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EVALUATING THE RELIABILITY OF FACTORS IMPACTING PERCEIVED RISK IN MONITORING UNREGISTERED CHILDCARE CENTRES

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Abstract

Nowadays, childcare plays a crucial role in society, supporting the development and well-being of children while enabling parents to work and contribute to the economy. Prioritizing childcare is essential for fostering healthy child development, supporting families, and promoting economic prosperity. However, poor-quality childcare can have detrimental consequences for children, families, and society as a whole. Hence, this study aims to evaluate the reliability of the questionnaire used in exploring an unregistered childcare monitoring model, by examining the impact of customer reviews, interactivity, law, rules and regulations, and technology innovation on perceived risk to assist parents in making less risky childcare decisions. A total of 30 working mothers from across Malaysia who send their children aged 0-4 years to childcare centres are involved in this pilot study. The study data were obtained through a questionnaire survey. The reliability level of this questionnaire is high, with a Cronbach's Alpha value exceeding 0.70. The data collected was analysed using SPSS version 29. A website or mobile app can be developed based on the findings to enable parents and the Department of Social Welfare (DSW) to rate childcare centres quality and interact with other parents. Thus, parents can make more informed decisions by purchasing childcare services with the least perceived risk. Furthermore, innovating unregistered childcare monitoring through a market-based approach can increase public confidence on DSW's capability to govern these illegal activities. The childcare monitoring model also provides a more economical solution that will reduce government spending on hiring childcare centre inspectors, as parents will voluntarily contribute their reviews about suboptimal childcare services.

INTRODUCTION

The collaboration between WHO, UNICEF, and the World Bank resulted in the Nurturing Care framework, emphasizing the importance of high-quality childcare in improving children's learning outcomes, future earnings, and overall family and community well-being (WHO, 2018). This framework aligns with the Sustainable Development Goal of Quality Education, aiming to create safe, inclusive, and effective learning environments for children. Without adequate care, children's early development can suffer due to various factors such as injury, illness, neglect, and maltreatment.

In Malaysia, childcare centres play a crucial role in early childhood development. There are 3,113 registered childcare centres in Malaysia as of 2022. However, Datuk Seri Nancy Shukri, the Minister of Women, Family, and Community Development (MWFCD) disclosed that, 1,080 childcares have been operating without license (Utusan Malaysia, 2023; DOSM, 2023). This alarming statement highlights the managerial challenges linked to unregistered childcare centres and consequently the potential risk that could happen to children sent to the unregistered facilities. In Malaysia, childcare centres are overseen by two ministries; the MWFCD and the Ministry of Education (Rahmatullah et al., 2021). Most registered childcare centres, known as "TASKA" are under the supervision of the Department of Social Welfare (DSW), an agency under the MWFCD. Meanwhile, preschool programs, catering to 5- to 6-year-olds, fall within the purview of the Ministry of Education. However, problems are not very common in preschools, but they tend to happen more often in private childcare centres (Aziz et al., 2021).

The shortcomings in Malaysian childcare have resulted in increased risks for children, including higher rates of injuries and incidents of neglect or abuse (Azmani et al., 2019; Hudin et al., 2019; Mutalib et al., 2018). This has led to legal actions and raised concerns about the safety of children in childcare facilities. 199 cases of neglect, abuse, and negligence involving Malaysian children in the care of caregivers occurred in just five months (Jan - May), as confirmed by the former minister of MWFCD in 2018. Moreover, a total of 581 cases of child abuse committed by caregivers were reported from 2015 to June in 2020 (Ramalingam & Alavi, 2020). This indicates that children in childcare centres in Malaysia have a higher prevalence of encountering health and safety risks (Jamaludin et al., 2018). Evidence showed that 37.3 percent of incidents happened at childcare centres (Prabhakaran et al., 2020). Fall-related injuries, choking and anaphylactic shock, cuts and burns trauma, seizure, asthmatic attack, high fever, and diarrhoea commonly occur at childcare centres (Azmani et al., 2019). Marret et al. (2000) stated that 97% of child abuse cases in Malaysia happened at unregistered facilities and until now, poor childcare service issue has yet subsided.

To improve childcare quality, the MWFCD enforced Childcare Centre Act (Act 308) through the DSW, mandating registration of all providers for monitoring. However, challenges arise from this approach, including resistance among childcare service providers to register their operations, inadequate monitoring due to limited DSW inspection officers even with increased registrations, and the prioritization of registered centres, leaving unregistered ones unmonitored (Mutalib et al., 2018; Chin et al. 2021). Additionally, delayed improvements may occur as monitoring results are not readily accessible to parents, and the focus on limited areas overlooks parents' considerations of various factors in childcare decisions (Ansari et al., 2018). Moreover, parental feedback on health and safety practices is neglected, and there is a lack of a centralized platform for accessing childcare information (Mutalib et al., 2018).

Therefore, a different approach is needed to ensure that childcare providers will not neglect or expose children to unsafe and unhealthy environment in their pursuit of profit making. The new childcare monitoring model should provide parents with access to customer reviews, interactive platforms, and information on regulatory inspections to help them make informed decisions about childcare options. This new childcare monitoring model extends Zellman and Perlman (2008) logic model of childcare quality rating and improvement

system previously developed in the United States (US). However, the new model propose in this study introduces technology innovation such as website or mobile app that gather all necessary information on a single platform to ease the process of selecting childcare.

It is strongly believed that through this market-oriented approach which empowered parents as the customers, it would help to control unnecessary injuries or deaths among children attending childcare. Based on Idris et al. (2022), childcare risks could be reduced by providing evidence-based information related to injuries and illnesses of children attending childcare centres. In essence, parents should be provided with more relevant information to help them make better childcare decisions. To be more specific, the aim of this study is to assess the reliability of the questionnaire used in examining an unregistered childcare monitoring model, by considering the incorporation of customer reviews, interactivity, law, rules and regulations, and technology innovation to help parents in making informed childcare decisions based on perceived risk.

LITERATURE REVIEW

Childcare Centres

Childcare services are essential for families, especially given the rising percentage of women participating in the workforce in Malaysia. The effect of childcare services is crucial in this modern era especially when women become the breadwinner in the households. Childcare encompasses the time, attention, and support dedicated to children at both household and community levels, fostering their physical, mental, and social well-being (Engle et al., 1997). Childcare centres play a pivotal role in delivering care services, including maintaining high-quality hygiene, preparing nutritious foods, adhering to optimal breastfeeding and complementary feeding practices, ensuring adequate psychosocial care, and offering a range of preventive and treatment services (Mittelmark et al., 2022).

In Malaysia, childcare services are categorized into three main types according to the DSW; Taman Asuhan Kanak-Kanak (TASKA), Taman Didikan Kanak-Kanak (TADIKA), and preschools. The primary focus of this study is on TASKA. According to the Childcare Centre Act 1984, TASKA refers to premises where four or more children under four years old, from multiple households, are cared for in exchange for payment. TASKA centres are monitored by DSW, a department under the MWFCD. All registered TASKA centres must comply with the Childcare Centre Act 1984, which sets mandatory standards for caregiver recruitment and training, facilities, furniture and equipment, dietary and nutrition provisions, and daily activities based on child development. TASKA are categorized into four types under Section 5 of Act 308; institutional, workplace, community-based, and home-based TASKA.

Malaysia Childcare Monitoring Model

Childcare monitoring in Malaysia is governed by the Childcare Centre Act 1984 and later become one of the aims in MWFCD Strategic Plan 2021-2025 which is ensuring compliance with safety and regulatory standards in childcare facilities. However, the main weakness of Malaysian childcare monitoring model is that inspection and quality control are mostly conducted on registered childcare (Mutalib et al., 2022), but incidents usually happened in unregistered childcare (Ramalingam & Alavi, 2020). Furthermore, the number of monitoring that gets fewer year by year could be because of limited number of inspection officers (Shawaliah Hadir, 2022). Public dissatisfaction persists due to ongoing childcare incidents despite regulatory measures, underscoring the need for enhanced monitoring efficacy (Mutalib et al., 2018). Implementing more stringent regulations to enhance safety compliance in childcare facilities may indeed improve overall safety standards. However, it is essential to acknowledge the potential consequence of reduced childcare availability, particularly for economically and disadvantaged families (Currie & Hotz, 2004; Hotz & Wiswall, 2019; Prentice & White, 2019).

Nevertheless, adherence to the regulations outlined in the Childcare Centre Act 1984 remains fundamental in Malaysia's childcare monitoring framework.

U. S Childcare Monitoring Model

In the US, childcare monitoring is primarily based on the Caring for Our Children (CFOC) standard, developed by the U.S. Department of Health and Human Services and the American Academy of Paediatrics, which aligned with the National Association for the Education of Young Children (NAEYC) accreditation standards (Stevens, 2020). CFOC emphasizes compliance with health and safety standards. Additionally, a state quality rating improvement system (QRIS) was established, based on the logic model proposed by Zellman and Perlman (2008), to broaden the definition of quality care and assist parents in making childcare decisions. QRIS treats childcare as part of a market-oriented system.

Research indicates that the presence of QRIS increases caregivers' qualifications (Herbst, 2018), while childcare centres with low quality ratings experience declines in enrolment rates following QRIS implementation, particularly in areas with a higher concentration of alternative childcare providers (Basson et al., 2019). However, QRIS still requires professionals, such as inspection officers, to assess other aspects of childcare services to ensure quality care (Hotz and Wiswall, 2019). These professionals play a crucial role in aligning perceptions of quality among policymakers, parents, and childcare providers (Pianta et al., 2020). Moreover, QRIS relies on self-reports for initial quality assessments, but childcare centres often underreport their quality due to government incentives and funding being tied to lower quality ratings (Esplin et al., 2019).

Proposed Unregistered Childcare Monitoring Model

In response, this study argues that Malaysia needs a complementary approach than solely relying on Childcare Centre Act 1984 to monitor childcare, and ultimately reduce child illnesses and injuries. Parents actively seek as much information as possible to ensure that only the best decisions are made for their children. Therefore, parents really need complete and reliable information that can be reached in a critical period to make accurate decisions. Moreover, information deficit makes accurate decision-making impossible. Thus, this study argues that childcare monitoring model should incorporate customer reviews, interactivity, law, rules and regulations and mediated by technology innovation to assist parents select childcare with an acceptable perceived risk.

By adapting the conventional childcare monitoring model from Zellman and Perlman (2008), the study identifies key challenges faced by parents in accessing reliable childcare information and the subsequent risks posed to children's cognitive and emotional development. The outcomes of the new model not only led to better-informed parental decisions but also contribute to the provision of healthier and safer childcare services, ultimately benefiting children's overall well-being and school readiness. Thus, the study underscores the importance of continuous innovation and collaboration in the childcare sector to ensure the optimal development and safety of children in childcare settings.

Perceived Risks

Perceived risk is a subjective assessment of an individual about the likelihood and severity of an adverse events that usually results in alarming, anxious and disturbing feelings (Foster et al., 2020). In business, perceived risk increases when customers do not understand product information (Bauer, 1960). Therefore, this study defined perceived risk as parents' concern that their children will be victimized, harmed or neglected by the childcare providers. Previous study explained that perceived risk could influence customers' decision (Foster et al., 2020). Similarly, perceived risk has a negative relationship with purchase intention (Vasudevan et al., 2023; Geetha et al., 2021).

Customer Review

Customer reviews are reflections of individuals evaluations, opinions, or feedback regarding childcare services that they have purchased and have experience with. These reviews express a spectrum of sentiments, encompassing both negative and positive experiences, as well as neutral assessments. Such reviews play a crucial role in informing potential customers' decisions and provide businesses with valuable insights into the strengths and areas for improvement of their products or services (Nesamalar et.al., 2018).

According to Praharjo and Kusumawati (2016), one of the most effective ways to lower customers' perceived risk is through online customer surveys, which provide advice from the online community. Other customers reviews are as good as the traditional word-of-mouth in reducing perceived risk and building customers' trust towards the retailers (Liu et al., 2019). Moreover, people feel more comfortable with choices also supported by others (Bu et al., 2021). Hence, this study hypothesizes that customer review has a significant effect on perceived risk.

H1: There is a significant effect of customer review on perceived risk.

Interactivity

According to Mohd Azul (2012), interactivity is defined as the extent of engagement, involvement, and participation fostered by communication processes within new media and digital platforms. This component plays a significant role in enhancing interaction and engagement among users, especially within the domain of online communication tools such as Internet-based systems. Interactivity also allows opportunities for its stakeholders to share and exchange opinions, information and ideas with others virtually (Jensen, 1998). Therefore, interactivity offers a platform for stakeholders such as parents, childcare providers, and the DSW to engage in virtual discussions, sharing opinions, information, and ideas regarding childcare services.

In business studies, Hanaysha (2022) discovered communication between customers and service providers results in favourable interaction results and increase customers' trust towards service providers. The same effect is expected to also present in childcare seeking process through interaction among parents and parents with childcare providers. Pertaining to interaction between DSW and childcare providers, DSW interactions with parents and childcare providers are important to align varying quality perceptions of policy makers, parents and childcare providers that could lead to distorted childcare ratings (Pianta et al., 2020). Hence, the following hypothesis is developed.

H2: There is a significant effect of interactivity on perceived risk.

Law, Rules and Regulation

Law, rules and regulation is created by the government to give specific details and instructions for making sure the provisions in a law are followed. In addition, it provides information or results of childcare inspection conducted by the Department of Social Welfare such as childcare registration status, the number of scheduled and unscheduled inspections, and the penalties received by childcare providers. In brief, law is not just meant to be a reactive tool offering remedies, but should also include preventive measures in avoiding undesirable events from occurring again in future (Mutalib et al., 2020).

Malaysian government requires all childcare to be registered with DSW. Even so, the enforcement of this act cannot be said to be successful. Many parents are not aware that they are sending their children to unregistered childcare until there are cases of choking on milk and being abused by caregivers reported in the media (Ramalingam & Alavi, 2020). Parents are often confused about the childcare registration status (Varmuza et al., 2019) and this may happen because parents do not have the awareness to check the childcare registration

information. Some parents do not care at all about childcare registration status as long as their children are well taken care of (Seri et al., 2020). Furthermore, childcare inspection information such as the number of penalties received by the childcare providers is not announced. Therefore, this study suggests that DSW inspection information based on law, rules and regulations should be shared with parents. Hence, this study proposes the following hypothesis.

H3: There is a significant effect of law, rules and regulation on perceived risk.

Technology Innovation
Technology innovation refers to the development and implementation of new technologies within businesses or industries. It emphasizes the adoption of innovative technologies to bring about positive impacts on various aspects of business (Do et.al., 2023). Technology innovations may include the creation of websites, apps, or systems that compile lists of childcare providers. These platforms enable users to make informed childcare decisions by searching and comparing detailed information about the available services and examining customer reviews. In this study, technology innovation is measured based on customization, interactivity (between human and technology), relevance of information, accessibility and visual appearance (Tran & Strutton, 2019; Sohaib & Kang, 2015).

Previous studies investigating product purchasing risk indicate that customers return to brand loyalty, word of mouth, money back guarantee, major brand image, website reputation and free sample to reduce perceived risk (Cheng et al., 2013). By weighing the negative consequences of buying a particular product based on multiple information, customers can lower the risk of making a regretful decision. In childcare decision, parents who can be regarded as the customers, also adopted several risk reduction strategies especially by comparing information from different sources. However, child injuries and deaths in the centre's care indicate that the information parents need to make proper childcare decision is incomplete or difficult to access. The information that they use to make childcare decision could be misleading and failed to create high perceived risk among parents. Hence, technology innovation is critical to ensure that valid and complete information is available to parents. Hence, this study proposes the following hypotheses.

H4: There is a significant effect of technology innovation on perceived risk.
H5: There is a significant mediating effect of technology innovation on the relationship between customer review, interactivity, law, rules and regulations with perceived risk.

Overall, Figure 1 below depicts the conceptual framework of this study based on the discussion in literature review section. This framework summarized the links between customer review, interactivity, law, rules and regulations, as well as technology innovation with perceived risk. In addition, the model shows the mediating effect of technology innovation on the relationship between customer review, interactivity, and law, rules and regulations with perceived risk. This conceptual framework applies prescriptive theory which outline seven steps in decision-making process. This theory underscores the importance of generating alternatives (step 4) and analysing alternatives (step 5) before an individual can make a selection (step 6). Thus, in childcare centre selection process, this study proposes technology innovation as an extension of Zellman and Perlman (2008) logic model to incorporate the benefits of an online platform in gathering all relevant information to be evaluated by parents before making the final decision.
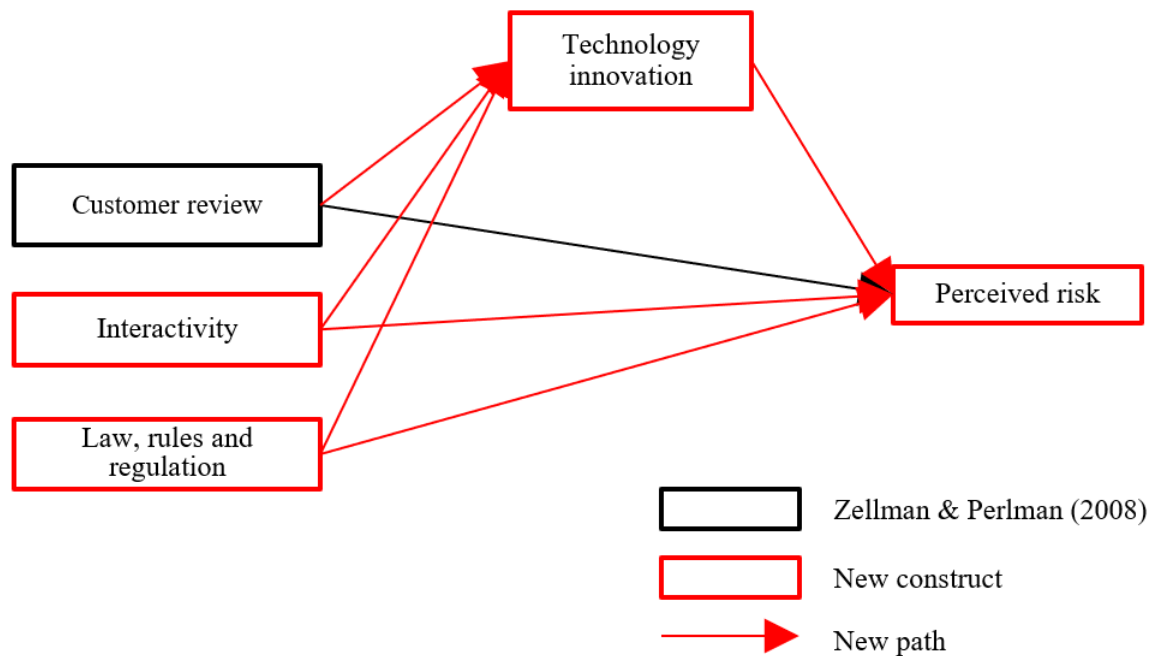
Figure 1: Conceptual framework

METHODOLOGY

Sample Size

A pilot study in research serves as a preliminary investigation conducted before the main study, aiming to test the feasibility, methodology, and procedures. Researchers use pilot studies to refine their research methodology, including data collection instruments (such as surveys or questionnaire) and data analysis techniques. Additionally, this testing is significant in assessing whether the instrument suits the study sample, evaluating the internal coherence of items, and refining questions, format, and instructions as needed (Creswell et al, 2023). This helps ensure that the methods chosen are appropriate and effective for the research objectives.

According to Johanson et al. (2009) it is recommended that a minimum of 30 representative participants from the population of interest is suitable for a pilot study aimed at preliminary survey or scale development. Hence, the pilot study involved 30 respondents, comprising working mothers who sent their children to unregistered childcare. The unit of analysis was individual participants. Its primary objective was to assess the feasibility of study approaches and methods while identifying and mitigating potential weaknesses that could affect the main study's outcomes. Moreover, the pilot study, conducted in accordance with established research ethics, engaged participants based on their consent. Its primary objective was to identify potential limitations and key challenges for the upcoming main study, facilitating the development of alternative strategies and solutions. Besides, the pilot study strategically assessed research methodologies, data collection and analysis tools, and the willingness of the sample population to participate.

A questionnaire containing 5 sections was used to collect the data according to the five variables as stated in the literature review section. All scales were measured using a seven-point Likert scale ranging from (1) Strongly disagree to (7) Strongly agree. Table 1 exhibited the development of the questionnaire.

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Table 1. Questionnaire development

Constructs	Source(s)	Total items
Customer review		
Review usefulness	Chatterjee et al. (2022) & Filieri et al. (2020)	
Argument quality	Xiao & Lee (2019)	
Source credibility	Xiao & Lee (2019)	19
Perceived quantity of reviews	Xiao & Lee (2019)	
Interactivity		
Stakeholders' interactivity	Sohaib & Kang (2015) & Cheung et al. (2020)	8
Law, rules and regulations		
Child Care Center Act 1984	Malaysian High Court	7
Technology innovation		
Customization	Tran & Strutton (2019)	
Technology interactivity	Tran & Strutton (2019)	
Relevance of information	Tran & Strutton (2019)	22
Accessibility	Sohaib & Kang (2015)	
Visual appearance	Sohaib & Kang (2015)	
Perceived risk		
Financial risk	Yang et al. (2016)	
Performance risk	Yang et al. (2016)	6

Data was collected primarily using online survey as most people nowadays had smartphones that can be used anytime and anywhere. The questionnaire was digitized using Google Forms and distributed to respondents electronically via WhatsApp, enabling convenient access and response on their mobile devices. The estimated time required to answer the questionnaire is between 10 to 15 minutes. Furthermore, the researchers collected the data at industrial and business areas as well as government offices where many working mothers would be found. However, the researchers tried as much as possible to include respondents from different working classes to gain variety of responses. The data collected was analysed using SPSS version 29.

RESULTS AND DISCUSSION

Table 2 refers to background information of respondents consisting of 30 working mothers across Malaysia. The purpose of this data is to examine mothers who send their children aged 0-4 years to childcare centres, whether registered or unregistered, throughout Malaysia.

The data from the questionnaire surveying working mothers in Malaysia reveals key demographic characteristics and preferences regarding childcare services. The respondents, all female, predominantly identify as Malay (96.7%) and Muslim (96.7%), with varying ages, with the highest representation in the 26-30 age group (30.0%). Education levels vary, with a notable proportion holding diplomas (36.7%). Geographically, a significant number of respondents reside in Melaka (56.7%). The majority of respondents have 1-2 children

attending childcare (83.3%), and most have been using childcare services for 1-2 years (46.7%). Interestingly, while 40.0% utilize registered childcare services, a higher percentage (53.3%) opt for unregistered options, reflecting a prevalent reliance on informal childcare arrangements. However, 6.7% express uncertainty about the type of childcare utilized. This data helps understand what childcare services working mothers in Malaysia prefer, which can be important for making policies or improving childcare options for them.

Table 2. Background information of the respondents

Demographic	Factor	Frequency	Percent
Gender	Female	30	100.0
	Total	30	100.0
Race	Malay	29	96.7
	Chinese	1	3.3
	Total	30	100.0
Religion	Islam	29	96.7
	Buddha	1	3.3
	Total	30	100.0
Age	18-25 years old	6	20.0
	26-30 years old	9	30.0
	31-35 years old	4	13.3
	36-45 years old	9	30.0
	More than 45 years old	2	6.7
	Total	30	100.0
Education level	Bachelor degree	5	16.7
	Certificate	4	13.3
	Diploma	11	36.7
	Master degree	3	10.0
	Ph.D	3	10.0
	Secondary Education	4	13.3
	Total	30	100.0
State of residence	Federal Territory of Kuala Lumpur	1	3.3
	Johor	2	6.7
	Kedah	2	6.7
	Kelantan	2	6.7
	Melaka	17	56.7
	Perak	3	10.0
	Sabah	1	3.3
	Selangor	2	6.7
	Total	30	100.0
Number of children attending childcare	1-2	25	83.3
	3-4	5	16.7
	Total	30	100.0
Number of years using childcare services	1-2 years	14	46.7
	3-5 years	5	16.7
	6-10 years	3	10.0
	Less than one year	7	23.3
	More than 10 years	1	3.3

	Total	30	100.0
Type of childcare	Registered	12	40.0
	Unregistered	16	53.3
	Unsure	2	6.7
	Total	30	100.0
Household income	RM 1000 – RM 1999	8	26.7
	RM 2000 – RM 2999	7	23.3
	RM 3000 – RM 3999	3	10.0
	RM 4000 and above	12	40.0
	Total	30	100.0

Instrument reliability

Reliability is defined as the instrument's ability to measure questionnaire items and test accuracy using Cronbach's Alpha. Reliability is the measure of internal consistency of the constructs in the study. A construct is reliable if the Alpha (α) value is greater than .70 (Hair et al., 2021). However, Majid (2004) explains that a value of 0.60 is adequate for a survey and can be retained. Majid (2004) further elaborates that values below 0.60 are considered weak and should be removed from the survey items due to their low reliability.

Based on preliminary research conducted, the data were analyzed using SPSS 29. Furthermore, the researcher also employed reliability analysis to obtain Alpha values for each construct developed in the questionnaire. The values for each construct varied. The constructs for customer review had an Alpha value of (α = 0.953), interactivity (α = 0.924), rules, law and regulations (α = 0.865), technology innovation (α = 0.985), and perceived risk (α = 0.933). This discrepancy arises because all five constructs had item eliminations recommended by experts. The preliminary study also indicated high Cronbach's Alpha values Therefore, the questionnaire instrument developed also demonstrates high reliability and can be used for actual research. Reliability results are summarized in Table 3.

Table 3. Reliability statistics

Constructs	No. of items	Alpha (α)
CR	15	.953
I	5	.924
RLR	6	.865
TI	20	.985
PR	6	.933

The pilot study conducted on working mothers utilizing unregistered childcare centres in Malaysia provides valuable insights into the preferences and characteristics of this demographic group regarding childcare services. The demographic data reveal a predominance of Malay and Muslim respondents, with 96.7% identifying as Malay and 96.7% as Muslim, primarily residing in Melaka, with 56.7% of respondents located there. Furthermore, the study indicates a varied demographic distribution in terms of age and education levels, with the highest representation in the 26-30 age group (30.0%) and 36.7% holding diplomas.

Significantly, despite the availability of registered childcare options, a significant proportion of respondents choose unregistered facilities. Specifically, 53.3% of respondents utilize unregistered childcare centres, reflecting a prevalent reliance on informal childcare arrangements among working mothers. According to the Deputy Minister of MWFCD, 1080 childcare centres in Malaysia remain unregistered, while only 3118 childcare centres have been officially registered nationwide (Utusan Malaysia, 2023; DOSM, 2023). This

substantial difference raises concerns about the extent of unmonitored childcare operations. This data suggests a need for policymakers and childcare providers to address the factors driving this preference for unregistered childcare, potentially by improving the accessibility and quality of registered facilities or by regulating and supporting unregistered providers.

The reliability test conducted for the questionnaire items measuring factors impacting perceived risk in monitoring unregistered childcare centres revealed varying levels of internal consistency across constructs. Customer review (CR) and interactivity (I) demonstrated high reliability values of $\alpha = 0.953$ and $\alpha = 0.924$, respectively, indicating consistent measurement of parental feedback and engagement with regulatory bodies. While rules, law, and regulations (RLR) showed slightly lower reliability ($\alpha = 0.865$), technology innovation (TI) exhibited extremely high reliability ($\alpha = 0.985$), suggesting reliable assessment of technological impacts on childcare oversight. Perceived risk (PR) also demonstrated strong reliability ($\alpha = 0.933$), implying consistent measurement of parental risk perceptions. Despite minor discrepancies, the overall high Cronbach's Alpha values support the questionnaire's reliability and its suitability for studying perceived risk factors in unregistered childcare monitoring.

The rigorous methodology employed in developing the questionnaire, including input from literature and experts, contributed to its reliability and validity. By incorporating diverse perspectives and engaging with stakeholders in childcare policy formulation and implementation, policymakers can leverage these insights to enhance the accessibility, affordability, and quality of childcare services.

Moving forward, the main study can build upon the insights gained from the pilot study to delve deeper into the factors influencing working mothers' childcare choices and experiences. By employing thorough research methodologies and engaging with a larger sample size, the main study can provide more comprehensive and detailed findings, further informing policy interventions and initiatives aimed at supporting working mothers and their families in Malaysia.

CONCLUSION

The results of this pilot study indicate that the questionnaire instrument, adapted and modified from previous research, is suitable for use with the actual study sample. This study aims to evaluate the reliability of the questionnaire used in exploring an unregistered childcare monitoring model, by examining the impact of customer reviews, interactivity, law, rules and regulations, and technology innovation on perceived risk to assist parents in making less risky childcare decisions. The high overall Cronbach's Alpha coefficient values suggest that the instrument's reliability is high and it can accurately measure the consistency of questionnaire items, even when administered to other groups identified as representing similar characteristics.

The new and improved childcare monitoring model can be used as the basis to develop the first Malaysian childcare finder apps that can be used by parents to make better childcare decisions. This apps will integrate a service rating system, enable interaction between (1) parents and previous childcare users, (2) parents and childcare providers, and (3) DSW and childcare providers, as well as DSW monitoring results (e.g., information on the present childcare registration status, number of penalty given, frequency of scheduled/unscheduled inspections). These apps will also embed technological features valued by parents in making childcare decisions, such as customization, relevance of information, accessibility and etc. Overall, the study suggests that in order to ensure that children, who are the system's ultimate users, receive the greatest value possible, a structured relationship should be developed between all the participants in the preschool educational supply chain (Hudin et al., 2021).

The results of the study also will encourage childcare providers to continuously improve their services through a market-oriented approach. This approach promotes healthy competition, ultimately benefiting parents and children by raising the overall quality of childcare services available. This study also will be a great significance to enhance public trust and confidence in the Department of Social Welfare's capability to govern childcare activities, particularly addressing illegal practices. This, in turn, reduces government expenditure on hiring childcare inspectors and aligns with the goals of the Malaysia Child Act 2001, aiming to cultivate an ideal Malaysian society by ensuring children are raised in a healthy and safe environment.

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