RGSA – Revista de Gestão Social e Ambiental
ISSN: 1981-982X
Data de submissão: 11/12/2023
Data de aceite: 11/03/2024
DOI: https://doi.org/10.24857/rgsa.v18n5-055
Organização: Comitê Científico Interinstitucional
Editor Chefe: Christian Luiz da Silva
Avaliação: Double Blind Review pelo SEER/OJS

THE IMPACT OF SCHOOLPRENEUR MODEL ON EFFECTIVENESS OF ENTREPRENEURSHIP IN MALAYSIAN SECONDARY SCHOOL

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ABSTRACT

Purpose: The implementation of entrepreneurship development among youths can commence early in their education, particularly targeting secondary school students. Thus, forming a comprehensive entrepreneurship model in secondary schools would facilitate the systematic and organised conduct of entrepreneurial activities. The primary objective of this study is to determine the relationship between the schoolpreneur model and the effectiveness of entrepreneurship in secondary schools.

Methods: The research encompassed a sample of 391 student participants chosen from 14 MRSM and 50 PROTUNe schools in the Perak, Selangor, and Negeri Sembilan regions in Malaysia.

Result and Conclusion: Research has proven that the schoolpreneur model has six distinct components: individual personality, incubators, role models, mentors, talent skills, and family background. This model has also demonstrated a significant relationship towards the effectiveness of entrepreneurship in secondary schools.

Research Implications: This finding indicates that the school entrepreneurship model has the potential to act as a guideline to drive strategies aimed at increasing the practicality of executing entrepreneurial activities in secondary schools.

Originality/ Value: Schoolpreneur model improves the design of entrepreneurship program at secondary school.

Keywords: Schoolpreneur Model, Entrepreneurship, Secondary School, Structural Equation Modeling.

O IMPACTO DO MODELO SCHOOLPRENEUR NA EFICÁCIA DO EMPREENDEDORISMO NA ESCOLA SECUNDÁRIA DA MALÁSIA

RESUMO

Objetivo: A implementação do desenvolvimento do empreendedorismo entre os jovens pode começar logo no início da sua educação, visando especialmente os estudantes do ensino secundário. Assim, a formação de um modelo de empreendedorismo abrangente nas escolas secundárias facilitaria a condução sistemática e organizada de atividades empresariais. O objetivo principal deste estudo é determinar a relação entre o modelo de escolarismo empreendedor e a eficácia do empreendedorismo em escolas secundárias.

Métodos: A pesquisa abrangeu uma amostra de 391 alunos participantes escolhidos entre 14 escolas MRSM e 50 PROTUNe nas regiões de Perak, Selangor e Negeri Sembilan, na Malásia.

Resultado e Conclusão: A pesquisa comprovou que o modelo do escolpreneur tem seis componentes distintos: personalidade individual, incubadoras, modelos, mentores, habilidades de talento e formação familiar. Esse modelo também tem demonstrado uma relação significativa com a eficácia do empreendedorismo no ensino médio.

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Implicações da pesquisa: Esta constatação indica que o modelo de empreendedorismo escolar tem o potencial de agir como uma diretriz para orientar estratégias destinadas a aumentar a praticidade de executar atividades empresariais em escolas secundárias.

Originalidade / Valor: O modelo de escolpreneur melhora o design do programa de empreendedorismo no ensino médio.

Palavras-chave: Modelo do Escolpreneur, Empreendedorismo, Escola Secundária, Modelagem de Equação Estrutural.

EL IMPACTO DEL MODELO DE EMPRENDEDOR ESCOLAR EN LA EFECTIVIDAD DEL EMPRENDIMIENTO EN LA ESCUELA SECUNDARIA DE MALASIA

RESUMEN

Finalidad: La implementación del desarrollo del emprendimiento entre los jóvenes puede comenzar temprano en su educación, particularmente dirigida a los estudiantes de secundaria. Así pues, la formación de un modelo integral de emprendimiento en las escuelas secundarias facilitaría la realización sistemática y organizada de actividades empresariales. El objetivo principal de este estudio es determinar la relación entre el modelo de emprendedor escolar y la efectividad del emprendimiento en las escuelas secundarias**.**

Métodos: La investigación abarcó una muestra de 391 participantes estudiantiles elegidos de 14 escuelas MRSM y 50 escuelas PROTUNe en las regiones de Perak, Selangor y Negeri Sembilan en Malasia.

Resultado y conclusión: La investigación ha demostrado que el modelo de emprendedor escolar tiene seis componentes distintos: personalidad individual, incubadoras, modelos a seguir, mentores, habilidades de talento y antecedentes familiares. Este modelo también ha demostrado una relación significativa hacia la efectividad del emprendimiento en las escuelas secundarias.

Implicaciones de la investigación: Este hallazgo indica que el modelo de emprendimiento escolar tiene el potencial de actuar como una guía para impulsar estrategias destinadas a aumentar la practicidad de la ejecución de actividades emprendedoras en las escuelas secundarias.

Originalidad/Valor: El modelo Schoolpreneur mejora el diseño del programa de emprendimiento en la escuela secundaria**.**

Palabras clave: Modelo de Emprendedor Escolar, Emprendimiento, Escuela Secundaria, Modelado de Ecuaciones Estructurales.

1 INTRODUCTION

In recent years, numerous stakeholders in the country, including politicians and academia, have focused on entrepreneurship. The transformation of contemporary society mirrored the transition from a managerial economy to an "entrepreneurial" economy, which has increased this interest in entrepreneurship (Pepin & St-Jean, 2019). Adapting and innovating are necessary for the survival and success of small and medium-sized businesses in today's

entrepreneurial economy. In addition, it is a growth driver, a key source of new jobs, and a global market competitiveness guarantee.

Next, the country's reliance on youths is rising to provide them with a brighter future and fuel economic expansion. Youth between the ages of 19 and 24 will represent 8.9% of Malaysia's population in 2020, out of 2,893,000 individuals, according to the Department of Statistics Malaysia statistics. In 2020, 217,300 youths out of 733,000 will still be unemployed. Furthermore, the unemployment rate figures from year to year have increased during the past few years, notably in 2017 (10.8%), 2018 (10.9), 2019 (10.5%), and 2020 (12%). %). Since the young generations who will lead the nation for the next 10 to 15 years have yet to have a clear direction, this situation is troubling (Ministry of Human Resources, 2022).

This occurrence of youth unemployment has affected young people worldwide, in both developed and emerging economies. The failure to allow young people to obtain employment will negatively affect the nation's economic and social well-being (Bignotti & Le Roux, 2018). Hence, entrepreneurship has been widely considered a potential solution to the current job market's difficulty in employing youths who have completed their formal education (Fatoki & Chindoga, 2012). The government and institutions systematically encourage young people to pursue entrepreneurship as a career, including providing entrepreneurship training and funding support (Singer et al., 2015). Following research conducted by (Olugbola, 2017), entrepreneurial motivation and desire can be developed in secondary schools.

Relatedly, these efforts must be aligned and streamlined by implementing a schoolpreneur model that can serve as a guide for the execution of better-managed and more productive entrepreneurship activities. According to (Mohamad Saidi & Norasmah, 2019), the design of focused curriculum objectives can apply students with entrepreneurial qualities such as skills, knowledge, behaviour, and an entrepreneurial mindset to produce a community engaged in the field of entrepreneurship. In addition, (Saifuddin et al., 2023) assert that this schoolpreneur model enabled educators to engage more successfully in entrepreneurial activities throughout the school year. Consequently, this study aims to assess the relationship between the schoolpreneur model and the effectiveness of entrepreneurship in secondary school.

2 LITERATURE REVIEW

2.1 ENTREPRENEURSHIP IN SCHOOL

The European Commission has supported and encouraged the development of global entrepreneurship education for many years. The fourth long-term strategic objective of the strategic framework for European cooperation is to enhance creativity and innovation, including entrepreneurship, at all educational and training levels (European Commission, 2012). In order to spur entrepreneurship as a career destination at the secondary and higher education levels, a report from the European Commission states that a country should foster entrepreneurial skills through innovative and creative teaching and learning methods in educational institutions (European Commission, 2016).

Various studies demonstrate concern and the need for a stronger emphasis on implementing entrepreneurship in schools. According to a Eurobarometer survey by the European Union, only 23% of respondents said they had participated in entrepreneurship-related courses or activities (European Commission, 2016). The majority of 15-year-olds still lack fundamental problem-solving skills, according to another study based on the Program for International Student Assessment (PISA) survey (Avvisati, 2014). This shows the significance of integrating entrepreneurship education knowledge to developing entrepreneurial skills, particularly within a nation's education agenda. According to a study by (Norberg, 2017), implementing entrepreneurship in schools aims to mould students' attitudes, prepare them for entrepreneurship, and help them become functional, active, and socially responsible working citizens.

According to a study by (Marques et al., 2012), developing entrepreneurial potential in secondary school is advantageous for students since it increases the likelihood of self-employment as a potential career before deciding whether to pursue higher education. Moreover, education that enhances entrepreneurial activities fosters positive attitudes regarding entrepreneurship as a potential career, enhancing students' perceptions of their competencies. Individuals who want to avoid starting a business can benefit from entrepreneurial knowledge and skills (Garrido-Yserte et al., 2020). In addition, the study conducted by (Rosique-Blasco et al., 2016) demonstrated that entrepreneurial skills such as innovativeness, proactivity, and risk tolerance could influence the propensity of students to choose entrepreneurship career paths in the future. These skills enable them to recognise opportunities, create solutions to possible

issues, take the initiative, predict change, manage uncertain situations, and tolerate potential risks.

Furthermore, a study of secondary school students in Nigeria, a developing economic nation, demonstrates the significance of socioeconomic status as a demographic characteristic that affects entrepreneurial inclinations (Ayodele, 2013). Important because socioeconomic status has been discovered to inspire and affect the innovative attitude of business students (Gibson & Gibson, 2010). Next, a survey of Chinese secondary schools revealed that 71% of students were interested in learning about entrepreneurship, and only 18% were willing to take a learning experience in a field other than entrepreneurship. Hence, it is evident that the importance of entrepreneurial skills and the serious growth of entrepreneurship at the secondary school level could influence the evaluation and selection of students for their futures (Xu et al., 2016).

Despite this, according to a survey conducted in Turkey by (Top et al., 2012), students remain doubtful about the attractiveness of entrepreneurship. According to them, young Turks do not consider entrepreneurship professionally attractive. Similarly, (Ghasemi et al., 2011) discovered a low correlation between student motivation and entrepreneurial intention among secondary school students in Shiraz. This is because students' entrepreneurial motivation is more extrinsic or influenced by external factors (Kurniawan et al., 2019). According to (Purwana et al., 2017), secondary school students' entrepreneurial motivation in Indonesia was influenced by social norms from family, friends and significant others. Hence, it is essential to understand the appropriate way of assessing the entrepreneurial orientation of secondary students.

2.2 SCHOOL ENTREPRENEURSHIP PROGRAM IN MALAYSIA

Program Tunas Niaga (PROTUNe) is a curriculum in most Malaysian secondary schools. Students are exposed to an entrepreneurship 'awareness programme' through this PROTUNe curriculum. This programme helps students learn the fundamentals of entrepreneurship and business management systematically and comprehensively through workshops, seminars, and training. Moreover, students can practise business management at school (Leng & Buang, 2019). According to a study conducted by (Wan Mohd Zaifurin et al., 2016) on students enrolled in the PROTUNe programme, all participants had the propensity to explore the field of entrepreneurship. Numerous variables in the study, including personality, role models, social norms, social identification, entrepreneurial knowledge, entrepreneurial

skills, finances, and freedom, have demonstrated a significant relationship with entrepreneurial inclinations.

Next, in partnership with the Johor State Department of Education, the Johor Corporation's Tunas Bistari Program was introduced in secondary schools throughout Johor. According to (Hanim et al., 2010), this programme aims to foster and nurture an entrepreneurial culture among students and provide students with initial training in the fields of entrepreneurship and business. According to a study by (Mohd. Hassan & Haslizah, 2010), students expressed an interest in pursuing a career in entrepreneurship. They also could use the knowledge they gained from the programme in their routine.

Moreover, MARA Junior College of Science (MRSM) offers an entrepreneurship programme exposing students to entrepreneurial knowledge, thinking, and skills (Iklima Husna & Toh, 2019). This programme was founded in 1992 at MRSM under Persatuan Usahawan Muda (PUM). A statement by the Principal of MRSM Muar, Shalina Mohamed, to Berita Harian through the Persatuan Usahawan Muda (PUM), students opened a sales kiosk to obtain experience in the intricacies of entrepreneurship and business. In addition, we also train students in management and teach them how to acquire capital practically and manage their businesses (Kamal, 2017). This demonstrates the school's commitment and initiative to instil entrepreneurial skills and knowledge in its students.

Practically fostering entrepreneurship, like through the implementation of entrepreneurship programmes, is crucial as it could educate and unearth students' inherent potential, inspiring them to pursue entrepreneurial careers. Even though this approach aims not to turn every student into an entrepreneur, the entrepreneurial spirit they possess must be taken more seriously and developed in education (Nawang et al., 2018). However, the execution of this entrepreneurship programme will be more effective if a guidance model exists that can serve as a benchmark for the effectiveness of entrepreneurship in schools. There is a tendency for entrepreneurship educators to misjudge by focusing too much emphasis on tangible aspects, especially business planning and creation, and paying insufficient attention to the students' internal intrinsic motivation (Agboola, 2021).

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3 FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 SCHOOLPRENEUR MODEL AND EFECTIVENESS OF ENTREPRENEURSHIP IN SCHOOL

The Schoolpreneur Model was designed according to previous research, and it incorporates a variety of factors discovered by researchers as suitable for forming an entrepreneurship model in secondary schools. This schoolpreneur model provides an overview of the factors that must be considered during the early implementation of entrepreneurship to improve the standard and effectiveness of entrepreneurship in secondary schools. Researchers have identified six components that can enhance the effectiveness of school educators in entrepreneurial activities. The six components are talent skills, mentors, incubators, individual personality, role models, and family backgrounds.

According to (Alias & Rahman, 2019), there is a significant relationship between openness, thoroughness, agreeableness, extraversion, and entrepreneurial inclinations. Additionally, (Zunaini & Norasmah, 2019) research demonstrates a relationship between personality and entrepreneurial career interest. Moreover, (Olugbola, 2017) found that today's generation notices entrepreneurial opportunities all around them, but not all are willing to attempt to explore them. This is because their ability to take advantage of existing chances relies on their entrepreneurial readiness level. Hence, the growth and development of an individual's personality might benefit the execution of school entrepreneurship.

H1 : Individual personality having positive relationship to form schoolpreneur model.

In addition, any individual who wants to become part of an entrepreneur must possess talent skills. Entrepreneurs must have communication skills, orderly and systematic planning capabilities, complicated problem-solving skills, and financial and operational management abilities (Nuradibah, 2018). Furthermore, according to (Garrido-Yserte et al., 2020), the skills to watch out for in prospective entrepreneurs include empathic thinking and communication skills and the confidence to express their ideas. A study by (Zainon et al., 2019) revealed that managerial skills in entrepreneurship have a significant correlation with the success of entrepreneurs. Thus, the school's entrepreneurship effectiveness will be boosted when a student possesses strong talent skills.

H2 : Talent skills having positive relationship to form schoolpreneur model.

Next, the incubator is one of the growing entrepreneurship components and has been widely implemented in major countries like the United States, Brazil, Japan, and China.

According to (Obaji et al., 2015) research, the analysis of incubator components demonstrates a good relationship with entrepreneurship. According them, the incubator solves an entrepreneur's need. The entrepreneur's inability to obtain these resources has become a barrier to achieving genuine entrepreneurial performance. Following this study, (Iwuagwu, 2011) demonstrated that the implementation of incubators allows young entrepreneurs to be enhanced with business support and programmes designed to nurture them from the initial stages until they are successful. Consequently, incubator programs are a method for enhancing student entrepreneurship skills and increasing the effectiveness of school entrepreneurship.

H3 : Incubator having positive relationship to form schoolpreneur model.

On the other hand, an individual's family background is another component that may influence their decision to pursue a career in entrepreneurship. (Rosnia et al., 2012) discovered that individuals with a family background in business have more favourable perceptions towards entrepreneurial behaviour than those without a family background of involvement in the business. In compliance with this research, (Nadiatul Naqiah & Noor Aslinda, 2020) demonstrated that parents provide their children with exposure to entrepreneurship at an early age. As such, students with a background in entrepreneurship can significantly impact the implementation of entrepreneurship in schools.

H4 : Family background having positive relationship to form schoolpreneur model.

Moreover, role models represent a component of the effectiveness of school entrepreneurship. Role models are successful entrepreneurs who have established an image for themselves. (Bosma et al., 2012) discovered a significant relationship between role models and entrepreneurship because role models act as "icons" of entrepreneurs to motivate, inspire, and encourage entrepreneurship among students. (Marks, 2021) also reported that female models are being used to motivate new female entrepreneurs to join the field of entrepreneurship. Undoubtedly, the success of idols according to their distinct genders makes it much easier for individuals to identify themselves based on the same gender (Greene et al., 2013).

H5 : Role model having positive relationship to form schoolpreneur model.

The mentor is a final component that significantly impacts the creation of successful young entrepreneurs and entrepreneurship in schools. The value of mentors in guiding mentees in some areas of interest cannot be contested. According to (Nor Ain et al., 2020), in an individual's entrepreneurial career, the mentor will assist in providing the mentee with necessary career-related information to affect their career positively. In addition, (Nabi et al., 2019) mentioned in their study that mentors develop the entrepreneurial careers of students and function as entrepreneurial role models for mentees. Consequently, a structured mentoring

relationship between a mentor and mentee can facilitate the development of an individual's competencies (Rizal, 2016).

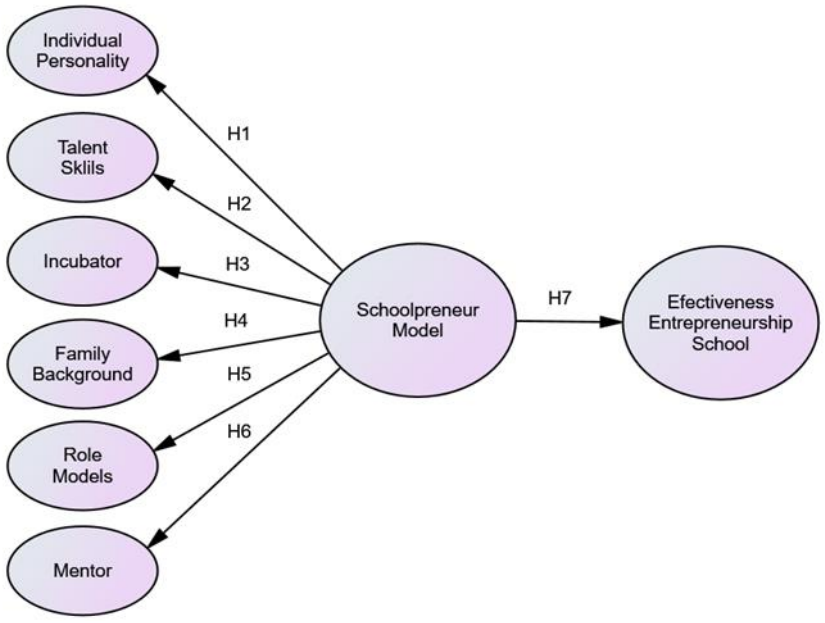
H6 : Mentor having positive relationship to form schoolpreneur model.

In order to examine the effectiveness of school entrepreneurship, researchers highlight the six-component schoolpreneur model illustrated in Figure 1's conceptual framework. The model depicts the direct relationship between the schoolpreneur model and school entrepreneurship effectiveness. The six components are talent skills, mentors, incubators, personality, role models, and family backgrounds. Hence, this model is intended to accomplish the current aim of this research, which is to empirically examine the impact of the schoolpreneur model on the effectiveness of entrepreneurship in schools.

H7 : Schoolpreneur model having positive relationship to effectiveness entrepreneurship school.

Figure 1

Conceptual Framework



Source: authors (2024).

4 RESEARCH METHODOLOGY

4.1 RESEARCH DESIGN

This study is a descriptive survey that investigates the views of selected population groups by analysing the sample size of the population. The population is the group of

respondents that are the subject of the study (Fraenkel et al., 2012). Students from form one to form five from secondary schools partaking in the Tunas Niaga Program (PROTUNe) at Sekolah Menengah Kebangsaan (SMK) under the Malaysian Ministry of Education (KPM) and members of the Association of Young Entrepreneurs (PUM) at Maktab Rendah Sains Mara (MRSM) in the states of Perak, Selangor, and Negeri Sembilan constitute the population of this study.

4.2 POPULATION AND SAMPLE

The population included 1,645 students from 14 MRSM in the states of Perak, Selangor, and Negeri Sembilan, plus the 50 secondary schools involved in PROTUNe for Selangor. After getting research approval through ERAS 2.0 from the Ministry of Education, school information will be automatically received from the State Education Department (JPN). In addition, simple random sampling was employed to choose participants for this study. Random sampling is simple to select since each member of the population has an equal chance of being selected as a sample; consequently, the inference process of the study results may be performed on the population (Saunders et al., 2019; Sekaran & Bougie, 2010). The researcher used the table of (Krejcie & Morgan, 1970) to determine the number of study samples. In addition, the sample size calculator from (Bukhari, 2020) is used to compare to ensure that the minimal number of samples acquired is adequate for the study's analysis.

According to the table for determining sample size by (Krejcie & Morgan, 1970), a total sample size of 320 respondents is necessary if the population exceeds 1,400 individuals. Similarly, according to the results of Bukhari's sample size calculator (Bukhari, 2020), when the population size is adjusted to 1,645, the sample size necessary is 311 respondents. To avoid the issue of incomplete questionnaires impacting the study, the researcher has decided to examine a total of 500 participants. Out of the 500 respondents who were selected, 391 have submitted the questionnaire in its entirety.

4.3 SURVEY MEASUREMENT

In the present research, the researcher developed items based on the literature to propose a schoolpreneur model and the effectiveness of school entrepreneurship. This survey collected responses from respondents using a seven-point scale, ranging from scale (1) - "strongly disagree" to scale (7) - "strongly agree." The researcher chose a seven-point scale since a four-

point likert scale is adequate for both exploratory and confirmatory factor analysis (Chua, 2018). The study produced three items for individual personality, three for role models, and three for family background (Abdullah et al., 2015; Keat et al., 2011; Nasrul Hakim, 2015). Then, the researchers utilised six items for talent skills and five for mentors from the previous study (Liñán, 2008; Shamsul Huda, 2014; Yoo et al., 2011). (Al-Mubaraki & Schrödl, 2011; Gozali et al., 2018) retrieved four items for the incubator from prior research. Lastly, five items for the effectiveness of entrepreneurship schools were extracted from previous research (Affero et al., 2019). For this research, as many as 29 items have been adapted. The survey was then carried out using both face-to-face and online distribution techniques.

5 DATA ANALYSIS AND RESULTS

5.1 DATA ANALYSIS PROCEDURES

The reliability of the research instrument was evaluated in this study using Cronbach's Alpha. In general, Cronbach's Alpha with a value of 0.7 or higher indicates good reliability of the measurement instrument, whereas Cronbach's Alpha below 0.7 indicates inadequate dependability of the measurement method (Raamani, 2018). However, according to (Sekaran & Bougie, 2010), an alpha value between 0.6 and 0.8 is acceptable, while an alpha value beyond 0.8 is good. Similarly, (Hair et al., 2017) indicated that an alpha value of 0.6 or higher is suitable for acceptance. Table 1 displays the results of Cronbach's Alpha reliability test.

Table 1

Cronbach's Alpha Value

Component	No items	Cronbach's Alpha Value
Individual personality	3	.859
Role model	3	.796
Family background	3	.837
Talent skills	6	.892
Mentor	5	.941
Incubator	4	.926
Effectiveness of entrepreneurship school	5	.892

Source: Survey data (2024).

Afterward, structural equation modeling (SEM) analysis was conducted, which included exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and full model analysis. In this EFA analysis, testing is conducted to discover the components of the schoolpreneur

model. In contrast, confirmatory factor analysis (CFA) testing involves evaluating each indicator of selected components in the first-order CFA and the selected components in the second-order CFA. If all criteria for model fit have been satisfied, the hypotheses will be tested using the full model SEM. The schoolpreneur model is believed to influence the effectiveness of school entrepreneurship. The outcomes of testing this hypothesis will indicate a significant relationship between the schoolpreneur model and school entrepreneurial effectiveness. Factor analysis is considered a method for investigating the interrelationships between variables. It is used to confirm that items are loading on the correct factors established by previous researchers (Abubakar et al., 2022). Statistical Software for the Social Sciences (SPSS) version 26.0 was used for these exploratory analyses, while SPSS AMOS version 24.0 was utilized for the confirmatory factor analysis and full model SEM.

6 DISCUSSIONS

6.1 ANALYSIS OF RESPONDENTS' DATA

Table 2 provides a percentage and frequency analysis of respondent demographics. The table displays the number and percentage of responders categorized by gender, ethnicity, school type, school area, and entrepreneurial experience. Three hundred ninety-one students responded to the survey. Respondents were 145 males (37.1%) and 246 females (62.9%). From an ethnic perspective, it can be noted that ethnic Malays have participated in this study the most, with a total of 387 respondents, or 99%, compared to one respondent each from the Chinese and Indian ethnicities and two respondents from other ethnicities, with respective percentages of 0.3%, 0.3%, and 0.4%. The survey includes 191 respondents from daily secondary schools (48.8%), 86 respondents from boarding schools (22%), and 114 respondents from MRSM (29.0%). 109 schools are located in urban areas (27.9%), while 282 schools are in rural areas (72.1%). Whereas, based on the entrepreneurship experience of students, there are 216 students with less than one year of experience (55.2%), 109 students with one to two years of experience (27.9%), 41 students with two to three years of experience (10.5%), 15 students with three to four years of experience (3.8%), and ten students with more than five years of experience (2.6%).

Table 2

Distribution of number and percentage of respondents

Respondent's Data		Frequency	Percentage (%)
Gender	Male	145	37.1
	Female	246	62.9
Ethnicity	Malay	387	99.0
	Chinese	1	.3
	Indian	1	.3
	Others	2	.4
School Type	Daily Secondary School	191	48.8
	Boarding School	86	22.0
	MRSM	114	29.2
School Area	Urban Area	109	27.9
	Rural Area	282	72.1
Experiences in Entrepreneurship	<1 Years	216	55.2
	1-2 Years	109	27.9
	2-3 Years	41	10.5
	3-4 Years	15	3.8
	>5 Years	10	2.6

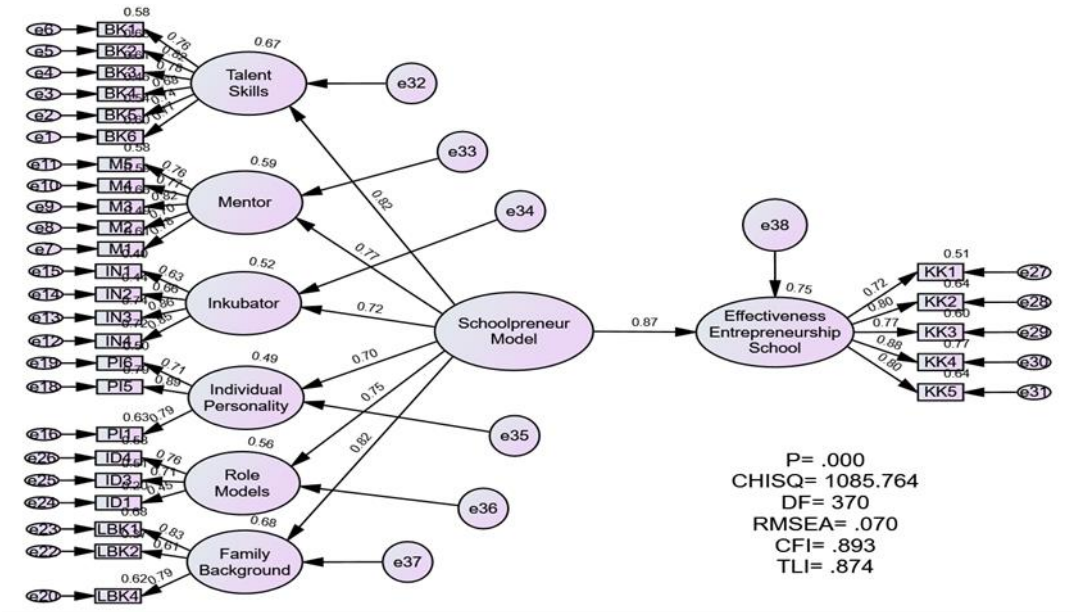
Source: Survey data (2024).

6.2 ANALYSIS OF STRUCTURAL EQUATION MODELLING (SEM)

The preliminary data analysis evaluated the accuracy of the results, the outliers, the normality, the missing values, and the multicollinearity of all variables. Secondly, the researcher conducted Confirmatory factor analysis as a test to confirm the scales used to measure the convergent and discriminative validity. The CFA analysis is administered in two stages. The proposed second-order CFA model is utilized to analyze the relationship between the proposed schoolpreneur model and the effectiveness of school entrepreneurship. Next, structural equation modeling (SEM) was used to test the proposed model and evaluate the suggested relationships between the schoolpreneur model and school entrepreneurship effectiveness, as depicted in Figure 2.

Figure 2

Structured Equation Modeling SEM Model 1



Source: Survey data (2024).

To evaluate model fit, researchers followed the guidelines of (Hair et al., 2017) and met at least one measure of fit for each evaluated index fit criteria. Absolute Fit Index fit measures include Chi-Square, goodness-of-fit index (GFI), and root mean square error of approximation (RMSEA). Adjusted goodness of fit index (AGFI), Comparative Fit Index (CFI), Normal Fit Index (NFI), and Tucker-Lewis Fit Index (TLI) for Incremental Fit Index; Chi-Square/df metric for Parsimonious Fit Index.

Figure 2 illustrates the analysis test results conducted on model 1's fully structured model. Based on the provided description, it is evident that the model meets the criteria for model fit. However, evaluating the model based on the image alone will lead to misinterpretation and confusion. In order to demonstrate the accuracy and precision of a model, the analysis based on the results of fit index criteria must be explained. According to the results of the fit index, at least one of the fit index measurements for each criterion cannot be satisfied, according to Table 3. As can be seen in Figure 3, the researcher has devised a final SEM model to improve the fit model.

Table 3

The goodness of fit result

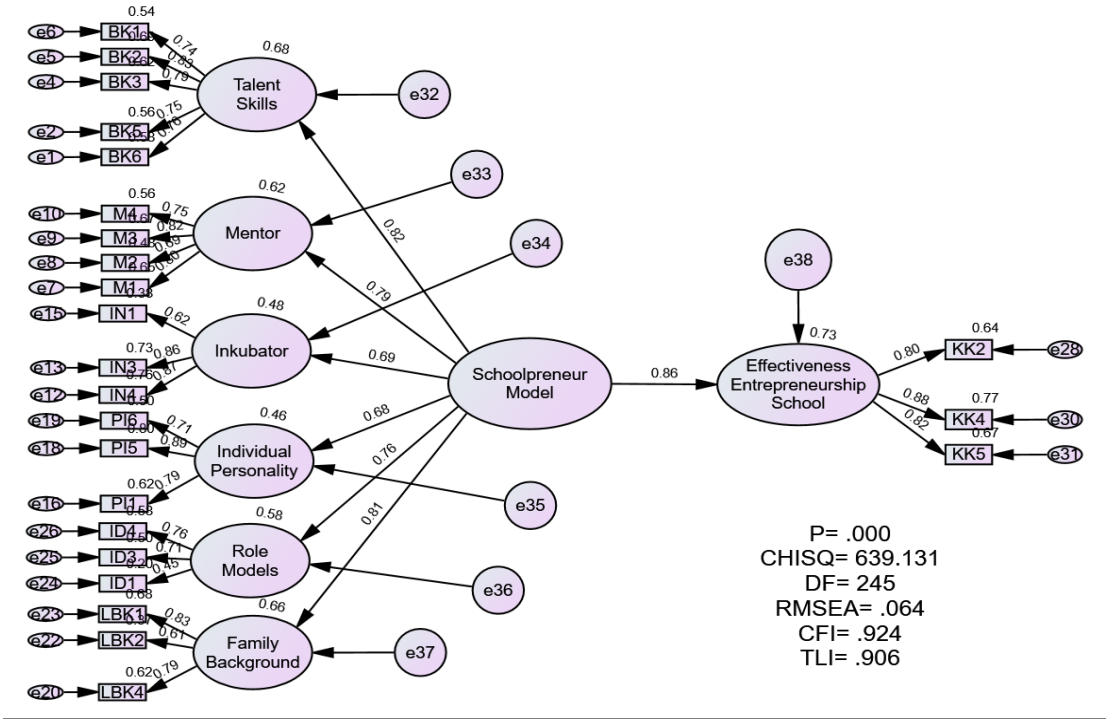
Index	Cut Off	Estimates	Decision
Chisq	-	1085.764	-
DF	-	370	-

Chisq/df	<3.0	2.934	Met
RMSEA	<.08	.070	Met
CFI	>.90	.893	Not Met
TLI	>.90	.874	Not Met

Source: Survey data (2024).

Figure 3

Structured Equation Modeling SEM Model Final



Source: Survey data (2024).

Observing the analysis of the structured model of model 1 improves the construction of the structured model of the final SEM model. Several researchers have proposed two methods, standardized residuals, and modification indices, to enhance the model's ability to detect errors (Awang, 2015; Hair et al., 2017). Both approaches give the researcher a clear picture of the standards that must be reached before items are eliminated. For the standardized residual, the researcher will observe the value of the standardized residual covariance with a maximum value of 2.00. In contrast, the modified index value of more excellent than 15.00 indicates layered items in a model.

The researcher adopted the principles proposed by (Hair et al., 2017) to set at least three items for each variable when eliminating items. At the end of this process, the researcher eliminated the five items BK4, M5, IN2, KK1, and KK3. This change proves that the model has been improved, as the fit measurement values are now more reliable compared to the previous shown in Table 4.

Table 4

The goodness of fit result

Index	Cut Off	Estimates Model 1	Extimates Final Model	Decision
Chisq	-	1085.764	639.131	-
DF	-	370	245	-
Chisq/df	<3.0	2.934	2.609	Met
RMSEA	<.08	0.070	.064	Met
CFI	>.90	0.893	.924	Met
TLI	>.90	0.874	.906	Met

Source: Survey data (2024).

6.3 ANALYSIS OF HYPHOTESIS

Table 5 presents the outcomes of hypothesis tests investigating the relationship between each model variable. The results show a positive relationship between individual personality and the schoolpreneur model (H1: estimate=.675, p<0.05). The findings also support the positive relationship between talent skills and the schoolpreneur model (H2: estimate=.822, p<0.05). In addition, the incubator component also demonstrates a positive relationship with the schoolpreneur model (H3: estimate=.691, p<0.05). The following result supports the positive relationship between family background and the schoolpreneur model (H3: estimate = .812, p<0.05). The role models component demonstrated a positive relationship between the schoolpreneur model and the result (H3: estimate=.760, p<0.05). The results of the relationship between mentors and the schoolpreneur model demonstrate a positive relationship (H3: estimate=.785, p<0.05). In conclusion, all six components positively relate to the schoolpreneur model. They are following, employing estimation results of .985 and p<0.05 to prove a direct and significant relationship between the schoolpreneur model and the effectiveness of school entrepreneurship.

Table 5

The hypothesis testing result

		Relationship	**Estimate**	**S.E.**	**C.R.**	**P**
Talent skills	<---	Schoolpreneur Model	.822	.073	12.169	***
Mentor	<---	Schoolpreneur Model	.785	.067	12.055	***
Incubator	<---	Schoolpreneur Model	.691	.062	11.292	***
Individual personality	<---	Schoolpreneur Model	.675	.070	10.439	***
Role models	<---	Schoolpreneur Model	.760	.085	7.118	***

Family background	<---	Schoolpreneur Model	.812	.085	11.929	***
Effectiveness of school entrepreneurship	<---	Schoolpreneur Model	.985	.083	11.591	***

Source: Survey data (2024).

6.4 DISCUSSION

The development of a schoolpreneur model entailed the examination of six components through the utilization of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), as recommended by researchers in the field. This study's main purpose is to fill the existing research gap by constructing a comprehensive structure for school entrepreneurship and evaluating its effectiveness within the context of secondary school. (Hardy et al., 2015) assert that an implementation model for nurturing entrepreneurship among secondary school students has yet to be established. Furthermore, it is argued that secondary school students possess optimal characteristics for cultivating an entrepreneurial attitude, augmenting their knowledge base, and refining their entrepreneurial skills (Londono et al., 2021).

The results presented in Table 5 provided new insights that corroborate and contradict some findings from previous research. (Alias & Rahman, 2019) conducted a study that evaluated the relationship between the individual personality of the Big Five model and entrepreneurial inclinations. The findings of their investigation revealed moderately significant results. In a recent study by (Zunaini & Norasmah, 2019), a survey of school students in Sarawak revealed a statistically significant low correlation between individual personality traits and career interest in student entrepreneurship. Nevertheless, the findings of this study provide substantial support that indicates an individual personality significantly encourages an entrepreneurial attitude, motivating them to participate in entrepreneurship activities.

Next, through Iwuagwu's (Iwuagwu, 2011) research, the implementation of structured and targeted incubators helps young entrepreneurs who have the potential to grow their businesses from scratch to success and will be given a fresh start in life. In addition, the implementation of incubators in entrepreneurship significantly impacts the entrepreneurial activities of Pakistani women entrepreneurs (Shahzad et al., 2012). This is because incubators can assist new entrepreneurs in various ways, including economic support, commercialization of new technologies, employment creation, and profit growth. By highlighting a significant relationship between the incubator and the schoolpreneur model in these findings, this study indicates that incubators have the potential to encourage students to gain experience and develop their business ideas in the entrepreneurial activities at the secondary school.

Then, the findings show that the role models component is one of the schoolpreneur model's components and demonstrates the significance of the relationship. This finding supports the findings of (Marks, 2021) that a role model's real-life story is an efficient way to educate individuals who are new to the field of entrepreneurship about entrepreneurs. (Bosma et al., 2012) findings show a significant positive relationship between role models and entrepreneurship thats confirms this claim. Role models become 'icons' for entrepreneurs to motivate, inspire, and support them for being new entrepreneurs. Thus, the potential of role models becomes an essential aspect of students' involvement in entrepreneurship at the school level, particularly in secondary school.

The mentor component contributed to developing the schoolpreneur model in conjunction with the role model component. The results indicate that mentors have a significant relationship with the schoolpreneur model. These findings align with (Nabi et al., 2019), indicating that the function of a mentor serves as a motivating factor for students in their pursuit of a career in entrepreneurship. Furthermore, a study conducted by (Ting et al., 2017) within the Chinese context has demonstrated that mentor-mentee contact is essential in enhancing the effectiveness of mentoring programmes in entrepreneurship. Hence, it is imperative to provide opportunities for students to acquire access to mentors capable of guiding and inspiring them in entrepreneurship.

The talent skills component is a fundamental characteristic that requires students to quantify their potential. The study's findings have demonstrated that talent skills significantly impact students' engagement in entrepreneurial activities inside the school. The present study's results have corroborated the findings of (Wan Mohd Zaifurin et al., 2016), which demonstrated a relationship between entrepreneurial skill and the inclination towards entrepreneurship among students, albeit at a moderate level. Similar to the research conducted by (Nuradibah, 2018), it was shown that there exists a significant relationship between the existence of entrepreneurial skills among students enrolled in vocational colleges and their inclination towards performing entrepreneurial activities. Hence, owning talent skills is a requirement for an entrepreneur to navigate the various challenges and uncertainties encountered in entrepreneurship effectively.

The final component that forms the schoolpreneur model is the familial background. The results of this study on the family background component have revealed a statistically significant relationship with the schoolpreneur model. The prior study by (Nadiatul Naqiah & Noor Aslinda, 2020) provided evidence of a weak and statistically small relationship between family background and entrepreneurial inclinations. Nevertheless, the discovery contradicts the findings of Nuradibah's (Nuradibah, 2018) study, which indicates no significant relationship

between family background and their inclination towards entrepreneurship. This finding can be attributed to the limited involvement of the family of the study participants in entrepreneurial activities. However, our discovery proved that family background properly shows the capacity to impact students' inclination and engagement in entrepreneurship, exhibiting a significant relationship with forming the schoolpreneur model.

Overall, the six components involved in forming this entrepreneurial model showed a significant relationship, indicating their potential as a basis for guidance for implementing entrepreneurial endeavours in secondary schools. The formation of this schoolpreneur model has been proven through the application of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). These analyses have demonstrated the model's robust measurement properties, affirming its use appropriateness. The effectiveness of a school entrepreneurship model in promoting entrepreneurial activities within schools warrants a comprehensive assessment. This finding indicates a favourable relationship between the schoolpreneur model and the effectiveness of entrepreneurship schools since it was statistically significant. Hence, the hypotheses about the positive relationship between the schoolpreneur model and the effectiveness of entrepreneurship schools were accepted.

7 CONCLUSIONS

The study results reveal that forming an entrepreneurial model for this secondary school would significantly affect several stakeholders, particularly school administrators. This model will enhance the feasibility and structure of entrepreneurial activities at high school, thus facilitating better management and organisation. This study aims to assess the relationship between the schoolpreneur model and the effectiveness of entrepreneurship in secondary schools. The findings unveiled six components, namely individual personality, incubators, role models, mentors, talent skills, and family background, which collectively constitute the schoolpreneur model within secondary schools and significantly impact the effectiveness of entrepreneurship activities in schools. This discovery also provides evidence that the school entrepreneurship model can serve as a guiding framework for enhancing policies to improve the practicability of implementing entrepreneurial activities at schools.

This study is vulnerable to certain constraints, especially its focus on students participating in secondary school entrepreneurship programmes. The schools in concern are secondary schools that administer Program Tunas Niaga (PROTUNe) and have Persatuan Usahawan Muda (PUM) throughout the regions of Perak, Selangor, and Negeri Sembilan.

Hence, the results of this study need to be more comprehensive in providing a consistent and comprehensive depiction of the essential components required for efficient entrepreneurial activities at secondary schools. Nevertheless, this study can provide valuable insights for future researchers aiming to carry out a more focused study covering all secondary schools in Malaysia.

Lastly, it is abundantly clear that the entrepreneurship model illustrated the implementation and encouragement of entrepreneurship in secondary schools effectively supports the economic development process inclusively, thereby enhancing the progress of entrepreneurship within the nation's objective of becoming a more prominent entrepreneurial nation by 2030. Finally, this work has the potential to offer a valuable contribution to the field of entrepreneurship, particularly in the context of secondary schools, by enhancing the comprehension of what variables can impact school-based entrepreneurship. This study's contribution and expertise have the potential to inspire and stimulate the generation of entrepreneurial ideas, particularly among future researchers in the secondary school context.

ACKNOWLEDGEMENT

The researcher expresses gratitude to Universiti Pendidikan Sultan Idris and the Faculty of Management and Economics for permitting this research. We also want to thank the Malaysian Ministry of Higher Education for the kind financial support provided for this research endeavor.

FUNDING

This research was conducted with the support of the Fundamental Research Grants Scheme (FRGS/2020-0231-106-02) awarded by the Ministry of Higher Education in Malaysia.

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