

Elucidating the Challenges to Bumiputera Entrepreneurs' Participation in the Domestic Furniture and Wood Products Market in Malaysia

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The limited market share and growth of Bumiputera entrepreneurs in domestic furniture and wood product industry in Malaysia remains a long-standing challenge. Therefore, a study to examine the market factors that contribute to the failure to thrive among Bumiputera entrepreneurs, registered with the Malaysian Timber Industry Board, was conducted. The results revealed that most of the respondents were micro- and small-sized enterprises, with sales focused on the domestic and contract markets. They were mostly producing sofa and kitchen cabinets, made to order, and sold in domestic markets within the vicinity. The respondents also indicated that the major challenges that impeded their ability to penetrate and capture market share include the limited production volume, lack of product diversity, limited government contract, and inter-ethnicity business collaboration. The Chi-square and Pearson Product Moment Correlation tests found that the significant challenges were only the limited production volume due to small company size, lack of product diversity, and the limited inter-ethnicity business collaboration among Bumiputera entrepreneurs. Therefore, policymakers should take heed that despite the many years of targeted and affirmative assistance to expand the domestic market share of Bumiputera entrepreneurs, the results remain poor, and inevitably, a new approach to Bumiputera entrepreneurs' development must be adopted.

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INTRODUCTION

The micro, small, and medium-sized enterprises (MSMEs) are the main driver of economic growth in many countries, both in the developed and developing world (World Bank 2021). Apart from being job creators, MSMEs also harness the entrepreneurial spirit, while paving the pathway for innovations, which in turn foster economic development, reduce poverty, and empower society (World Bank 2021). MSMEs comprise more than 90% of businesses around the whole sphere. According to the OECD (2021), MSMEs contribute 55% to the GDP and over 65% of total employment in high-income countries, 70% to the GDP and 95% of total employment in middle-income countries, and 60% of

the GDP as well as 70% of total employment in low-income countries. In fact, the importance of MSMEs has been considered as the foundation of industrialization in many countries throughout the world, and it has become increasingly apparent during and after the global COVID-19 pandemic, when MSMEs was pivotal in supporting livelihood (World Bank 2021).

The term ‘small business’ and ‘micro, small and medium enterprise (MSME)’ are frequently used interchangeably, and have some unique characteristics (World Bank 2021):

1. They are independently owned and operated,
2. The main decision-making functions rest with the owners, who usually also work full-time in the firm,
3. They are thoroughly controlled by owners, who often act as managers, and
4. The owners contribute maximum, if not all the operational investment. They take the obligation of funding the business ideas, bear the risk (such as potential bankruptcy) if the project fails, and are entitled to most of the profits, if it succeeds.

In the merchandise sector, including furniture, fashion, and accessories, MSMEs share unique characteristics that impart to them specific advantages of large enterprises, as reported by Ratnasingam (2018).

1. **Individual Outlet:** The MSMEs provide a creative passage for the vitalities of those enterprising people who set excessive accumulation by economic independence;
2. **Specialist Supplier:** Many MSMEs act as a specialist supplier to large companies, of parts, sub-assemblies, or components and produce at a lower rate than the big company can achieve;
3. **Competition:** In an economy, MSMEs provide competition, and both actual and potential also provide some check on monopoly profits;
4. **Consumer Choice:** The competition due to MSMEs also widens choice for consumers;
5. **Seedbed for new industries:** The MSMEs are traditional upbringing ground for new industries, harnessing innovation, and entrepreneurial talent;
6. **Source of Stability:** The MSMEs also contribute to economic and communal steadiness not only through their employment-creating capacity, but also by offering a means of social and community cohesion.

MSMEs have consistently been recognized for their crucial role in the improvement of the country’s economy (Darus *et al.* 2019; World Bank 2021), and therefore they continue to attract increasing and significant attention from policy makers and government organizations worldwide (Akbar *et al.* 2020). In many developing countries, MSMEs growth and development is a primary development agenda for the government of the day (Farouk 2012; Hassan *et al.* 2014), as highlighted in the annual World Economic Forum (WEF). As the world grapples with the aftermath of the COVID-19 pandemic, and many traditional jobs being replaced by technologies, such as machine-learning (ML), artificial intelligence (AI), digitalization, automation, *etc.*, it is increasingly obvious that entrepreneurship built on the concept of MSMEs is growing exponentially, especially among the youth (Ratnasingam 2022).

MSMEs in Malaysian Context

The Asia Pacific Economic Cooperation (APEC) is intensively advocating to its associate countries to place greater importance on fostering MSMEs, to facilitate greater

economic growth of the individual nation, and to encourage flow of trade and investment activities between different economies in the APEC region (World Bank 2022). In lieu of this global trend, it comes as no surprise that the Malaysian government has established a single ministry for the developments of MSMEs and entrepreneurs. Historically, efforts to boost MSMEs in the country started in the early 1970s. The formulation of the ‘New Economic Policy’ (NEP) and the subsequent 1st Industrial Master Plan (1986-1995), 2nd Industrial Master Plan (1996-2005), and the 3rd Industrial Master Plan (2006-2020) provide ample testament to the importance the government accorded to the development of MSMEs in the country, which aims to boost wealth creation and contribute to the society’s well-being, while ensuring equitable growth and wealth distribution among the various races in the multi-ethnic country (Berma 2023). Although the IMPs have been credited as the transformational force of the many traditional and resources-based industries in the country, into high-value added manufacturing industries, the IMPs have also played a pivotal role in the evolution, transformation, and growth of the MSMEs in the country (Darus *et al.* 2019).

Table 1. Status of MSMEs in Malaysia

	2017	2019	2021
Total MSMEs	1,155,636	1,181,631	1,226,494
Micro	884,062 (76.5%)	925,218 (78.3%)	964,024 (78.6%)
Small	254,239 (22.0%)	237,507 (20.1%)	242,846 (19.8%)
Medium	17,335 (1.5%)	18,906 (1.6%)	19,624 (1.6%)

Source: SME Corp. (2022)

In Malaysia, the MMSMEs are well-defined according to size, turnover, and activity (SME Corporation 2018), and the definition varies between those in the manufacturing and service sectors, respectively.

Table 2. MSMEs Definition by SME Corp.

Category	Micro	Small	Medium
Manufacturing	Sales turnover of less than RM 300,000	Sales turnover from RM 300,000 to less than RM 15 million	Sales turnover from RM 15 million to RM 50 million
	OR	OR	OR
	Full-time employees less than 5	Full-time employees from 5 to less than 75	Full-time employees from 75 to 200
Service and Other Sectors	Sales turnover of less than RM 300,000	Sales turnover from RM 300,00 to less than RM 3 million	Sales turnover from RM 3 million to RM 20 million
	OR	OR	OR
	Full-time employees less than 5	Full-time employees from 5 to less than 30	Full-time employees from 30 to 75

Source: SME Corp. Malaysia (2018)

According to SME Corp. (2022), Malaysian MSMEs represent 97.4% of the total registered establishments in the country, which stood at 1,204,929 establishments. MSMEs represented 1,173,601 firms in Malaysia, which accounted for 48.2% (7.59 million workers) of the total employment in the country, while contributing 38.4% (RM 580.4 billion) to the country's GDP, and accounting for 10.5% (RM 144.5 billion) of total exports. In essence, MSMEs cannot be underestimated in terms of its socioeconomic importance, and also for their scaling-up potential for many economic sectors in the country (Ratnasingam 2022). Table 1 shows the distribution of MSMEs in Malaysia between the year 2017 to 2021.

Micro Enterprises

A micro-business, also usually known as a micro-enterprise, is a business with less than five (5) employees, and often constitutes self-employed individuals, which make it distinctly different from small businesses. Research by Ratnasingam (2018, 2022) has shown that a significant proportion of the micro-enterprises are not necessarily growth-oriented, as they take a "life-style" maintenance focus, especially if it is a family business operating in a comfortable market niche. Further, micro-enterprises usually have no prior work experience and normally do not maintain complete financial records, and in the case of Malaysia, are predominated by Bumiputera entrepreneurs operating in rural areas, unemployed youths, or adults as well as professionals who have lost their employment (Ratnasingam 2018). Such a trend is most apparent especially with the emergence of the gig-economy, especially within the service sector (*i.e.*, GRAB delivery, Food Panda, consultancy, business-processes outsourcing, *etc.*).

In contrast, most of the micro-enterprises in the manufacturing sector are either owned by one individual, a family, or a number of close friends; and the main characteristic of the micro-enterprise is that it is autonomously retained and operated (SME Corp. 2022). The owner-manager is usually responsible for the majority of, if not all, features of the business, from executing the day-to-day operations of the business, to being in charge of all decision-making, as well as financing the business. The owner-manager also bears the risk related to the venture. Many micro-enterprises are also often home-based, meaning that they operate from the owner's home, rather than an office or store. Such micro-enterprises are often involved in custom-made furniture manufacturing, food packaging, garment manufacturing, *etc.*

In fact, micro-enterprises have been recognized as a main source of employment and revenue in rural Malaysia and among the youth, graduates, as well as school-leavers, and provide up to 64% of the employment (SME Corp. 2022). Generally, employment in micro-enterprises expands as a result of new ventures starting up in business, and through development of current enterprises, especially when scaling up to become a small-sized business.

On this account, it is no surprise that micro-enterprises in Malaysia represented 964,024 enterprises or 78.7% of the total business establishment in the country in 2021 (SME Corp. 2022). The majority of micro enterprises are in the services sector with 671,925 establishments (69.7%), followed by the manufacturing segment with 153,280 establishments (15.9%), construction with 38,560 establishments (4.0%), agriculture sector with establishments of 99,295 (10.3%), and the mining and quarrying sector with 964 establishments (0.1%). From a socioeconomic perspective, micro-enterprises are crucial features of the country's economic growth, and its performance will have a strong bearing on the national gross domestic product (GDP).

The Malaysian Furniture Industry and the Role of MSMEs

According to Ratnasingam *et al.* (2021), MMSMEs represent 85% of all registered furniture manufacturing enterprises in the country and has been industrial growth since the mid-1980s. Being a traditional and labour-intensive industry, MSMEs are the backbone of the furniture sector, providing the necessary flexibility in product design and volume production, for the fashion-sensitive global furniture market. Historically, MSMEs began by emerging as sub-contractors for the large foreign direct investors (FDIs) from Taiwan, South Korea, and Singapore in the mid-1980s, but those entrepreneurs soon learnt the trade and were able to transform the supply-chain to assume the role of manufacturers and exporters (Ratnasingam 2015).

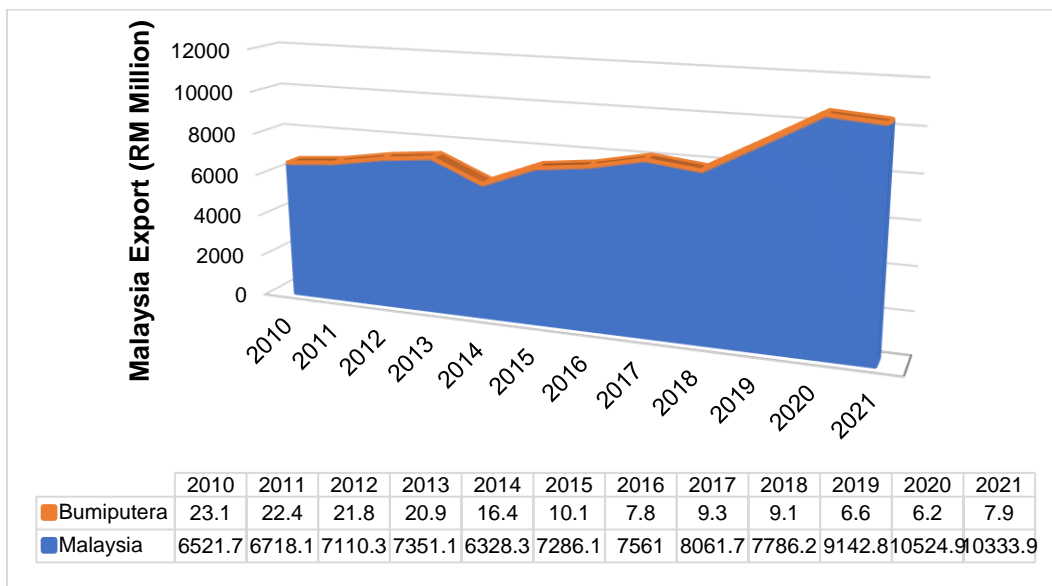


Fig. 1. Export performance of Bumiputera furniture entrepreneurs
Source: MARA (2022)

The Malaysian business environment is unique due to its multi-ethnic, multi-cultural society that operate and behave in unique ways that best suit them (Ratnasingam 2015). The study by Gomez and Saravanamuttu (2013) has shown that the different ethnic groups have stronger presence in different economic sectors, which may explain the growing income disparity and markedly different household incomes. For instance, the furniture sector is predominated by MSMEs that belong to the Chinese ethnic group, whereas the Bumiputera ethnic group owns only 3% of the MSMEs in the furniture industry (Ratnasingam 2018). This is despite the fact that many affirmative policies have been put in place to assist Bumiputera entrepreneurs to prosper and flourish in the furniture sector (Fig. 2). The predominance of specific ethnic groups in some economic sectors has been extensively researched. This situation has been attributed to cultural factors that cannot be externally manipulated through policy instruments, as suggested by the experiences from the many Bumiputera entrepreneurs' development initiatives (Ratnasingam 2018).

The predominance of MSMEs in the furniture and wood products sector in Malaysia has also resulted in a highly fragmented industry (Akbar *et al.* 2020). According to Ng and Thiruchelvam (2012), one of the striking facts about the furniture manufacturing industry is its relatively low entry barriers compared to medium or high-tech industries,

such as pharmaceuticals, electronics and electrical, machinery and equipment, *etc.* The low entry barrier is deemed to be beneficial to the local industry players, as participation in the industry is not limited to a particular ethnic group of players. The situation inadvertently leads to cut-throat competition. Further, studies have found that the value chain of the furniture industry in Malaysia is made up of local enterprises, which is able to transform the raw materials into the final products, and consequently to penetrate the global market (Ng and Thiruchelvam. 2012).

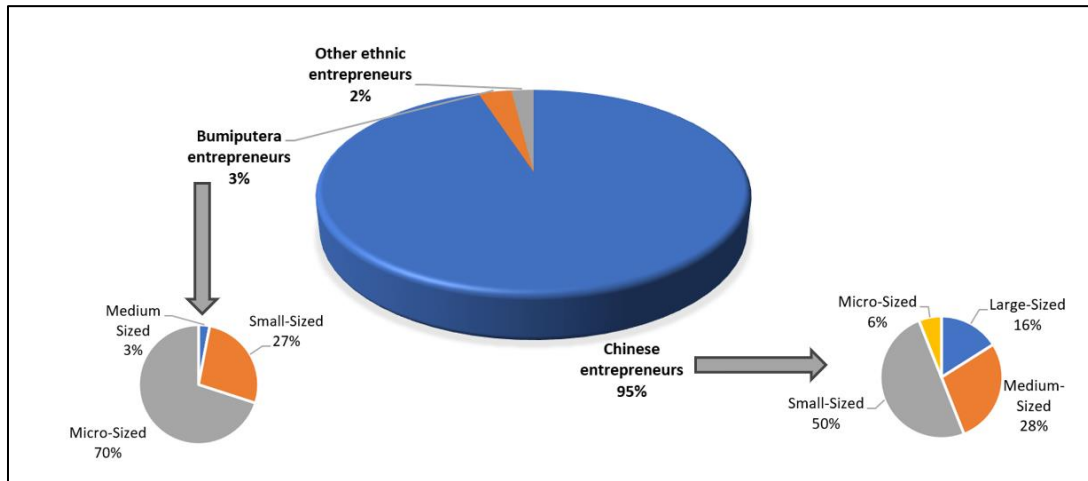


Fig. 2. Distribution of MSMEs by ethnicity in the furniture sector

Despite the low-entry barrier into the furniture sector, which encourages participation of all ethnic groups, there is a marked difference in terms of market share and competitiveness. The exhaustive study by Ratnasingam (2018) has shown that the Bumiputera entrepreneurs in the furniture sector have less than 2.5% share in the export market, while in the domestic market it was estimated to be close to 23%. Although many affirmative policies are in place to assist Bumiputera entrepreneurs to increase their share in the domestic market, especially within the sphere of government procurement and contract purchases, the market share of Bumiputera entrepreneurs remain limited (Fig. 3).

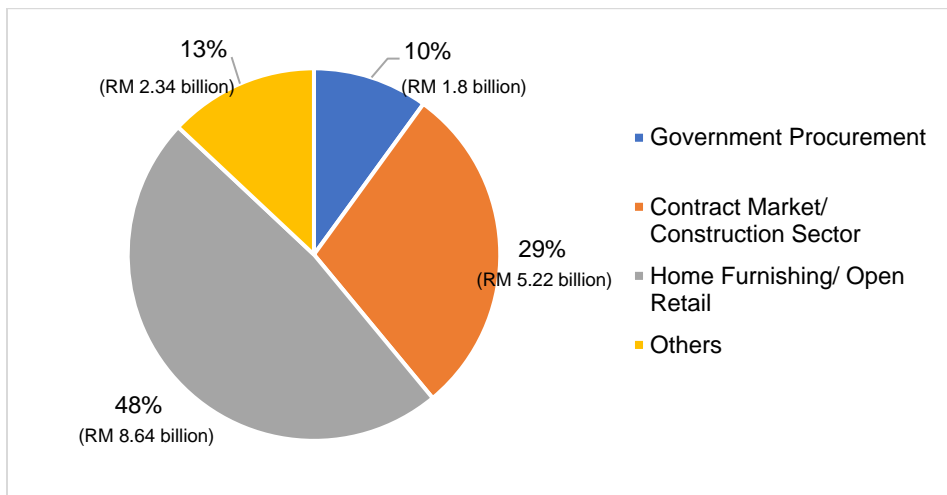


Fig. 3. Domestic market for furniture and wood products in Malaysia (2021)

Therefore, it is no surprise that the question of market penetration and access among Bumiputera furniture and wood products entrepreneurs in Malaysia has been a topic of intense deliberation for many years (Ratnasingam 2018; Amir *et al.* 2023).

Although many agencies, such as the Malaysian Timber Industry Board (MTIB), Majlis Amanah Rakyat (MARA), SME Corp., and others, are mandated to assist Bumiputera MSMEs in the furniture and wood products sectors, the limited market access, small production capacity, lack of financial resources, and poor control over the supply chain among Bumiputera entrepreneurs have been identified as major hurdles for growth (Amir *et al.* 2023). On this account, Bumiputera entrepreneurs' equity in the Malaysian wood products and furniture sector has steadily declined from the high of 42% in the mid-1980s to less than 5% in 2017, which can be considered as minor in comparison to the non-Bumiputera participation (Ratnasingam 2018). In terms of volume of furniture and wood products manufactured in the country, Bumiputera entrepreneurs were reported to contribute less than 4%. Interestingly, about 18,480 Bumiputera furniture entrepreneurs have been trained during the period from 1995 to 2015, but tracer studies have shown that only 7.5% have remained in the business (MARA 2019). Although the Bumiputera entrepreneurs have a stronger tradition for woodworking compared to the other ethnic groups in the country, they have not been able to translate this inherent advantage into business successes. It has been suggested that lack of Bumiputera entrepreneurs within the support industries, saddled with low production capacities and limited financial strength continue to restrain their growth in the relatively large domestic market for furniture and wood products valued at RM18 billion in 2020 (MTIB 2021).

Government procurements and contract purchases are usually allocated to qualified Bumiputera entrepreneurs, to provide them with an initial support to prosper and flourish in the industry (MARA 2019). Further, many initiatives have been implemented to assist Bumiputera entrepreneurs increase their market share in the furniture and wood products market, including the opening of subsidized retail outlets, soft-loans, assistance with machinery and technology, participation in exhibitions and overseas trade shows, skills enhancement, product development, *etc.* (MTIB 2021). Despite these numerous initiatives, and the availability of captive markets, Bumiputera entrepreneurs remain saddled with the problem of limited market share, even in the domestic market.

Although the topic of Bumiputera entrepreneurs in the Malaysian furniture and wood products sectors has been studied extensively (Amir *et al.* 2023), most of these reports available have paid little attention to market share, but rather have addressed specific problems faced by the entrepreneurs. In this respect, studies of the domestic market for furniture and wood products are grossly limited, and in the case of Bumiputera entrepreneurs' participation in the domestic market, no previous studies are available. Because most of the Bumiputera entrepreneurs in the furniture and wood products sector are micro- and small-sized enterprises, the fragmented nature and inconsistent business activity makes it challenging for researchers. In view of this information gap, a study was initiated to examine and evaluate the market characteristics of Bumiputera entrepreneurs in the domestic furniture and wood products sector. On the basis of the research question, the objectives of the study were: (1) to evaluate the characteristics of wood products from Bumiputera entrepreneurs in Peninsular Malaysia, (2) to identify the main challenges faced by Bumiputera entrepreneurs to penetrate the domestic market for furniture and wood products, and (3) to analyse the factors affecting the performance of Bumiputera entrepreneurs in the domestic furniture and wood products market. The findings of this study will provide useful insights into the marketing performance of Bumiputera

entrepreneurs in the furniture and wood products sectors, which will be useful not only for policy makers but also for future research work.

METHODOLOGY

Research Design

This research was conducted using two methods: (1) Qualitative research, aimed at gathering relevant information about the background of the entrepreneurs, their main types of products manufactured, their target market within the domestic market for furniture and wood products, and the marketing challenges faced by Bumiputera entrepreneurs to penetrate the domestic market. (2) Quantitative research, with a focus to collect, analyse, and test the extent of influence of the various factors determining the performance of Bumiputera entrepreneurs in the domestic market for furniture and wood products (Dillman 2014). The performance criterion identified was a 30% share of the domestic market for furniture and wood products, as outlined in the National Timber Industry Strategic Plan (NTISP) (2021-2025).

Sample Population

The population size for the study was the 987 registered Bumiputera entrepreneurs in the database, of the Bumiputera Development Division, of the Malaysian Timber Industry Board (MTIB) and Majlis Amanah Rakyat (MARA). The highly fragmented Bumiputera entrepreneurs in the domestic furniture and wood products market makes it a challenge to carry out a nation-wide survey (Ratnasingam 2018), and inevitably, it was decided that a census of the 355 Bumiputera entrepreneurs registered with MTIB would be a more viable approach. Based on the MTIB registry of Bumiputera entrepreneurs, those registered were representative of the overall Bumiputera entrepreneurs involved in the furniture and wood products industry. A similar observation on the representation of the Bumiputera entrepreneurs was also noted in the report by MARA (2022). These potential respondents were initially contacted to inform them of the purpose of this study and were then requested to participate in the study. E-mail invitations containing a link to the online questionnaire form were sent to these respondents, and after three weeks, a total of two reminders were sent to those who had not responded. After one month, all potential respondents provided their respective responses to the questionnaire survey, with the assistance of the regional MTIB offices.

Questionnaire Design

Data collection was completed through an online-survey, implemented using an online questionnaire form designed using Google-Forms, which was distributed electronically *via* email. The questionnaire had two parts. The first part of the questionnaire consisted of a combination of both open- and closed-ended types of questions and subdivided into seven sections: (1) background of respondent; (2) types of products manufactured; (3) target market for the product; (4) control over supply chain; (5) frequency of sales; (6) ease of capturing government procurement projects and contract market; (7) support from government policies; and (8) challenges for business expansion. In this study, the knowledge on the domestic market was focused on assessing the respondents' understanding and perception of the domestic market for furniture and wood products, and its intricacies.

The second part of the questionnaire required the respondents to evaluate the 8 factors affecting their penetration and performance to capture a 30% share in the domestic market for furniture and wood products. These factors include (i) product type; (ii) size of company; (iii) control over the supply chain; (iv) business ecosystem; (v) raw materials and workers' supply; (vi) knowledge and skills; (vii) availability of government contracts or public procurement projects; and (viii) inter-ethnicity business collaboration. The factors were identified after a series of discussions with industry experts, academics, members of the Bumiputera Entrepreneurs Association (PEKA), retailers, customers, relevant government agencies, as well as after reviewing several previous studies (Ratnasingam 2018; Ratnasingam *et al.* 2020, 2022; Amir *et al.* 2023).

After necessary corrections and amendments were made, a pre-test of the questionnaire form was conducted among 20 randomly selected Bumiputera entrepreneurs to check for the questions' clarity, and the timing of respondents answering the questions. Necessary corrections and amendments to the questionnaire form, based on the outcomes of the pre-test, were made accordingly before the survey commenced.

Data Analysis

Due to the large number of respondents, the data from the census were initially compiled and tabulated using the Statistical Package for Social Sciences (SPSS) version 25 software (IBM Corp., Armonk, NY, USA). For the first part of the study, frequency distribution and percentages of the responses were calculated for the tabulated data sets, and the results presented are presented as graphical charts. This provided an effective way to evaluate the respondents understanding and current practices in market furniture and wood products in the domestic market (Creswell 2002).

The second part of the study, which aimed to examine the relationship between the market penetration and business performance among Bumiputera entrepreneurs in the domestic market for wood products were evaluated using Chi-square (χ^2) and the Pearson Product Moment Correlation (PPMC) (Sudman and Bradburn 1982). The PPMC was used to establish the correlation between the challenges faced and the overall success of the Bumiputera entrepreneurs in the domestic market, as these challenges are given weight values and therefore allow for correlation to be established. It is based on the argument that some challenges had greater impact compared to the others, although their actual weightage was not measured. To identify the key challenges that remain regarding the major impediment to the success of Bumiputera entrepreneurs in the domestic furniture and wood products market, the Binary Logistic Method (BLM) was applied to the data collected from the second part of the survey. The BLM measures the relationship between the categorical target variable and one or more independent variables (Menard 2002). It is generally useful for situations in which the outcome for a target variable can have only two possible types, either one or zero (*i.e.* binary). This method makes use of one or more predictor variables that may be either continuous or categorical to predict the target variable classes and is deemed to be the appropriate test to assess whether Bumiputera entrepreneurs had achieved success or not, in the domestic market for wood products. This technique helps to identify important factors (X_i) impacting the target variable (Y), and the nature of the relationship between each of these factors, and the dependent variable, which explains its applicability to this study.

RESULTS AND DISCUSSION

Part I: Respondents Background and Business Performance

Figure 4 shows the main characteristics of the respondents of the survey. It is apparent that most of the respondents were from micro- and small-sized enterprises, with 31% of the respondents being micro enterprises, while 53% were small enterprises. None of the respondents were large-sized enterprises. A similar observation was also noted in previous reports by Ratnasingam (2018) and SME Corp. (2021), which clearly showed that Bumiputera entrepreneurs in the wood products and furniture industry were predominantly micro- and small-sized enterprises.

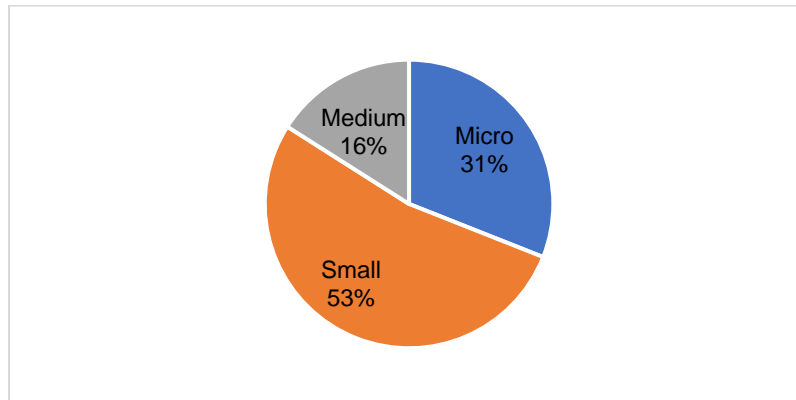


Fig. 4. Distribution of respondents by company size

In terms of products manufactured, kitchen cabinets and sofas constituted the highest proportion of products manufactured (Fig. 5), while contract furniture (such as educational furniture, office furniture, laboratory bench, *etc.*) mostly through government procurement, was the other important product-type manufactured.

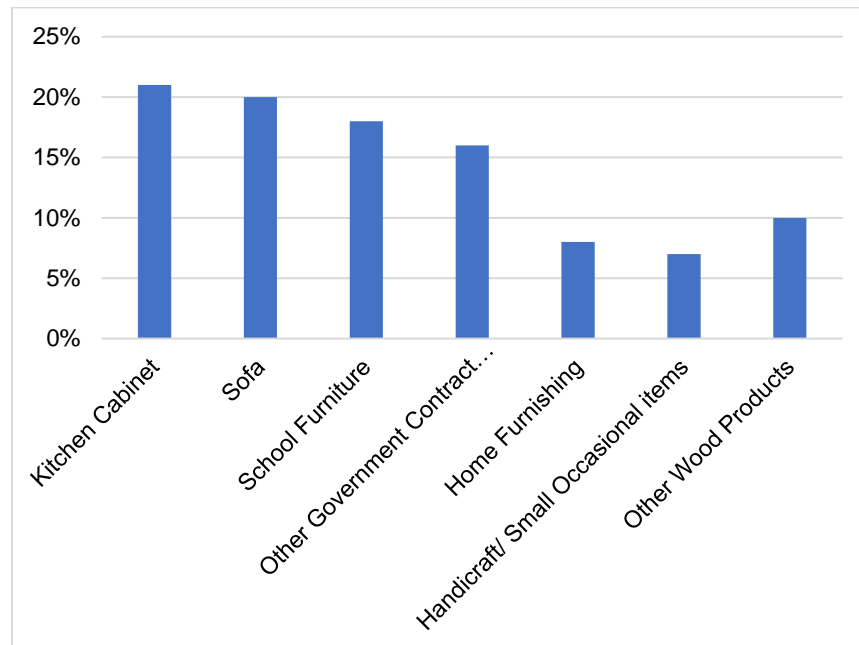


Fig. 5. Product types manufactured by respondents

This could be explained by the cultural aspect of Bumiputera entrepreneurs, who tend to operate individually, rather than as a collective group (Ratnasingam 2018; Amir *et al.* 2023), which in turn limits their production capacity. The characteristics of Bumiputera entrepreneurs in the business world have been well researched (Amir *et al.* 2023), and without collaborative networking, expanding the business is often severely constrained.

Further, the questionnaire also revealed that the domestic market constituted 98% of the target market for the products manufactured, clearly suggesting that Bumiputera wood products and furniture manufacturers are characteristically domestic-market dependent, and are not exploring the export market (MTIB 2020). Figure 6 shows that even within the domestic market, the Bumiputera entrepreneurs are focused on niche target markets, usually location or village dependent, while only a small proportion of the respondents indicated that they supply their products to retail outlets in urban areas or larger townships. In the report by Ratnasingam and Mossin (2021), it was shown that the domestic market for furniture is competitively split between two types of outlets, *i.e.* the furniture megastore, such as IKEA and Harvey Norman, and the furniture chain stores, such as COURTS, SINGER, SSF, *etc.* The former often caters to the customers with a higher purchasing power, while the latter often caters to customers who may require credit terms. The report also showed that almost 76% of the domestic market is captured by these two categories of furniture outlets, leaving more than 1,500 individual retail outlets competing for a reduced market share. Against this background, it is apparent that inadequacy of the Bumiputera entrepreneurs in the wood products and furniture industry puts them at a disadvantage, often attributed to their small-sized business, which makes them not competitive in terms of price, let alone their ability to produce large volumes. Inevitably, these entrepreneurs are often confined to localized business opportunities arising within their village and customers in the nearby vicinity (Ratnasingam and Mossin 2021).

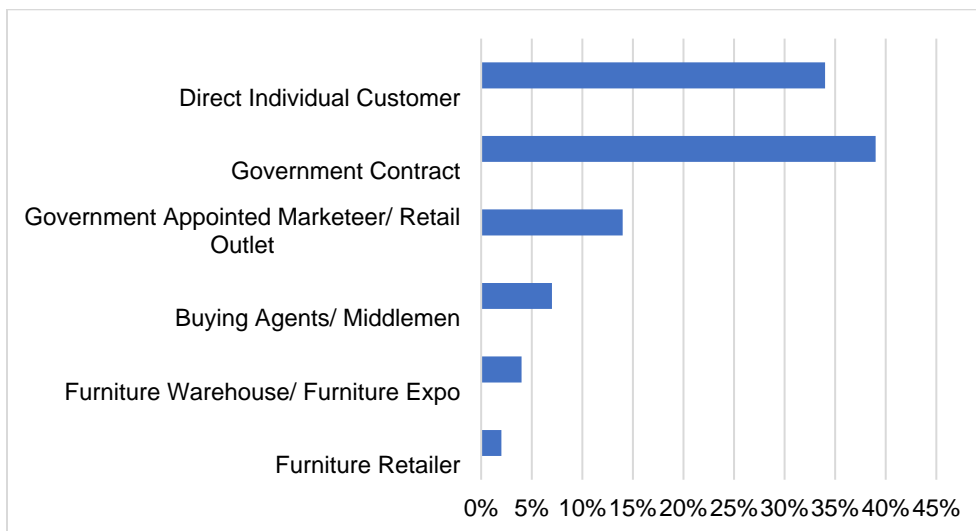


Fig. 6. Domestic market channels of distribution

Another interesting revelation of this study is the fact that although the Bumiputera entrepreneurs have honed their handicraft and carving skills over centuries, interestingly, not many of the respondents indicated that they were supplying their products to “*Kraftangan Malaysia*” or the Malaysian handicraft center, which is a government agency,

mandated to develop the domestic handicraft industry. Although the domestic market for handcraft and carvings was valued at RM 35 million in 2022 (MTIB 2023), a substantial amount of the products sold are of imported origin, which in turn highlights the dire state of the carving industry in the country. In fact, a recent report suggests that Bumiputera master carvers are limited and dwindling in numbers, and these craft-icons may soon be lost if intensive training, development, and commercialization activities are not undertaken (MTIB 2023). A similar finding was also reported previously by Ratnasingam (2018) and (Osman *et al.* 2018; Paliwal *et al.* 2022), who suggested that Bumiputera wooden handcraft and carvings face challenges penetrating the domestic market, and without the improvements in the existing business model, to enhance price and quality competitiveness, these products will continue to suffer from limited market access.

The results of the questionnaire also showed that 94% of the respondents have little control over the supply chain, due to their limited cash-flow, and relatively small production capacity. Figure 7 provides a summary of the findings from the questionnaire, which shows that supply chain control and management is relatively weak among Bumiputera furniture and wood products manufacturers, which in turn affects their competitiveness in the domestic market. Previous studies by Ab Latib *et al.* (2022) and Amir *et al.* (2023) lends further support to this argument, that without improved supply chain management, the Bumiputera manufacturers competitiveness will remain lack-luster, despite numerous assistance programs by the relevant agencies.

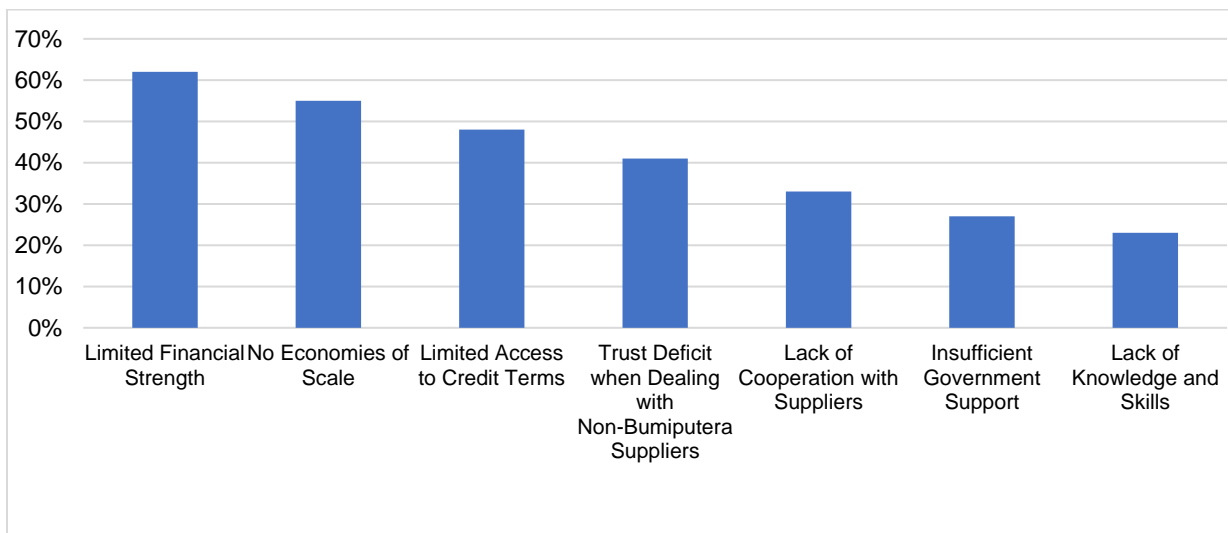


Fig. 7. Limiting Factors in Supply Chain Management

In a recent report by the MISC (2022), it was noted that supply chain management was among the weakest business factor among MSMEs, and it is particularly apparent among Bumiputera enterprises. In this context, it must be emphasized that without improvements in supply chain management, boosting the competitiveness and growth of Bumiputera wood products and furniture manufacturers in the country may be difficult to accomplish.

Figure 8 reflects that the frequency of sales among the respondents is inconsistent and relatively low, and it is apparent that with the exception of government contracts, most respondents do not enjoy a regular frequency of sales. The seasonal sales, particularly during the festive periods, is usually confined within the vicinity of a small geographic area

and is characteristically small volumes. In this respect, the small production volume, lack of competitiveness and inconsistent quality and delivery of products are noted as the debilitating factors, that appear to scuttle Bumiputera entrepreneurs' ability to register regular, high sales (Osman *et al.* 2019). This finding further supports the argument that the government contracts and public procurements are key to the survival of Bumiputera MSMEs in the domestic market, as their market share in the open market is somewhat limited.

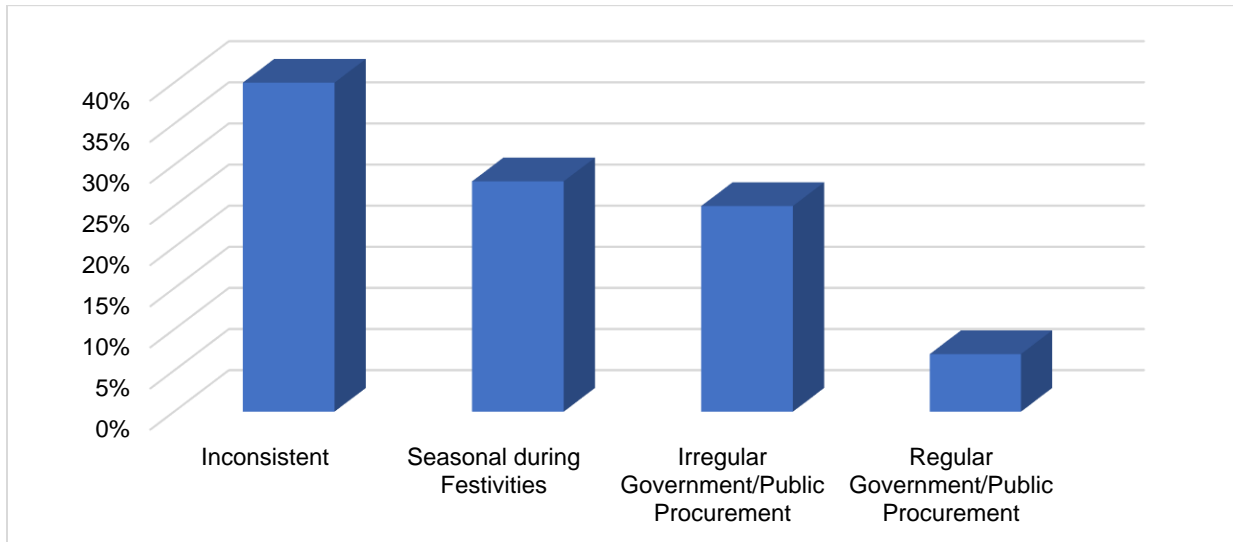


Fig. 8. Frequency of sales

The sources of sales for Bumiputera furniture and wood products manufacturers in the domestic market are varied, but there is a high dependency of government contract and sales during festive seasons. As illustrated in Fig. 9, other sources of sales appear to be small, inconsistent, and do not necessarily provide a steady sales stream to these entrepreneurs.

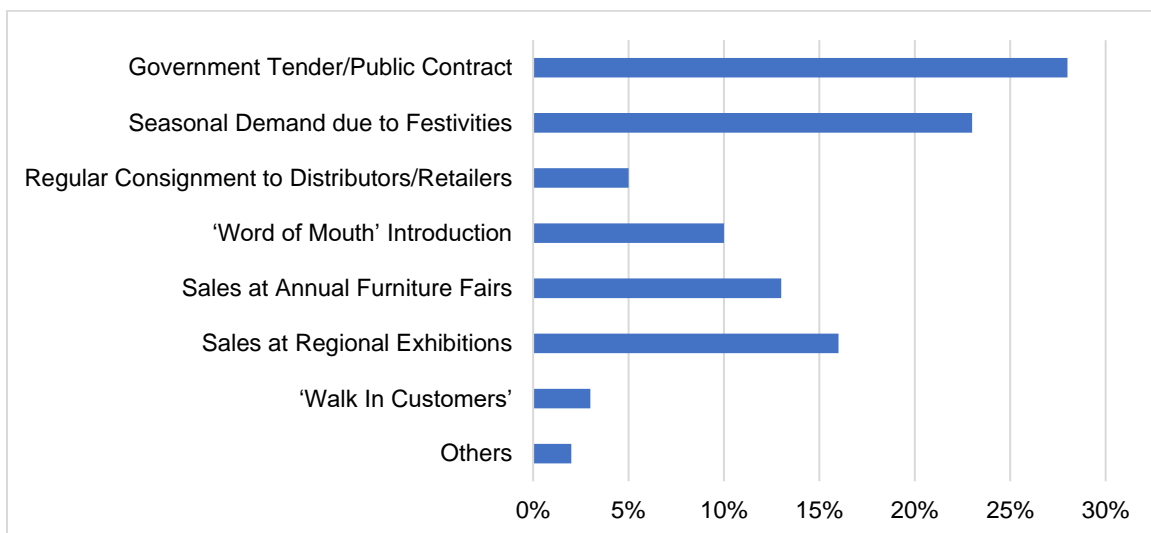


Fig. 9. Sources of sales among respondents

Although the domestic market for furniture and wood products in Malaysia was valued at RM 18 billion in 2021, the market share of Bumiputera entrepreneurs is limited, and has been declining due to lack of competitiveness (Ab Latib *et al.* 2022). Inevitably, the limiting features of Bumiputera MSMEs in the furniture and wood products industry, such as their limited production capacity, inconsistent product quality, and poor supply chain management continue to hamper their growth. Many previous studies (Ratnasingam 2018; Amir *et al.* 2023) have confirmed these arguments, but efforts to improve these shortcomings appear to be slow in coming due to prevailing business ecosystem and policy framework that negates cultivating competitiveness among the Bumiputera entrepreneurs.

Results also indicate that only 21% of the respondents claim to have regular government contracts, while another 43% reported that government contracts are irregular and difficult to secure. The remaining 36% of the respondents indicated that they have not secured any government contracts or been involved in any public procurement jobs within the last five years. In a report by the PWD (2019), it was suggested that Bumiputera entrepreneurs involved in wood products manufacturing do not always meet the criteria to participate in public procurement tenders. Among the reasons cited were the lack of production capacity, limited working capital, and inconsistent product quality. To circumvent the business shortcomings, many of these Bumiputera entrepreneurs also form ‘smart partnerships’ with non-Bumiputera or entrepreneurs of other ethnicities to secure the government or public procurement jobs (Ratnasingam and Muttiah 2020; Ratnasingam *et al.* 2021). Unfortunately, rather than growing the business through such partnerships, there are many instances of ‘rent seeking’ in which the Bumiputera entrepreneur remains a silent partner for a ‘rent’, while the other takes complete charge of the contract delivery (Ratnasingam *et al.* 2021). Despite the continuation of affirmative business policy towards Bumiputera entrepreneurs in the country, the success rate of Bumiputera entrepreneurs in the domestic market remains small, particularly due to lack of competitiveness.

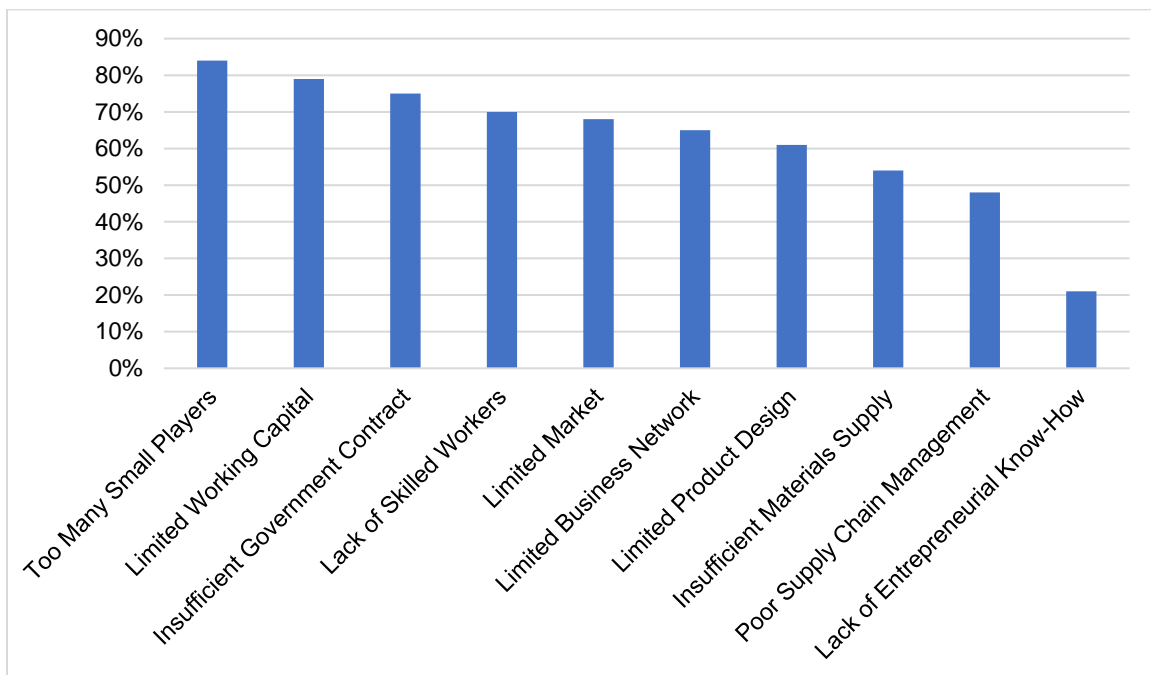


Fig. 10. Major challenges faced by Bumiputera entrepreneurs in the domestic wood products industry

Part II: Factors Affecting Market Share of Bumiputera Entrepreneurs in the Domestic Furniture and Wood Products Markets

The Chi-square analysis revealed that the most important challenges (based on the respondents' feedback), particularly the presence of a large number of small-sized operators (*i.e.*, crowded ecosystem), limited product flexibility, lack of inter-ethnicity business collaboration, and insufficient government contract or public procurement, had affected their performance negatively in the domestic market for wood products and furniture (Table 3). In this context, it is apparent that Bumiputera entrepreneurs operating in the domestic furniture and wood products are lacking the necessary competitiveness (Ratnasingam 2018; Ratnasingam *et al.* 2021), which have not been solved despite the numerous initiatives and assistance measures over the years.

Table 3. Respondents Feedback to Domestic Market Share Achievement

Statement	Frequency		Percentage (%)	
	Yes	No	Yes	No
1. Have Bumiputera Entrepreneurs achieved the 30% share of the domestic furniture and wood products market?	11	344	7.14	92.86
2. Which of the following challenges impede the achievement of the above target?				
Size of Company	347	8	97.74	2.26
Product Diversity	339	16	95.49	4.51
Raw Materials and Workers Supply	201	154	56.61	43.39
Supply Chain	237	118	66.76	33.24
Knowledge and Skills	188	167	52.95	47.05
Government Contract/ Public Procurement	245	110	69.01	30.99
Business Ecosystem/ Environment	255	100	71.83	28.17
Inter-Ethnicity Business Collaboration	315	40	88.73	11.27

The result of the Pearson Product Moment Correlation (PPMC) between the weighted ranked challenges shown in Table 4, and the market share captured by Bumiputera entrepreneurs in the domestic market for wood products and furniture showed a positive correlation ($r = 0.561$, $P = 0.03$). In this respect, the limited success of Bumiputera entrepreneurs in the domestic market, especially the failure to capture 30% of market share could be attributed to the over-crowded small-scaled operations, coupled with lack of product variability, as well as limited inter-ethnicity business collaboration. In fact, these impediments can only be improved through competitiveness-boosting measures, rather than the traditional problem-focused assistance programs, such as the provision of machine technology, sales contract, *etc.*, as highlighted previously by several studies (Ratnasingam 2018; Ratnasingam *et al.* 2021; Ab Latib *et al.* 2022; Amir *et al.* 2023). Competitive-boosting measures such as prior training with a successful non- Bumiputera entrepreneurs, business attachment, supply-chain management, *etc.*, are possible initiatives that should be undertaken to assist Bumiputera entrepreneurs in the sector.

Table 4. Chi-Square of Challenges and Its Impact on Bumiputera Entrepreneurs in Domestic Market Share

Variables	X ² value	P-value
Size of Company	28.011	0.002*
Product Diversity	18.017	0.053*
Raw Materials and Workers Supply	21.043	0.314
Supply Chain	23.078	0.681
Knowledge and Skills	11.073	0.378
Government Contract/ Public Procurement	13.454	0.024*
Business Ecosystem/ Environment	15.124	0.414
Inter-Ethnicity Business Collaboration	19.014	0.018*

Further analysis, through the Binary Logistic Model (BLM) was applied to establish the extent to which these challenges had impacted the overall share of Bumiputera entrepreneurs in the domestic market for furniture and wood products. The estimated parameters and statistical significance levels are shown in Table 5. The dependent variable was the targeted market share of 30%, as stipulated in the NTISP (2021). It had two categories coded as one or zero, indicating the key challenges' influence on the dependent variable. Out of the eight challenges, only the presence of too many small operators/players, the limited product variability, and the limited inter-ethnicity business collaboration, were positive and statistically significant, affecting the overall ability of Bumiputera entrepreneurs to penetrate and capture market share in the domestic wood products and furniture market. This finding emphasizes that the lack of economies of scale, product diversity or variability, and the limited business collaboration to boost network, have constrained the Bumiputera entrepreneurs' ability to grow their business in the competitive domestic market for furniture and wood products (Ratnasingam *et al.* 2021; Amir *et al.* 2023).

Table 5. Binary Logistic Model Analysis for Challenges to Domestic Market Share

Dependent: 30% Domestic Market Share				
Variable	Estimated Coefficient	Standard Error	P-value	Exp (B)
Size of Company	0.193***	1.873	0.004	1.214
Product Diversity	0.016***	1.441	0.002	1.131
Raw Materials and Workers Supply	0.683	4.313	0.781	2.071
Supply Chain	0.841	0.919	0.901	2.335
Knowledge and Skills	0.027	0.813	0.614	2.418
Government Contract/ Public Procurement	0.187	6.230	0.814	1.490
Business Ecosystem/ Environment	0.399	4.119	0.913	1.366
Inter-Ethnicity Business Collaboration	0.081***	0.716	0.005	1.014
Constant	-3.601***	0.818	0.000	0.026
Diagnostic Check				
-2 Log Likelihood	58.191	Nagelkerke R square	0.711	
Cox and Snell R square	0.417	Hosmer and Lemeshow	0.391	
*** Statistically Significant at 1% level				

To examine the validity of the model, the Hosmer-Lemeshow test was conducted, as suggested by Menard (2002). As shown in Table 5, the Hosmer-Lemeshow test resulted in a value of 0.391, which is non-significant, revealing that the model is suitable for the data set of the study. In this respect, the factors such as lack of economies of scale, limited product diversity, and limited inter-ethnicity business collaboration are the main reasons for the poor performance of Bumiputera entrepreneurs, in terms of market share captured, in the domestic market for furniture and wood products. On these grounds, it appears that all other factors, such as raw materials and worker' supply, knowledge, and skills, prevailing business ecosystem, government contract/public procurement, *etc.*, which were previously considered as serious impediments to the success of Bumiputera entrepreneurs, are secondary factors that arise due to the three primary factors identified earlier. Inevitably, the study also supports the previous arguments, that previous intervention measures, such as providing machine technology, technical training, financial support, skills enhancements, government contract, *etc.*, have been ineffective due to the prevailing crowded business ecosystem of Bumiputera entrepreneurs, predominated by a large number of small-sized companies, with limited product diversity, and without the necessary business collaborations (Ratnasingam 2018; Ratnasingam *et al.* 2021; Amir *et al.* 2023).

Implication of the Study

The Bumiputera entrepreneurs in the furniture and wood products manufacturing industry operate within an ecosystem that is highly competitive, which is predominated by entrepreneurs of other ethnic groups, particularly the Chinese (Ratnasingam 2018; Amir *et al.* 2023). Despite the domestic market being relatively sizeable, estimated to be RM 18 billion in 2021, much of the market share of the home furnishing sector is capitalized by large established furniture retail-chains, leaving only a relatively small market share to be shared among the numerous domestic players. The lack of competitiveness among Bumiputera entrepreneurs in the manufacturing sphere has been well researched (Ratnasingam 2018; Darus *et al.* 2019; Ratnasingam *et al.* 2021; Ab Latib *et al.* 2022; Amir *et al.* 2023), and it appears that the limiting factors also emerge as constraints for Bumiputera entrepreneurs from penetrating and taking up market share in the domestic market. As found in this study, the lack of economies of scale (*i.e.*, due to the small size of the companies), limited product diversity (*i.e.*, high supply elasticity as entrepreneurs producing similar products), and the limited inter-ethnicity business collaboration are the main factors that restrict market share growth among Bumiputera entrepreneurs in the domestic furniture and wood products market (Kelman 2018). In fact, these factors were also highlighted in previous reports on the poor achievement of the National Timber Industry Plan (NATIP) (Merous and Ahmad 2013; Ab Latib *et al.* 2022; Osman and Abd Rahman 2022). In this context, the entrepreneurs need to make a concerted effort to engage frequently with the actors and partners of the other ethnic-groups in the furniture and wood products industry to build trust and maturity. In fact, a previous study by Ratnasingam (2018) showed that mistrust among Bumiputera entrepreneurs of their non-Bumiputera partners appears to be a major challenge in building a lasting business relationship. This calls for an open culture, of mutual respect, which is crucial as a foundation for forging a lasting business relationship, and to ensure success of Bumiputera entrepreneurs in the domestic market for furniture and wood products (Amir *et al.* 2023).

Interestingly, the study also revealed that the provision of captive government contracts or public procurements specifically for Bumiputera entrepreneurs do not

necessarily allow them to gain market share, due to their limitation with regards to production capability. According to MARA (2022), almost RM 340 million worth of government contracts have been provided to Bumiputera entrepreneurs in the wood products industry from 2014 to 2020, to facilitate their growth in domestic market. However, only a handful of the more established Bumiputera entrepreneurs are able to take advantage of this captive market, while leaving many more by the wayside, unable to participate (Farouk 2012; Gomez and Saravanamuttu 2013). Hence, the economic efficiency of the Bumiputera entrepreneurs in the wood products and furniture sector must also be reviewed, especially with regard to the provision of government contracts or public procurement, as it appears to be ineffective. A more proactive approach to enhance the frequency of interactions among the actors and partners of the different ethnic-groups within the industry will inevitably reinforce the level of cooperation and boost the competitiveness of Bumiputera entrepreneurs (Amir *et al.* 2023). Further, better management of the supply chain may also be another approach that should be addressed through government initiatives.

This, conversely, will lead to greater success among Bumiputera entrepreneurs in the domestic market, while paving the way for greater participation in the export sector. Efforts to boost business maturity, boosting trust and greater cooperation among the entrepreneurs and partners of all ethnic groups, will inevitably transform Bumiputera entrepreneurs into an effective and successful business community in the furniture and wood products sector.

The limited market share of Bumiputera entrepreneurs in the domestic market for wood products has negative implications, as it discourages budding, aspiring young Bumiputera entrepreneurs from venturing into the sector. It creates a socioeconomic domino-effect, which restricts Bumiputera participation in the sector, which inevitably denies them an opportunity to grow big and explore the global export market. This will inevitably narrow the disparity between Bumiputera and non-Bumiputera entrepreneurs in the furniture and wood products industry. Perhaps, the Bumiputera entrepreneurs should also be encouraged to gain market share in domestic market for furniture and wood products through the handicraft-oriented outlets, which has been the traditional forte of Bumiputera entrepreneurs over the decades.

In this context, future research should address the business culture and role of trade development organizations (TDO) in promoting Bumiputera entrepreneurs in the furniture and wood products industry, both in the domestic and export markets.

CONCLUSIONS

1. The study reveals that Bumiputera entrepreneurs market share within the domestic furniture and wood products market is relatively limited.
2. Despite the large number of players in the domestic and contract markets, the Bumiputera entrepreneurs are challenged by their relatively small operations, lack of product diversity, limited inter-ethnicity business collaboration, and the inefficient government contract or public procurement disbursement.
3. The Pearson Product Moment Correlation showed that the Bumiputera entrepreneurs' limited success in gaining domestic market share in the furniture and wood products sector was attributed to their small production capacity, narrow product offering, and

limited inter-ethnicity business collaboration. The validity of these factors is further confirmed by the Hosmer and Lemeshow test conducted.

4. The study results also suggest that the perception of Bumiputera entrepreneurs that the disbursement of government contract or public procurements to them is inefficient, appears unfounded, as their limited production capacity and lack of product diversity severely minimized their opportunities to participate in such contracts.
5. It is recommended that government agencies and related trade associations take proactive steps boost the inter-ethnicity collaboration between players and actors in the furniture and wood products industry, to ensure equitable growth for all, while developing a competitive Bumiputera entrepreneur community in the furniture and wood products sector.

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REFERENCES CITED

- Ab Latib, H., Ratnasingam, J., Mariapan, M., Othman, K., Amir, M. A., Liat, L. C., Lee, Y. Y., Ioras, F., Farrokhpayam, S. R., and Jegatheswaran, N. (2022). "Malaysian timber industry policy: Achievements, challenges, and lessons learned," *BioResources* 17(1), 299-315. DOI: 10.15376/biores.17.1.299-315
- Akbar, F., Khan, R. A., Wadood, F., and Bon, A. T. B. (2020). "Entrepreneurial orientation dimension affects firm performance: A perspective from the Malaysian furniture industry," *Entrepreneurial Business and Economics Review* 8(4), 157-181. DOI: 10.15678/EBER.2020.080409
- Amir, M., Othman, K., Ratnasingam, J., Latib, H. A., Jegatheswaran, N., and Lim, C. L. (2023). "Discerning the supply chain of Bumiputera entrepreneurs in the Malaysian wood products and furniture industry: Status, challenges, and remedial measures," *BioResources* 18(4), 7078-7097. DOI: 10.15376/biores.18.4.7078-7097
- Berma, M. (2003). *Towards the national vision policy: Review of the New Economic Policy and New Development Policy among the Bumiputera communities in Sarawak*, The Bumiputera Policy: Dynamics and Dilemma.
- Creswell, J. (2002). *Research Design: Qualitative, Quantitative and Mix Method Approach*, 2nd Ed., Sage Publications Inc., Thousand Oaks, CA, USA.
- Darus, M. M. B., Bakar, N. B. A., Yusof, A. B. M., Shaharuddin, N. A. B., and Kassim, S. B. (2019). "The dilemma of the Malaysian Bumiputera furniture industry association (PETRA) in the context of design and product quality," *International Journal of Art & Design* 2(1), 19-26.
- Dillman, D. A., Smyth, J. D., and Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*, John Wiley & Sons, Hoboken, NJ, USA.

- Farouk, A. F. A. (2012). "State and entrepreneurship: The failure to create a Bumiputera commercial and industrial community (BCIC) in Penang, Malaysia," *Kajian Malaysia: Journal of Malaysian Studies* 30(1), 1-19.
- Gomez, E. T., and Saravanamuttu, J. (2013). *The New Economic Policy in Malaysia: Affirmative Action, Ethnic Inequalities and Social Justice*, National University of Singapore Press, Singapore.
- Hassan, T. M. R. T., Yaacob, M. R., and Abdullatiff, N. K. (2014). "Sustaining SMEs wood-based product manufacturing through best practices – The case of indigenous entrepreneurs in Kelantan," *Procedia-Social and Behavioral Sciences* 115, 221-234.
- Kelman, S. (2018). *Walking the Sufi Path: Ethical Entanglements in Entrepreneurial Malaysia*, University of California, Santa Cruz, CA, USA.
- Malaysian Timber Industry Board (MTIB) (2021). *Annual Report of the Malaysian Wood Industry 2020*, Kuala Lumpur, Malaysia.
- Malaysian Timber Industry Board (MTIB) (2023). *National Census on the Timber Industry 2018*, Kuala Lumpur, Malaysia.
- MARA (2019). *Annual Report 2018*, Ministry of Rural and Regional Development, Malaysia
- MARA (2022). *Annual Report 2021*, Ministry of Rural and Regional Development, Malaysia
- Menard, S. (2002). *Applied Logistic Regression Analysis* (2nd Ed.), Sage Publications, Thousand Oaks, CA, USA.
- Merous, N. H., and Ahmad, I. (2013). "Input factor setback for national timber industry policy," *EAS Strategic Options* 2013(17), 14-15.
- MISC (2022). *Status of Supply Chain in Malaysia – A Review*, Malaysian Institute of Supply Chain Internal Report, Kuala Lumpur, Malaysia
- MTIB (2020). *Performance of Enterprises in the Wood Products Sector*, Malaysian Timber Industry Board Report, Kuala Lumpur, Malaysia.
- Ng, B. K., and Thiruchelvam, K. (2012). "The dynamics of innovation in Malaysia's wooden furniture industry: Innovation actors and linkages," *Forest Policy and Economics* 14(1), 107-118. DOI: 10.1016/j.forpol.2011.08.011
- NTISP (2021). *National Timber Industry Strategic Plan 2021-2025*, National Timber Policy, Ministry of Plantation Industries and Commodities, Kuala Lumpur, Malaysia.
- OECD (2021). *Global SME Survey*, Organisation of Economic Cooperation and Development (OECD), Geneva, Switzerland.
- Osman, N. S., and Abd Rahman, K. A. A. (2022). "The 'Action Process' Framework for Strategic Design Approach Among Bumiputera SME Furniture Manufacturers," in: *DESIGN-DECODED 2021: Proceedings of the 2nd International Conference on Design Industries & Creative Culture, DESIGN DECODED 2021*, Kedah, Malaysia, pp. 153.
- Osman, N. S., Abd Rahman, K. A. A., Abd Rahman, A. R., and Jaafar, M. F. Z. (2018). "Competitive influences factors among Bumiputera furniture manufacturer," *International Journal of Academic Research in Business & Social Sciences* 8(7), 446-452. DOI: 10.6007/IJARBS/v8-i7/4386
- Osman, N. S., Azlin, K. A., Rahman, A., Abdul Rahman, A. R., and Ja'afar, M. F. (2019). "The challenges of Bumiputera furniture SME in design capabilities," *International Journal of Business and Management* 3(2), 21-25. DOI: 10.26666/rmp.ijbm.2019.2.3

- Paliwal, M., Rajak, B. K., Kumar, V., and Singh, S. (2022). "Assessing the role of creativity and motivation to measure entrepreneurial education and entrepreneurial intention," *International Journal of Educational Management* 36(5), 854-874. DOI: 10.1108/IJEM-05-2021-0178
- PWD (2019). *Status of Government Procurement of Wooden Products – An Analysis*, Public Works Department, Ministry of Works, Kuala Lumpur, Malaysia.
- Ratnasingam, J. (2022). *Status of MSMEs in the Wood Products Industry*, Report for the Malaysian Timber Association, Kuala Lumpur, Malaysia.
- Ratnasingam, J. (2015). *The Malaysian Furniture Industry: Unravelling its Growth and Challenges to Innovation*, Universiti Putra Malaysia Press, Serdang Selangor, Malaysia.
- Ratnasingam, J. (2018). *Kejayaan yang Tertunda: Mengupas Prestasi Usahawan Bumiputera dalam Sektor Perabot [Delayed Success: Examining the Performance of Bumiputera Entrepreneurs in the Furniture Sector]*, Universiti Putra Malaysia Press, Serdang Selangor, Malaysia.
- Ratnasingam, J., and Mossin, C. F. (2021). *Domestic Market for Furniture and Wood Products, Consumer Behavior Report among Furniture Buyers – Internal Report to Kelly Consulting Sdn. Bhd.*, Kuala Lumpur, Malaysia.
- Ratnasingam, J., Ab Latib, H., Liat, L. C., Mariapan, M., Jegatheswaran, N., Othman, K., and Amir, M. A. (2022). "Public perception of the wood products industry in Malaysia and its implication on the future workforce," *BioResources* 17(2), 2097-2115. DOI: 10.15376/biores.17.2.2097-2115
- Ratnasingam, J., Ab Latib, H., Mariapan, M., Othman, K., Amir, M. A., and Liat, L. C. (2021). "Success factors of small and medium enterprises in the Malaysian furniture industry: Discerning the growth of entrepreneurs," *BioResources* 16(3), 5586-5600. DOI: 10.15376/biores.16.3.5586-5600
- Ratnasingam, J., and Muttiah, N. (2020). *Factors Contributing to the Growth of the Malaysian Wood Products Industry – A Critical Analysis*, UPM Press, Serdang, Selangor, Malaysia.
- Ratnasingam, J., Khoo, A., Jegathesan, N., Wei, L. C., Abd Latib, H., Thanasegaran, G., Liat, L. C., Lee, Y. Y., Othman, K., and Amir, M. A. (2020). "How are small and medium enterprises in Malaysia's furniture industry coping with COVID-19 pandemic? Early evidences from a survey and recommendations for policymakers," *BioResources* 15(3), 5951-5964. DOI: 10.15376/biores.15.3.5951-5964
- Ratnasingam, J., Zbieć, M., Choon Liat, L., Ab Latib, H., Othman, K., Mohd, A. A., and Jegatheswaran, N. (2022). "Status of lean manufacturing practices and its influence on the adoption of Industry 4.0 in the Malaysian furniture industry," *Annals of Warsaw University of Life Sciences-SGGW. Forestry and Wood Technology* 119, 5-23.
- SME Corp. (2018). *Status of SMEs in the Malaysian Manufacturing Sector*, Small & Medium Enterprises Corporation of Malaysia, Kuala Lumpur, Malaysia.
- SME Corp. (2021). *Status of SMEs in the Malaysian Manufacturing Sector*, Small & Medium Enterprises Corporation of Malaysia, Kuala Lumpur, Malaysia.
- SME Corp. (2022). *Status of SMEs in the Malaysian Manufacturing Sector*, Small & Medium Enterprises Corporation of Malaysia, Kuala Lumpur, Malaysia.
- Sudman, S., and Bradburn, N. (1982). *Asking Questions: A Practical Guide to Questionnaire Design*, Jossey-Bass Publishers, San Francisco, CA, USA.

World Bank (2021). *Entrepreneurial Development in the Resource Industry*, World Bank Washington, D.C., USA.

World Bank (2022). *Status of MSMEs Growth in South East Asia*. World Bank Washington, D.C., USA.

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