

## Manual Madness: Challenges of Contract Renewal in Campus Vending Machine Business

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**Abstract:** The vending machine industry has evolved from conventional to connected machines. Vending machines are currently in wide use and typically involve a remote machine holding a plurality of products or items to be dispensed after receiving money from a purchaser. The industry has gone beyond just delivering snacks and is developing new and sophisticated retail solutions for both large and small companies. In this study, a qualitative inquiry was conducted in one of the branch universities of the largest public universities in Malaysia. A total of three vending machine entrepreneurs were qualitatively interviewed individually. Interviews were transcribed and analyzed to find a common theme. As a result, three challenges were identified: using a lot of paper, being time-consuming, and having no alert process. Contract renewal is significant and should not be taken for granted and it is a far-sighted move for a business manager to use the most efficient process from start to end. The respondent agreed that the current renewal process is redundant and time-consuming. Therefore, the researchers proposed to all the parties to reduce the hassle of renewing the contract. Based on this research, the authority department in public or private universities can develop an innovation in monitoring systems to improve the process. The results can provide suitable coping strategies for business owners to have the best practices for a contract renewal mechanism.

**Keywords:** *Business Contract, Vending Machine, Challenges, Entrepreneur*

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### 1. Introduction and Background

The vending machine business is a subset of the retail industry. It represents a specific channel through which products are distributed and sold to consumers. Vending machines are currently in wide use and typically involve a remote machine holding a plurality of products or items to be dispensed after receiving money from a purchaser. Vending machines are one of the alternative ways for university students, staff and visitors to get food, drink and snacks. With their high demand, vending machines have become a widespread investment in universities. These readily accessible machines not only provide a steady source of revenue for educational institutions, but they also conveniently meet the needs of customers at all hours of the day. A control system integrates electrical and mechanical components to power machines that include payment processing, user interface, product delivery, and communication features (Sibanda et al., 2020). By integrating these functions into a centralized control system, the machine can operate efficiently and effectively, providing a reliable and convenient experience for users.

Despite vending machines' potential profitability and convenience, the industry also faces challenges. Factors such as location, product selection, maintenance, and competition can significantly impact the success of a vending machine business. Additionally, the rising costs of raw materials, energy, and labor can affect operating expenses. To thrive in this competitive market, vending machine operators must continually analyze consumer trends, adapt to technological advancements, and implement effective marketing strategies to attract and retain customers. The vending machine business industry might not be a primary focus of academic research in Malaysia. Most previous research on vending machines involved technology and health-related aspects (Kung-Jeng & Natalia, 2024, Hasan et al., 2021, Viana et al, 2018). However, there is a need to understand the scenario that happens in this industry from a business perspective. This research's result would help Malaysian vending machine entrepreneurs manage and renew contracts with business location owners efficiently. Furthermore, the results can provide suitable coping strategies for business owners to have the best practices.

## 2. Literature Review

The vending machine is well known by everyone as it is a medium or technology that dispenses items such as foods, drinks, newspapers, and others where the user needs to insert coins or tokens for the items to be dispensed (Breed, Garcia & Cushing, 2018). Nowadays, vending machines have been widely used all over the world especially for foods and beverages because of the availability of vending machines in a multitude of locations, which are at workplaces, schools, universities, healthcare facilities and other public areas (Matthews & Horacek, 2015; Grech & Allman-Farinelli, 2015, as cited in Rosi et al., 2017). Escoto et al. (2010) mentioned that vending machines have saved people time because it is one of the primary and most readily accessible technology sources of food to purchase main meals or snacks, especially for people working for a long period (as cited in Rosi et al., 2017). The vending machine industry has evolved from traditional machines to connected machines. The industry has gone beyond just delivering snacks and is developing new and sophisticated retail solutions. Connected vending machines, unlike conventional machines, engage shoppers like never before with touch-screen controls, audio, video, scents, gesture-based interaction, and cashless payment.

There are almost 14.5 million vending machines worldwide, and many vending entrepreneurs are now considering adding connectivity (Berg Insight, 2023). Connected vending machines are conventional vending machines equipped with internet connectivity. Berg Insight, an independent industry analyst and consulting firm based in Sweden forecasts that the number of connected vending machines worldwide will grow from 5.8 million units in 2022 to 12.3 million units by 2027. Japan is widely recognized as the country with the highest density of vending machines globally. According to the Japan Vending System Manufacturers Association (2024), there were 3,931,900 vending machines in Japan as of December 2023 including beverage, food, cigarette, ticket, daily necessities, and automatic service machine categories. While the vending machine industry is growing in Malaysia, there is no exact number of vending machines as no centralized authority tracks the number of them.

Running a vending machine business involves not only the revenue generated but also the expenditures incurred such as the initial purchase or lease of the machine, inventory to stock it and any licensing or permits required to operate it (Global Sources, 2024). Vending machine entrepreneurs require a permit or agreement to place a vending machine on someone's property. This protects the property owner and ensures the vending machine is operated responsibly. For public university property, there is a written agreement between vending machine entrepreneurs and university authorities. There is a certain period for this agreement, and it needs to be renewed. Industry Relation, Community, Alumni and Entrepreneurship Division (iCARE) was in charge of entrepreneurship and business space in this branch university campus (UiTM Cawangan Selangor, 2024). Some vending machine entrepreneurs will partner with student societies to manage these businesses.

Dealing with contracts is among the most common business practices for both large and small companies. Contractual relationships are usually with consumers of goods and services, including people who borrow money and those who enter into franchise and rental agreements. Contracts can either be verbal or written and sometimes it can be a combination of both. Finance agreements and real estate selling or buying should always be in writing. For a contract to be legal, an agreement will form when one party proposes specific terms, and another party agrees to these terms (Rachel and Simon, 2014).

The current monitoring system is done manually and there is no specific structure for a contract. However, generally, it follows a structure that entails details concerning the parties to the contract as well as any arrangements they have for sub-contracting. Some of the other items include the duration of the contract, definitions of, and description of the goods or services, and payment details, which consist of the interest to be paid in case of late payments. There should also be key milestones and dates, required indemnity and insurance provisions, and guarantee provisions, including the guarantees of the director. Contracts also include penalty or damage provisions, renewal or renegotiation options, disputes and complaints resolution processes, termination conditions and special conditions. People also sign contracts with suppliers as well. Once this agreement term ends, it needs to be renewed. A business venture needs to ensure that it renews its contract to ensure all its obligations with its customers, suppliers, service providers and other entities are legally protected.

Most contracts include a provision for contract renewal. Although most renewals go smoothly, sometimes issues arise that the involved parties may need to iron out. One way to ensure that there are no issues before the contract renewal is to use good contract management software that manages contracts from the initial stage to the renewal stage.

### 3. Research Methodology

A qualitative study was conducted in one of the branch universities for the largest public universities in Malaysia. The qualitative study applied semi-structured interviews among vending machine entrepreneurs. The study population was all vending machine entrepreneurs registered with the Industry Relation, Community, Alumni and Entrepreneurship Division (iCARE). Consented participants were purposely selected from among individuals directly involved in the contract renewal process. Three people representing vending machine entrepreneurs were interviewed in Malay and translated into English. Respondents could express their experiences, thoughts, and feelings regarding the current contract renewal process. In this study, all interviews were recorded by video camera. Interviews were also transcribed and analyzed to find a common theme.

Researchers use a purposive sampling strategy where participants are selected based on specific criteria that are relevant to the research question. In this study, the criteria are related to the involvement of the vending machine entrepreneurs in the vending machine business and their relationship with the university and student society. According to Table 1, only entrepreneurs who registered with iCARE, are involved with the contract renewal process, have at least more than 5 vending machines and joint venture business with student society was selected as this study aimed at exploring the unique challenges.

**Table 1: Vending Machine Entrepreneurs Screening**

Identification	Registered with the Industry Relation, Community, Alumni and Entrepreneurship Division (iCARE), and university campus bursary n = 30
Screening	Involved with the contract renewal process n = 15
Eligibility	Have at least more than 5 vending machines n = 8
Included	Joint venture business with the student society n= 3

### 4. Findings

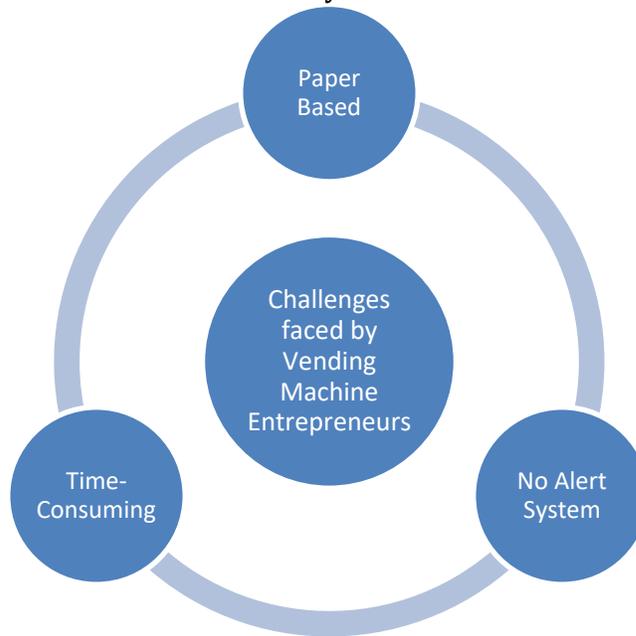
A summary of demographic and business-related information about three respondents involved in the vending machine business is shown in Table 2. Based on the interview results, the study has identified several vending machine monitoring challenges, such as the use of a lot of paper, being time-consuming, and not having an alert process. It takes almost one month for vendors to renew business space without a contract.

**Table 2: Respondent's Information**

No	Code	Gender	Number of Vending Machine	Experiences with Vending Machine Business
1	R1	Male	20	5 years
2	R2	Male	11	3 years
3	R3	Female	5	1 year

Thematic analysis of the transcriptions of the interviews yields three emerging themes: paper-based, time-consuming, and no alert system, as shown in Figure 1.

**Figure 1: Emerging Theme from Thematic Analysis**



### **Paper-based**

A paper-based business renewal process is often characterized by inefficiency, delays, and a high potential for errors. A completed form, along with supporting documents such as receipts is physically submitted to iCARE. Paper consumption is associated with waste, contributing to environmental concerns.

*“Every three months, I need to fill up a form to renew the contract” (R1)*

*“There are a lot of processes involving renewal process, preparing the document, payment receipt and others. All this process involves the use of paper.” (R2)*

The business renewal process is characterized by excessive paperwork and frequent repetitions. Respondents indicated that the renewal process requires the completion of forms every three months (R1). Additionally, the process involves preparing various documents, including payment receipts, which contributes to a significant paper trail (R2). This paper-based system is likely to be inefficient, time-consuming and prone to errors.

### **Time-Consuming**

Business renewal processes can be notoriously time-consuming. Applications are reviewed by relevant departments, often involving multiple steps and approvals.

*“It takes almost one month to receive the approval letter, and the contract needs to be renewed every three months. Sometimes I make a one-time payment for a one-year duration business contract”. (R1)*

*“All the entrepreneurs need to come to the office to collect the offer letter, submit the form and receipt of payment. We need to update the Department of Entrepreneurship and Bursary for the same process”. (R2)*

*“There are a lot of student society and vending machine entrepreneurs that have business contracts with the Department of Entrepreneurship. It takes time to prepare our document”. (R3)*

The business renewal process is characterized by significant delays and complexities. Respondents reported that it takes approximately one month to receive approval letters for contract renewals, despite the contracts needing to be renewed every three months (R1). This discrepancy highlights a substantial delay in the process. Furthermore, the process involves multiple stages, including collecting offer letters, submitting forms and

payment receipts, and coordinating with different departments (R2). The number of entrepreneurs involved, particularly student societies and vending machine operators, adds to the complexity of the process, as evidenced by the time required to prepare necessary documents (R3).

### **No Alert System**

An effective alert system in a business renewal process ensures timely actions, minimizes risks and optimizes efficiency. A general notification system is required to alert the vending machine entrepreneurs and stakeholders based on their roles and responsibilities. By carefully designing and implementing an alert system with another business system it can provide seamless data flow for licenses nearing expiration, renewal approval documentation, and compliance issues.

*"I always received reminders by the student society representative to make a payment" (R1)*

*"Sometimes other entrepreneurs and myself forget about the status of payment because there are too many vending machines on the campus" (R3)*

The current system needs more effective communication and tracking mechanisms for payment reminders and status updates. Respondents highlighted the challenge of remembering payment due dates for multiple vending machine entrepreneurs (R1). Additionally, the large number of vending machines on campus contributes to difficulties in tracking payment statuses, leading to instances of forgotten payments (R3). This indicates a need for a more robust system to manage payment reminders and track payment statuses.

### **Discussion**

The study aims to identify the challenges of contract renewal in the campus vending machine business. The thematic analysis of the interview transcripts has unveiled three core issues within the business renewal process: paper-based operations, time-consuming procedures, and the absence of an alert system. These interconnected challenges collectively hinder the efficiency and effectiveness of the process, as evidenced by the participants' experiences. Paper-based operations are a significant contributor to the overall inefficiency. The reliance on physical forms and documents creates a cumbersome and error-prone system (Feyen et al., 2021). Manual data entry, storage, and retrieval are time-consuming, and the risk of lost or damaged documents is high. Moreover, the environmental impact of excessive paper consumption must be addressed. The transition to a digital system could streamline processes, reduce errors, and promote sustainability (Elgammal et al., 2014).

The time-consuming nature of the business renewal process is another critical concern. Multiple steps, approvals, and physical submissions create delays that frustrate both entrepreneurs and administrators. The lengthy process may deter potential entrepreneurs and hinder the growth of existing businesses. Implementing online applications and automated workflows could significantly reduce processing time and improve overall satisfaction (Gavrila et al., 2023). An alert system needs to improve the challenges associated with the renewal process. Entrepreneurs may miss important deadlines without timely notifications, leading to penalties or disruptions in their business operations. The notification system sends reminders of planned tasks nearing their due date to respective stakeholders (Alsaeedi et al., 2022). By integrating notifications with other business systems, relevant stakeholders can be kept informed about key milestones, such as approaching deadlines or required actions.

## **5. Managerial Implications and Recommendations**

Vending machine businesses also have received government support. In February 2023, the Economy Minister, Rafizi Ramli, launched the People's Income Initiative (IPR) to uplift the impoverished and B40 group (Ministry of Finance Malaysia, 2023). This initiative, aligned with the 12th Malaysia Plan's Food Entrepreneur Initiative (INSAN), involves government, community, and strategic partners. By providing vending machines to eligible individuals, the IPR aims to create sustainable income sources and contribute to eradicating hardcore poverty. This government-backed initiative has shown potential in empowering marginalized communities through entrepreneurship. By providing a platform for individuals to generate income, vending machines have become a tool for economic upliftment (Ministry of Finance Malaysia, 2023). However, challenges such as product

selection, maintenance, and competition need to be addressed to ensure the long-term sustainability of these vending machine businesses (Ahmed, Ahmed, & Salman, 2005).

Overall, the study highlights the need for improvements in the contract renewal process for campus vending machine businesses. By addressing the identified challenges, stakeholders can enhance efficiency, reduce costs, and support the growth of this sector. The findings also emphasize the potential of vending machines as a tool for economic upliftment, particularly when coupled with appropriate government support. However, the findings may not be generalizable to a larger population of vending machine entrepreneurs involved in the vending machine business due to the limitation of the small size of this study. In the future, the researchers will consider using a larger sample size, and employ rigorous methods to minimize bias for generalizing the findings.

### Conclusion

The identified issues of paper-based operations, time-consuming procedures, and the absence of an alert system collectively impede the efficiency and effectiveness of the business renewal process. Addressing these challenges through digital transformation and the implementation of a robust alert system is essential to create a streamlined, user-friendly, and environmentally responsible process. Contract renewals are significant and should not be taken for granted and it is a far-sighted move for a business manager to use the most efficient process from start to end. Based on this study, the authority department in public or private universities can develop an innovation in monitoring systems to improve the business process. All the participants agree to have a good monitoring system to ease the process of renewal contracts. In the future, entrepreneurs will have to subscribe to this system for swift business applications and business contract renewals. This study contributes to the understanding of the vending machine industry in Malaysia and provides valuable insights for businesses and policymakers.

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### References

- Ahmed, A., Ahmed, N., & Salman, A. (2005). Critical issues in the packaged food business. *British Food Journal*, 107(10), 760-780. <https://doi.org/10.1108/00070700510623531>
- Alsaeedi, A., Albadi, M. M., Alharthi, F., Elabrashy, M., Alzeyoudi, M., Al-Ameri, A. Mheiri, E. A., et al. (2022). *Optimization of reservoir monitoring planning, reporting, and shortfall identifications using a centralized automated integrated asset operation model system*. Proceedings of ADIPEC. Abu Dhabi, UAE. <https://doi.org/10.2118/211009-MS>
- Berg Insight (2023). *Connected Vending Machines (5th Edition)*.
- Breed, L. N., Garcia, B. A., & Cushing, S. K. J. (2018). FDA's Vending Machine Labeling Law. City and County of San Francisco Department of Public Health Environmental Health. Retrieved from [https://www.sfdph.org/dph/files/EHSdocs/ehsFood/Food/Vending\\_Machine\\_Labeling\\_FAQ.pdf](https://www.sfdph.org/dph/files/EHSdocs/ehsFood/Food/Vending_Machine_Labeling_FAQ.pdf)
- Elgammal, A., Turetken, O., van den Heuvel, W., V D., & Papazoglou, M. (2014). Formalizing and Applying Compliance Patterns for Business Process Compliance. *Software and Systems Modeling*, 15(1), 119-146. <https://doi.org/10.1007/s10270-014-0395-3>
- Escoto, K. H., French, S. A., Harnack, L. J., Toomey, T. L., Hannan, P. J., & Mitchell, N. R. (2010). Work hours, weight status, and weight-related behaviors. A study of metro transit workers. *International Journal of Behavioral Nutrition and Physical Activity*, 7, 91-92.
- Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). Fintech and the digital transformation of financial services: implications for market structure and public policy. In *BIS Papers*, 117.
- Gavrila, S., Blanco, González-Tejero, C., & Gómez Gandía, J.A. (2023). The impact of automation and optimization on customer experience: a consumer perspective. *Humanities and Social Sciences Communications* 10, 877. <https://doi.org/10.1057/s41599-023-02389-0>
- Grech, A., & Allman-Farinelli, M. (2015). A systematic literature review of nutrition interventions in vending machines that encourage consumers to make healthier choices. *Obesity Reviews*, 16(12), 1030-1041. <https://doi.org/10.1111/obr.12311>

- Global Sources (2024). How to Start a Vending Machine Business: Cost, Tips, Pros and Cons. Retrieved 24 April 2024, from <https://www.globalsources.com/knowledge/how-to-start-a-vending-machine-business-cost-tips-pros-and-cons>
- Hasan, H., Faris M. A. E, Mohamad M. N., Al Dhaheri A. S., Hashim M., Stojanovska L., Al Daour R., Rashid M., El-Farra L., Alsuwaidi A., Altawfiq H., Erwa Z., & Cheikh Ismail L. (2021). Consumption, Attitudes, and Trends of Vending Machine Foods at a University Campus: A Cross-Sectional Study. *Foods*. 10(9), 2122. <https://doi.org/10.3390/foods10092122>
- Japan Vending System Manufacturers Association (2024). Number of Vending Machines in Use. Retrieved 16 July 2024, from [https://www.jvma.or.jp/information/information\\_3.html](https://www.jvma.or.jp/information/information_3.html)
- Kung-Jeng, W., & Natalia, F. (2024). The Vending Machine Deployment and Shelf Display Problem: A Bi-layer Optimization Approach. *Transportation Research Part E: Logistics and Transportation Review*, 187 <https://doi.org/10.1016/j.tre.2024.103581>
- Matthews, M. A., & Horacek, T. M. (2015). Vending machine assessment methodology. A systematic review. *Appetite*, 90, 176–186. <https://doi.org/10.1016/j.appet.2015.03.007>
- Ministry of Finance Malaysia (2023). Inisiatif Pendapatan Rakyat. Retrieved 2 May 2024 from <https://ipr.ekonomi.gov.my/about>
- Rachel, W., & Simon, R. (2014) *Law. Real Estate Concepts: A handbook*, 227-251.
- Rosi, A., Zerbini, C., Pellegrini, N., Scazzina, F., Brighenti, F., & Lugli, G. (2017). How to improve food choices through vending machines: The importance of healthy food availability and consumers' awareness. *Food Quality and Preference*, 62, 262–269. <https://doi.org/10.1016/j.foodqual.2017.05.008>
- Sibanda, V., Munetsi, L., Mpofo, K., Murena, E., & Trimble, J. (2020). Design of a high-tech vending machine. *Procedia CIRP*, 91, 678-683. <https://doi.org/10.1016/j.procir.2020.04.133>
- UiTM Cawangan Selangor (2024). Industry Relation, Community, Alumni and Entrepreneurship Division (iCARE). <https://selangor.uitm.edu.my/index.php/en/iCARE> (accessed 2 Jan 2024)
- Viana, J., Leonard, S. A., Kitay, B., Ansel, D., Angelis, P. & Slusser, W. (2018). Healthier Vending Machines in University Setting: Effective and Financially Sustainable, *Appetite*. 121(1), 263-267 <https://doi.org/10.1016/j.appet.2017.11.094>