loss, suffering, or injury [1]. For companies with knowledge workers, compensation is usually one of the biggest corporate expenses to retain knowledge workers [12].

Employee satisfaction is affected by compensation, [Wu and Yu \[7\]](#). [Khaksar, et al. \[9\]](#) believe that an important factor in retaining knowledge workers is compensation. Compensation is a higher net worth to make knowledge workers continue to stay in the company [10].

Compensation is able to enhance knowledge worker's motivation to work harder in the era of artificial intelligence-driven digital transformation to create the competitive advantage that other companies find difficult to overtake [12]. Compensation can be awarded in 3 forms: direct, indirect, and non-monetary [7, 13]. Direct compensation refers to the direct awards of money to recognize a knowledge worker's contribution, suffering, and loss, for instance, bonuses or performance-based commissions [1]. Indirect compensation is more diverse, including medical benefits, housing allowances, retirement plans, health and safety insurance, maternity leave, and stock options [12]. These benefits are attractive, and organizations should consider retaining knowledge workers [12, 14]. Non-monetary compensation is awarded as an expression of appreciation for the contribution of knowledge workers in terms of prizes, awards, and workspace upgrades [10]. According to [Khin and Kee \[1\]](#). Technical workers need more monetary compensation, while knowledge workers seek more non-monetary compensation, such as work-life balance or workplace achievement.

According to [Safari, et al. \[12\]](#), poor compensation is the primary reason for knowledge workers leaving the organization. This important result highlights that compensation is important for knowledge workers to retain in a company [7]. As most SMEs face challenges in seeking a balance between pay and retention, a fair compensation structure for retaining knowledge workers is essential [7]. Workload needs to be commensurate with the compensation to motivate more knowledge workers to remain in SMEs [1].

2.4. Work Environment

Work environment refers to a conducive place where the employee or team completes the task. A work environment with low distraction and free childcare is ideal for knowledge workers to brainstorm and innovate ideas at SMEs [11].

The Occupational Safety and Health Act Malaysia assures knowledge workers the right to be exempted from a dangerous working environment [1]. According to [Khaksar, et al. \[9\]](#), employers should actively promote work safety and maintain a safe work environment to help retain knowledge workers. SMEs that provide a favorable or harmonious working environment can enhance the privacy control of the workspace and retain knowledge workers [9]. Most knowledge workers love working in an environment with an open culture where they can freely interact with colleagues and work happily [10].

2.5. Work-Life Balance

Work-life balance refers to an equal distribution between work time and personal life. According to [Rahajeng and Handayani \[3\]](#), over the past 15 years, there has been a growing interest in work-life balance among knowledge workers. Work-life balance ensures knowledge workers are more motivated in the pursuit of greater organizational achievement while taking good care of family needs [Gaile, et al. \[11\]](#).

Rahajeng and Handayani [3] ascertained that SMEs that emphasize reaching a balance between work and life will have lower employee turnover. A flexible work schedule can provide knowledge workers with choices about the start and end time of works as long as they are able to meet the specific working time required by the employer, i.e., 42 hours per week. For example, knowledge workers can choose between 7 a.m. and 3 p.m., while other knowledge workers can choose to work between 8 a.m. and 4 p.m.[10].

Work-life balance among knowledge workers can also be achieved through slight changes in the length of the lunch break and the working day and the different completion and start times of each. day. For example, an employee may only work for 3 business days in a week [11, 15].

Work-life balance is closely related to the retention of knowledge workers because the balance between work and life can help employers attract and retain a more knowledgeable workforce. Bharath [15] and Khin and Kee [1]. Vyas [16] claims that young knowledge workers below 40 years old love work-life balance and tend to retain their current jobs if the organizations offer them flexibility to fulfil family commitments while working. The flexibility of solving family problems while accomplishing office tasks will result in knowledge workers remaining longer in an organization [17].

2.6. Research Framework

This research aims to determine factors affecting knowledge worker’s retention for digital transformation in SMEs in Malaysia. In Figure 1, it shows the research model.



Figure 1. Research framework.

Hypothesis 1: Training and development motivate knowledge worker’s retention for digital transformation in SMEs.

According to Hosseini, et al. [17], training and development positively influence knowledge worker’s retention for digital transformation in SMEs. Training and development provide knowledge workers with new technical knowledge related to work that will increase knowledge worker’s retention [18, 19]. Training and development can help knowledge workers build a more favorable learning attitude and train them to face challenges [19]. Training and development can also increase the ability of knowledge workers to attain the company's goal of digitalization [7].

Hypothesis 2: Working environment motivates knowledge worker’s retention for digital transformation in SMEs.

Working environment has a positive correlation with the knowledge worker’s retention of SMEs [7, 20]. According to Hosseini, et al. [17], good work environment management will make the work environment attractive, creative, comfortable, satisfactory, and motivating for knowledge workers.

Hypothesis 3: Compensation motivates knowledge worker’s retention for digital transformation in SMEs.

According to Itoe and Karadas [8], compensation is one of the key factors in retaining knowledge workers in the company. Compensation such as stock options and special wages is effective in attracting and retaining knowledge workers to the organization [7]. In addition, compensation can help companies retain useful skills and contribute to the company [4]. If other companies implement better compensation plans, knowledge workers are more willing to stay in the company for a longer period of time [18, 21].

Hypotheses 4: Work-life balance motivates knowledge worker’s retention for digital transformation in SMEs

Work-life balance has a direct impact on the knowledge worker’s retention [16, 22]. Providing the opportunity to cater to family needs reduces employment stress [8]. Giving knowledge workers the flexibility and freedom to work in accordance with family needs will motivate knowledge workers to stay longer in the company.

3. Research Methodology

Questionnaires were distributed to 200 respondents in SMEs in central urban cities in Malaysia. Purposive sampling was used to collect data where the respondents needed to fulfill criteria such as being currently working in SMEs and their job scope being related to idea generation, information handling, digital transformation, and strategic planning.

The face validity of the questionnaire was confirmed by 3 experts. Format, contents, and instructions were amended based on the feedback of the 3 experts. Thereafter, a pilot study was conducted with a sample size of 100 questionnaires distributed to knowledge workers. The collected data was tested for reliability, and Cronbach Alpha values of all factors were above the threshold value of .70 [9]. The questionnaire was then finalized with minor amendments to the question arrangement.

Questionnaire consists of 40 questions inquiring user feedback on knowledge retention, training and development, compensation, and work-life balance using a 5-point Likert scale, ranging from 1- (“strongly disagree”) to 5- (“strongly agree”).

Respondents were approached face-to-face, and written consent was obtained before the data was collected. Explanations were provided face-to-face to clarify doubts on the questionnaire during data collection. Respondents were given 20 minutes to answer the questionnaire before the data collection was conducted on the spot. There is no missing value in the questionnaire collected. All collected questionnaires were used for data analysis. Multiple linear regression is used to analyze the data to test and validate the hypothesis.

4. Results

There are 91 male and 109 female knowledge workers participating in this study. Males represent 45.5%, while females represent 54.5%, of the total respondents.

Table 1 presents the number of male and female respondents participating in this research.

Table 1.
Gender.

Category	Frequency	Percent
Male	91	45.5
Female	109	54.5
Total	200	100.0

Table 2 depicts that 26% of the respondents were between 21 and 25 years old and 35 and 44 years old. In addition, 20% of the respondents were between 45 and 54 years old.

Table 2.
Age.

Age	Frequency	Percent
Below 21 years old	29	14.5
22 to 34 years old	52	26.0
35 to 44 years old	52	26.0
45 to 54 year old	40	20.0
Above 55 years old	27	13.5
Total	200	100.0

Table 3 presents the working experience of SMEs. Among the respondents participating in this study, 52% have more than 10 years' experience, while 20% have 6-10 years working experience working in SMEs.

Table 3.
Working experience.

Working experience	Frequency	Percent
Less than 5 years	56	28.0
6-10 years	41	20.5
11-15 years	30	15.0
16-20 years	37	18.5
Above 20 years	36	18.0
Total	200	100

Table 4 depicts that 37.5% of the respondents are diploma holders, 24% are bachelor degree holders, 19.0% are Master degree holders, 11.5% are PhD holders and 8.0% own a professional certificate.

Table 4.
Education level of respondents.

Education	Frequency	Percent
Diploma holder	75	37.5
Bachelor degree	48	24.0
Master degree	38	19.0
PhD	23	11.5
Professional certificate	16	8.0
Total	200	100

Table 5 shows 35.5% of the respondents earned Malaysian Ringgit (RM2001-RM 3000 per month, 17.5% earned RM 3001-RM 4000 per month, 16.5% earned RM 4001-RM 5000 per month and 30.5% earned above RM 5000 per month.

Table 5.
Monthly income.

Monthly income	Frequency	Percent
RM 2001 – RM 3000	71	35.5
RM 3001 – RM 4000	35	17.5
RM 4001 – RM 5000	33	16.5
RM 5001 – RM 6000	29	14.5
Above RM 6000	32	16.0
Total	200	100

From the result analysis shown in Table 6, “If it were up to me, I will definitely be working for this company for the next five years.” had the highest mean value of 4.100 out of 5. “I love working for this company” has a mean rating of 4.085 out of 5. These results imply that respondents are happy working with their current company and would like to continue serving SMEs in the coming future.

Table 6.
Knowledge worker’s retention for digital transformation.

Retention	N	Minimum	Maximum	Mean	Std. deviation
Within this company my work gives me satisfaction.	200	3.0	5.0	4.095	0.8181
I see a future for myself within this company.	200	1.0	5.0	4.005	0.8653
The work I’m doing is very important to me.	200	2.0	5.0	4.085	0.8493
If it were up to me, I would definitely be working for this company for the next five years.	200	2.0	5.0	4.100	0.8624
I love working for this company.	200	1.0	5.0	4.085	0.8784

4.1. Multiple Regression Analysis

Multiple regression analyses are conducted to examine the predictive power of training and development, compensation, working environment, and work-life balance on knowledge worker’s retention for digital transformation in SMEs. The R-value of 0.956 indicates that 95.6% of the knowledge worker’s retention in SMEs is explained by training and development, compensation, work environment, and work-life balance.)

Training and development are the most important determinants of knowledge worker’s retention in SMEs (highest standardized beta coefficient value is 0.661). Therefore, Hypothesis 1 is supported. In addition, the multiple linear regression result also reveals that working environment significantly correlates with knowledge worker’s retention for digital transformation in SMEs at the 0.05 significance level. Working environment is the second main determinant of the knowledge worker’s retention to stay in SMEs (standardized beta coefficient value of 0.207). Therefore, Hypothesis 3 is supported. Another key result of this study is that there is a significant association between work-life balance and knowledge worker’s retention for digital transformation in SMEs at the 0.05 significance level. Work-life balance is the third most important determinant for knowledge worker’s retention in SMEs (standardized beta coefficient value of 0.148). Hypothesis 4 is supported. Furthermore, compensation has no significant relationship with knowledge worker’s retention for digital transformation in SMEs. The p-value is insignificant at the 0.05 significance level. Thus, Hypothesis 2 is not supported.

5. Discussion of Findings

Serving as one of the pioneer studies in Malaysia and Southeast Asia that focuses on examining important factors to retain knowledge workers in SMEs post-COVID-19 pandemic, this study discovers a few unique findings that can enrich the literature on knowledge worker’s retention for digital transformation in developing countries.

First unique finding of this research is that training and development are the most important factors affecting knowledge worker’s retention for digital transformation in SMEs. Training and development become essential for knowledge workers’ retention in SMEs post-COVID-19 pandemic as COVID-19 pandemic creates new digital business processes, which require more training and development opportunities for knowledge workers’ to master the skills of operating digitally [8]. Hence, in order to enhance knowledge worker’s retention, adequate training and development are mandatory to enhance the digital literacy capability of the knowledge workers. Knowledge workers in SMEs Malaysia think that digital transformation in SMEs is not limited to the investment of information technology and information systems but also involves providing adequate training and development opportunities to knowledge workers in the organizations to enhance their skills and expertise in automation, simulation, and digital product cycle management. Knowledge workers perceive training and development opportunities as important to expose them to cutting-edge digital technology for market expansion. Knowledge workers need training and development opportunities for better adaptation to consumer behavior changes post-COVID-19 pandemic so that they can be equipped with more innovation and creativity to produce digital products and services with high levels of personalization and customization. While the Malaysian government is preparing for a digital transformation towards industrial revolution 4.0 [6], the demand for knowledge workers is increasing. As scholars Ahmad, et al. [2]; Vyas [16] and Kozhakhmet, et al. [23] have found that most SMEs in

Malaysia have a strong desire for digital transformation, but they face challenges in technology, business capacity building, and talent training, more training and development opportunities should be provided to retain knowledge workers to stay in the organization [18]. Many SMEs in Malaysia have been exploring how to use faster, more accurate digital management systems to facilitate agile business activities, providing more training and development opportunities to the knowledge workers to promote better adoption of digital technologies while motivating knowledge workers to embrace new digital technologies and stay longer in the organizations.

Furthermore, based on the findings of this study, there is a positive relationship between the working environment and knowledge worker's retention for digital transformation in SMEs. This means the working environment is an important factor in affecting knowledge worker's retention in SMEs. When SMEs are equipped with a conducive working environment with sufficient technologies and facilities to facilitate digital transformation as well as adequate workplace precautions for preventing injury and health in the workplace, knowledge workers will become more satisfied and enjoy working in the organization. The safer and more conducive the work environment, the more committed knowledge workers feel [18, 20]. This enhancement in their commitment leads to higher knowledge-work productivity. When the knowledge worker feels that he is doing better on the tasks assigned in a conducive work environment, he is more willing to stay longer in the organization. An improvement in the working environment leads the knowledge workers to exert extra-effort in addition to their normal duties, thereby improving their willingness to stay longer in the organization. Management support in the allocation of financial resources is critical to the knowledge worker's retention amid digital transformation to contribute towards the digitalization of business tasks and processes. Good working environment in support of digital security and privacy provides the knowledge workers with better capacity to create and build strong dynamic capabilities to rapidly transform business models to accommodate the demands of the digital economy [22]. Conducive working environment in support of the utilization of the digital network, the use of smartphones, tablets, personal computers, and laptops allows knowledge workers to be more responsive in problem solving, innovation, and creativity [4] and motivates them to remain in SMEs for a longer period of time.

Work-life balance is another unique factor that motivates knowledge worker's retention for the digital transformation in SMEs. In the digital transformation post-COVID-19 pandemic, work-life balance implies equal working time in the office and at home [16]. Work-life balance is a low-cost and efficient way to retain knowledge workers to stay in SMEs. The pandemic has thus triggered a shift to a more digital workplace in a fast-paced technological world. The emergence of the COVID-19 pandemic has accelerated the growth of work-life balance through remote working, especially among knowledge workers. Knowledge workers with educational backgrounds of diplomas, professional certificates, bachelors, and postgraduate degrees are keen to adopt remote working to achieve work-life balance, as they think that their tasks of creating new innovation do not require them to be physically present on-site at SMEs to get the work done [15]. Through remote working, knowledge workers gain greater flexibility to adjust their working hours in line with their personal and family needs. As remote working is not confined by standard business hours, knowledge workers, regardless of gender, race, and working experience, would prefer to work remotely at least on certain days in a week to achieve work-life balance [18].

Surprisingly, compensation is not the most important factor affecting knowledge worker's retention for digital transformation in SMEs. This finding is unique as it contradicts the findings of previous human capital management literature [5, 8, 9] and offers a new research insight that COVID-19 has resulted in drastically changing the knowledge worker's mindset and perception. Knowledge workers tend to emphasize more training and development and a conducive working environment to be able to adapt to the use of digital technology in accordance with the SMEs' needs for digital transformation. Intense digitalization in the business world post-COVID-19 pandemic makes knowledge workers realize that training and development are more important than compensation to help them succeed by acquiring and sharing new knowledge, opportunities, and risks [19, 22]. Working environment, which emphasizes strategic flexibility and inter-departmental communication and collaboration, tends to have a greater attraction for knowledge workers to stay longer in SMEs.

6. Recommendation

Based on the data analysis results, training and development are the most important determinants for knowledge workers to stay in SMEs. COVID-19 pandemic has accelerated the adoption of digital technology in SMEs [2]. Therefore, SME operators and policymakers can help knowledge workers stay longer in SMEs by providing more training and development programs to enhance their digital literacy. Knowledge workers should be equipped with more training and development opportunities on robotic process automation, which is an essential skill for the digital transformation. Policymakers might provide more subsidies for the digital infrastructure development to encourage SMEs to provide more training and development opportunities to knowledge workers.

In addition, SMEs also need to emphasize creating a secure work environment that focuses on frequent inter-departmental communication, coordination, and collaboration to allow knowledge workers to freely exchange and brainstorm ideas by using the latest communication and information technologies. A flat organizational structure with an active organizational learning culture should also be created to encourage knowledge workers to share and disseminate knowledge to colleagues and business counterparts. Encouraging healthy work hygiene practices and taking regular breaks will also motivate knowledge workers to stay in SMEs post-COVID-19 pandemic.

Work-life balance is another important factor that has a significant positive influence on knowledge worker's retention for digital transformation in SMEs. Work-related policies should be formulated to enhance employees' work-life-balance post-pandemic. As SMEs worldwide favor hybrid working over a completely remote working environment, organizational

restructuring will be essential for SME operators to identify which business processes can be simplified and streamlined to facilitate hybrid working modes and allow knowledge workers to enjoy work-life balance. Governments may opt to implement specific labor laws to allow knowledge workers to have the right not to respond to work-related requests from SMEs after working hours. In order to achieve work-life balance by optimizing personal and work-life balance in a hybrid working model, knowledge workers need to be educated through road shows, exhibitions, and campaigns to be more well-organized in their work and personal life management.

7. Conclusion

Serving as one of the pioneer studies in Malaysia and Southeast Asia that focuses on examining important factors to retain knowledge workers in SMEs post-COVID-19 pandemic, this study discovers a few unique findings that can enrich the literature on knowledge worker's retention in developing countries. First, training and development enhance knowledge worker's retention for digital transformation in SMEs. Second, a conducive working environment motivates knowledge workers' retention for digital transformation in SMEs. Third, work-life balance boosts knowledge worker's retention for digital transformation in SMEs. Surprisingly, compensation is not the most important factor affecting knowledge worker's retention for digital transformation in SMEs. Recommendations are provided to SME operators and policymakers to retain knowledge workers for effective digital transformation. The limitation of this study is that it merely focuses on collecting data from 200 respondents in SMEs in central urban cities in Malaysia. Future studies could expand the research scope to include comparative studies of knowledge workers in Southeast Asian countries.

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