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Key Characteristics of Rural Construction SMEs

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Abstract: Small- and medium-sized enterprises (SMEs) are at the core of the Malaysian construction industry. They account for more than 90% of companies that accept construction work. Because the SMEs are the majority, their characteristics significantly affect the current practices in the industry. This paper sought to understand the key characteristics of Malaysian construction SMEs that operate in rural areas. The study was based on multiple case studies in five construction SMEs that operated in four different states in Malaysia. The case studies identified seven key characteristics of Malaysian rural construction SMEs: (1) motivation for survival, (2) no policy for the implementation of new technologies and training, (3) no preference on the types of construction work accepted, (4) dominated by a single owner; (5) small number of employees, (6) being affected by political scenarios and (7) different business approaches between Bumiputera and non-Bumiputera companies. This study provides the government agencies and the Construction Industry Development Board an indication of how they can assist SMEs improve their productivity and further improve the construction industry's performance by addressing the special characteristics of the SMEs. The study may also serve as a basis to understand SMEs in other countries because different cultures, traditions and problems that SMEs encountered are viewed differently in different countries.

Keywords: SME, Malaysian Construction Industry, Rural areas

INTRODUCTION

Small- and medium-sized enterprises (SMEs) are one of the most important forces for economic development. Around the world, SMEs are acknowledged as the vital factor to stimulate innovation, economic growth, job opportunities and poverty reduction and support large-scale enterprises. SMEs account for approximately 90% of businesses and more than 50% of employment worldwide. In developing countries, SMEs account for 45% of formal employment (International Finance Corporation, 2012; Bauchet and Morduch, 2013).

In the Malaysian construction industry, more than 90% of registered construction companies are SMEs (Construction Industry Development Board [CIDB], 2011). They play an important role as general contractors on small- and medium-sized projects and as sub-contractors to large construction companies. It is government policy for the SMEs to be more productive, efficient and able to deliver higher-quality products. The government also aims for the Malaysian construction industry to be a world-class innovative and knowledgeable global solution provider (CIDB, 2006). To achieve this aim, the government with its CIDB has recognised the necessity to merchandise the industry, introduce new construction techniques and technologies and create less dependency on labour to improve the quality, productivity and performance of the industry.

Despite the government's and CIDB's efforts to improve the industry, there is little evidence of success, and the industry continues suffering from many

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problems. CIDB records show that between 2004 and 2009, a total of 225 overseas projects valued over RM 62.5 billion, mainly in the Middle East, India and the ASEAN regions, were awarded to the large Malaysian contractors. The CIDB revealed in 2009 that only 1,304 (2.2%) of the total of 58,995 SME construction companies managed to secure projects as a main contractor. In September 2011, 25,812 (41%) construction companies in Malaysia were operating in rural areas; 93% of them are SMEs (CIDB, 2011). Malaysia has experienced a two-tier construction industry. Most large construction companies are concentrating in urban areas and penetrating the overseas market. Most SMEs that operate in rural areas are still operating in a traditional method using an inefficient, slow, and labour-intensive work system (Kamal and Flanagan, 2012).

Many studies investigated the Malaysian construction industry from the perspective of rural construction SMEs. Most studies that reported on the Malaysian construction industry addressed the industry as a whole without considering the special characteristics of SMEs (Chan, 2001; Nima et al., 2001; Abdullah et al., 2004; CIDB, 2006; CIDB, 2008; Omar, Takim and Nawawi, 2008; CIDB, 2010; Ibrahim et al., 2010). There are significant differences between large companies and SMEs. This paper presents part of the findings of the study that investigated the implementation of new technology among Malaysian construction SMEs in rural areas. This paper aims to understand the key characteristics of rural Malaysian-construction SMEs. The first section of this paper discusses the theoretical background of SMEs, including the definition and characteristics of SMEs. The second section presents the findings and discusses the key characteristics of rural construction SMEs. The last section draws conclusions from the study.

THEORETICAL BACKGROUND

This section presents the theoretical background of the paper. The discussion begins with a definition of SMEs as used in various countries, followed by a literature review on the key characteristics of SMEs.

Definition of SME

The literature review shows that there is no standard definition of SME. They are defined in several manners, but the most commonly used criteria include the annual sales turnover, number of employees, and/or the amount of investment (Bauchet and Morduch, 2013). For example, the European Commision (2003) defined micro-, small- and medium-sized enterprises (SMEs) in European Union countries as an enterprise that employs fewer than 250 people and has an annual sales turnover not exceeding 50 million Euros, and/or an annual balance sheet total not exceeding 43 million Euros. In Taiwan, the Small and Medium Enterprise Administration Ministry of Economic Affairs (2009) define their SMEs in the construction industry as an enterprise with a paid in capital of NT$ 80 million (USD 2.42 million) or less, or with the number of full-time employees fewer than 200 people.

The interpretation and definitions of SMEs in Malaysia also vary. Some agencies define SMEs based on their criteria using the annual sales turnover, number of full-time employees or shareholders' funds. In June 2005, the National

SME Development Council approved a common definition for SMEs across economic sectors for adoption by all government ministries and agencies involved in SME development and financial institutions. The National SME Development Council definition is based on two criteria: number of employees and annual sales turnover. An enterprise is categorised as an SME if it satisfies either the specified number of employees or the annual-sales-turnover definition.

The definitions apply to three main sectors: primary agriculture, manufacturing (including agro-based and manufacturing-related services); and the services sector. Table 1 shows the definition.

Table 1. SME Definitions Based on the Number of Employees and Annual Sales Turnover

Sector / Size	Primary Agriculture	Manufacturing	Services (Including Construction Sector)
Micro	Less than five employees or annual sales turnover less than RM 200,000	Less than five employees or annual sales turnover less than RM 250,000	Less than five employees or annual sales turnover less than RM 200,000
Small	Between five and 19 employees or annual sales turnover between RM 200,000 and less than RM 1 million	Between five and 50 employees or annual sales turnover between RM 250,000 and less than RM 10 million	Between five and 19 employees or annual sales turnover between RM 200,000 and less than RM 1 million
Medium	Between 20 and 50 employees or annual sales turnover between RM 1 million and RM 5 million	Between 51 and 150 employees or annual sales turnover between RM 10 million and RM 25 million	Between 20 and 50 employees or annual sales turnover between RM 1 million and RM 5 million

The construction sector in Malaysia belongs to the third category: the services sector. However, the definition of a construction SME by the National SME Development Council does not match the categorisation of contractor companies by the CIDB. The CIDB categorises the contractors that register with them using grades from G1 to G7 based on the contractor's tendering capacity and their paid-up capital. The CIDB recommends that the definition for a construction SME should be in a different category from the services sector and based on the paid-up capital or tendering capacity. They defined a construction SME as an enterprise with paid-up capital not exceeding RM 250,000 or a tendering capacity not exceeding RM 5 million. CIDB also proposed a specific definition for a small construction enterprise, i.e., an enterprise with paid-up capital of RM 5,000–RM 50,000 or a tendering capacity of RM 200,000–RM 1 million. A medium construction enterprise is an enterprise with paid-up capital of RM 50,000–RM 250,000 or a tendering capacity of RM 1 million–RM 5 million.

The justifications by the CIDB for construction SMEs to have a different definition from SMEs in the services sector are as follows:

1. Contractors that are registered with CIDB are awarded grades of registration from G1 to G7. These grades reflect the tendering capacity of

the construction company and its capacity to accept a range of construction projects of different values. They cannot accept contracts that exceed the value for which the company is registered.

2. A construction company is structured based on their grades of registration, which reflects their financial capabilities, tendering capacity and size of the company. When the company expands and increases their financial capabilities, a contractor can apply to upgrade to a higher registration grade and increase their tendering capacity. Table 2 shows the grades of registration of the contractors, as set by the CIDB.

Table 2. Grades of Registration of Contractors by the CIDB

Contractor Grades of Registration	Tendering Capacity	Paid-Up Capital	Size of Company
G7	No limit	RM 750,000 (USD 247,500)	Large construction company
G6	Not exceeding RM10 million (USD 3.3 million)	RM 500,000 (USD 165,000)	
G5	Not exceeding RM 5 million (USD 1.65 million)	RM 250,000 (USD 82,500)	Medium size construction company
G4	Not exceeding RM 3 million (USD 990,000)	RM 150,000 (USD 49,500)	
G3	Not exceeding RM 1 million (USD 330,000)	RM 50,000 (USD 16,500)	Small size construction company
G2	Not exceeding RM500,000 (USD 165,000)	RM 25,000 (USD 8,250)	
G1	Not exceeding RM200,000 (USD 66,000)	RM 5,000 (USD 1,650)	

Based on the CIDB's definition of construction SMEs, G1 to G3 contractors fall under the small-size category. G4 and G5 contractors are categorised as medium-sized contractors, and G6 and G7 contractors are categorised as large. However, these CIDB-recommended definitions remain at the proposal stage and have not been endorsed by the National SME Development Council.

For the purposes of this study, the selection and classification of SMEs contractors are based on their CIDB categorisation because all contractors in Malaysia must register with them. All contractors use the registration grades given by the CIDB to tender for projects. The CIDB also has a complete record of all contractors in every state in Malaysia according to their registration grade, which is accessible by researchers to perform data collection.

Key Characteristics of SMEs

Nooteboom (1994) stated that the general characteristics of SMEs among different countries can be observed based on their source of capital, where most

SMEs derived their capital from either a bank or private sources of the entrepreneur or friends and family. Most SMEs feel comfortable to obtain the start-up capital for business from internal funds, i.e., family and friends, because of emotional reasons (love, friendship, loyalty) and because they do not require strict repayment of debts as banks would, which exploits the maximum profit opportunities (Nooteboom, 1994; Degryse, Goeij and Kappert, 2012). Small companies orients more towards personal values (Nooteboom, 1994). Many small firms do not have a goal to innovate or grow. For example, Degryse, Goeij and Kappert (2012) found that many Dutch SMEs prefer to use their profit to reduce their debt rather than investing it on innovations or expanding their business. They prefer maintaining a traditional lifestyle and work for their own interests and their family's interest (Nooteboom, 1994). This situation is reflected by Lu, Sexton and Abbot (2008), who found that most small businesses in Britain are family-owned businesses. Small companies are also described as having unstructured procedures with an emphasis on oral communication instead of written documentation and a wide scope for improvisation and spontaneity (Nooteboom, 1994).

Sexton and Barret's (2003) view of the challenges and characteristics of small construction organisations are similar to the findings of Rothwell and Zegveld (1982), where they identified small manufacturing organisations with four unique challenges and characteristics:

1. Lack of technical staff, which restrict their ability to accept appropriate R&D.
2. Lack of resources for external interaction that results in limited information and awareness about new technical trends and opportunities.
3. Lack of management expertise because most are dominated by the single owner or a small team.
4. Lack of financial resources, which results in a limited scope for new capital or ongoing investment for new technologies.

The findings by Rothwell and Zegveld (1982) also reflect the Malaysian construction industry. According to the CIDB (2006), R&D investment in the Malaysian construction industry ranges from negligible to non-existent. The reason is partly the difficulty of patenting new ideas in construction and partly the manner that construction businesses are organised with multiple sub-contracting layers and notably few direct employees. For most construction SMEs, cost and affordability are critical. With the minimum number of staff and expertise, they usually cannot afford to have their own R&D team in the specific field to generate their own background knowledge and act on product development and new technologies.

Sexton and Barret (2003) identified that the motivations of small construction organisations influenced their characteristics. They found that the main motivation for construction SMEs is survival, followed by stability and development. Because of the niche market in which they operate and their limited resources, most small construction organisations only concentrate on projects. Their main focus is project delivery instead of the corporate development of the business. According to Sexton and Barret (2003), only after the organisations have confidently achieved the survival stage, they are motivated to look towards

consolidating and stabilising their position over the medium term. The stability stage will further provide motivation for development and growth.

Smallbone, North and Leigh (1993) describes that a clear difference between urban SMEs and those in rural areas is their market opportunities. Rural SMEs are described as having fewer market opportunities than urban companies. Rural SMEs are also characterised by a lack of access to formal and informal networks and information, and they suffer problems because of the distance from customers and suppliers, which also causes difficulties in labour recruitment. The findings by Smallbone, North and Leigh (1993) were supported by Mills, Smith and Love (2012), where they found a significant difference in the characteristics of construction SMEs working in regional and metropolitan areas in Australia. SMEs in regional areas of Australia are characterised by the following: a small number of employees; financial, labour and staff development difficulties; limited market opportunities; and high transportation costs to the site (Mills, Smith and Love, 2012). They suggested that initiatives by the government were required to address the characteristics of SMEs in the regional area to raise their performance and capabilities.

This literature review identified the significant characteristics of SMEs. There are similarities between the characteristics, such as the motivation only for survival, unstructured procedures/policy, a lack of resources and a limited number of employees. These characteristics significantly affect their business approach and their decision on the use of new technologies. However, there are notably limited studies on the characteristics of SMEs in rural areas from the perspective of developing countries. This paper addresses the issue.

RESEARCH METHODS

This paper is based on the results of the case studies of five construction SMEs in four different states, which represent different areas in Malaysia: two in Sarawak (on the island of Borneo) and one from each of Kelantan (on the east coast), one in Kedah and one in Perlis (on the north). A case study method was used for this study because it allows the researcher to understand and capture the heterogeneous characteristics of construction SMEs in more details. The use of case studies also provides flexibility to the researcher to explore different situations using various research strategies. Although there are 24,173 SME construction companies in the rural areas in Malaysia, the decision on the number of cases is not statistically based. Yin (2003) suggested that the decision on the number of cases depended on the researcher's view of how well a decision would deliver significant/replicate findings. Eisenhardt (1989) proposed four to 10 cases because this number was usually sufficient to build theories using case studies. For this study, the cases (construction SMEs) were selected based on the location where they operate, their grade of registration with the CIDB, the type of construction work accepted, and their willingness to participate in the study.

No contractor was from the G1 and G2 categories because the work accepted was too small and not applicable for the purpose of this study. Three of the companies are Bumiputera companies, and two are non-Bumiputera companies. A Bumiputera company must have the majority of shares (at least 51%) owned by the Malays, and the majority (at least 51%) of the workforce in the

company are Malays. A non-Bumiputera company is a company owned by another ethnic group besides Malays. For the conducted case studies, non-Bumiputera companies involved Chinese companies. Table 3 summarises the information of the participating companies.

Table 3. Information of the Participating SME Construction Companies

Company	Category	Location	Established Year	Company Status	Main Client	Full-Time Employees
A	G5	Sarawak	2008	Bumiputera	Public/ Government	12
B	G5	Sarawak	1987	Non-Bumiputera	Private	24
C	G5	Perlis	2007	Bumiputera	Public/ Government	14
D	G3	Kedah	2006	Non-Bumiputera	Private	10
E	G4	Kelantan	2000	Bumiputera	Public/ Government	8

Each case study lasted seven to 10 days and used a combination of semi-structured interviews, observations on the work routine and company documentation. Semi-structured interviews were conducted with the company's owner and director on the company policies and their efforts and approach towards new-technology implementation. The data analysis for this study combined three analysis activities (data reduction, data display, and conclusion drawing/verification) that were suggested by Miles and Huberman (1994) in two stages. The early analysis stage involved transcribing and simplifying the audio-recorded data and field notes. At the end of each case study, a copy of the transcription was sent to the respondent for validation. The second analysis stage involved a more formal analysis after all case studies were conducted. The qualitative data were analysed using a directed content analysis. Hsieh and Shannon (2007) described that the goal of a directed approach to content analysis is to conceptually validate a theoretical framework or theory. The existing theory or prior research is used to identify the key concepts or categories of the collected data. For this paper, the existing literature is used to identify the key characteristics of construction SMEs and categorise them. The analysis of the data/findings was presented and discussed according to each category.

FINDINGS

Based on the conducted case studies, seven key characteristics of rural construction SMEs were identified: (1) motivation for survival, (2) no policy for the implementation of new technology and training, (3) no preference on the type of construction work accepted (no specialisation), (4) dominated by a single owner, (5) small number of employees, (6) being affected by the political scenario and (7) different business approaches between Bumiputera and non-Bumiputera (Chinese) companies. Three of the characteristics (motivation for survival, dominated by a single owner, and small number of employees) were similar to the findings from prior research in the literature review. The four other characteristics

(no policy for the implementation of new technology and training, no preference on the type of construction work accepted [no specialisation], being affected by political scenario, and different business approaches between Bumiputera and non-Bumiputera [Chinese] companies) were distinctive to Malaysian rural construction SMEs.

Motivation for Survival

The main characteristic of the rural construction SMEs are observed through their motivation in business. All five companies have a similar business objective: survival, which is a function of the scarcity of work, low barriers to enter the market and constant struggle for survival with limited resources. Their main priority is to successfully complete their current project, make a profit and seek the next project to survive. The case study findings reflect the results of Nooteboom (1994) and Sexton and Barret (2003), where survival was the main motivation for small construction firms; they do not have ambitions to innovate and grow. Construction companies that have been in the industry for a long time, such as contractor B with over 20 years of experience and a good reputation with clients, managed to achieve a stable position. The case studies found that the motivation to develop and grow had the lowest priority for rural construction SMEs.

No Policy for the Implementation of New Technology and Training

Because survival is the main objective/motivation, the interviewed companies do not have a policy towards the use of new technology or training the workforce on site. The directors and owners of the companies acknowledged that they have attempted to implement new technology and that they have an open policy to ideas of using new technologies; however, there was no tangible evidence of this attempt and this policy. The contractors raised the issue of choices and alternatives to the technology. Even if it can be proved that the adoption of new technology would improve the productivity and quality of work, the main concern for rural construction SMEs is cost. Labour costs much less than machinery. They only invest in small, low-cost equipment for general work. The contractors also raised the issue of no demand or requirement from the client or authorities to use technology and mentioned that they were only involved in small projects, for which the conventional method of construction using cheap labour is sufficient according to the requirement of their clients and the involved authorities. The case studies found that there was no standardisation of the enforcement regarding construction work on site. There is no government policy that encourages the use of technology on site.

Learning-by-doing is a common practice on site. The project manager, site engineer and site supervisor act on behalf of the contractors to supervise the work at the site. They give instruction and briefly guide the workers if they do not understand or do not know how to perform the work. The SMEs aim to reduce their costs and minimise their risks, particularly with the use of new technology. This characteristic of SMEs is influenced by current practices in the industry, which has no pushing factor for technology use and increase in training. Therefore, the contractors prefer to choose the cheapest and most convenient alternative to technology.

No Preference on the Types of Construction Work Accepted (No Specialisation)

Because of the strong need to survive, the companies have no specific policy or preference on tendering and accepting projects. With the large number of contractors and limited project opportunities in rural areas, competition to secure the project is notably strong. Contractors are almost exclusively selected based on the lowest price instead of the best technical solution. Tight cost control is paramount. All participating contractors in the case studies do not specialise and are willing to accept any type of project. All of them had experience of being a main contractor and sub-contractors. For example, when the case study was conducted, the project of contractor A involved the construction of four-storey office building; their next project was piping work for a water treatment plant. Similarly, contractor E was involved in building projects and a water irrigation upgrade project.

Dominated By a Single Owner

The results showed that the owner of the company had a hands-on approach to the operations of the company. They are involved in tendering, planning, scheduling, resourcing, purchasing and managing. For some companies such as contractors A and B, they have two directors that have contributed a percentage of the equity towards the company's capital. These directors are close friends and relatives that have known the company's owner for a period of time and trust the owner to take full charge of the company's operations. The owner is involved in every decision-making aspect. The findings replicate the results of Nooteboom (1994), Sexton and Barret (2003), Lu, Sexton and Abbot (2008) and Hutchinson and Quinn (2012), who found that owners of small firms have a dominant role in the decision-making process, which reflects the personality of the company owner. This characteristic is suspected to be a constraint on the use of new technology of SMEs because the owner is driven by the low-cost requirement and has no long-term strategies.

Small Number of Employees

The SMEs have a small number of employees: eight to 24 full-time permanent employees including both administrative staff in the office and technical staff on site. Most companies have one to two staff for administrative/clerical work and two to three people who work on accounts and purchasing. A small number of the technical staff work as project managers, site supervisors and site engineers. The SMEs do not directly employ their own site labour; instead, they rely on the extensive use of sub-contractors, and most labourers are unskilled. According to the contractors, it is not economical for them to have their own labour because of the limited number and locations of projects, there is no guarantee of continued work, and the new project may be in a different area.

This characteristic of SMEs is influenced by the wide availability and low wages of foreign labour in the industry; therefore, the contractors have little incentive to adopt and implement more productive, better-quality and safer technologies. This characteristic of SMEs also causes the Malaysian construction

industry to be highly fragmented with a clear separation among the contractors, sub-contractors and workforce on site.

Being Affected By Political Scenarios

The case studies found that the political scenario affected the SMEs, particularly for companies in the state ruled by the opposing political party. This situation is encountered by the construction SMEs in Kelantan, as previously happened in Terengganu. According to Abdul Aziz (2003), a hostile climate to business developed in Terengganu when the opposition party, PAS (Islamic Party of Malaysia), took control of the state during the 1999 elections. Abdul Aziz (2003) revealed that during that time, the federal funds for physical and social development in Terengganu were severely curtailed, and the petroleum royalty, which involved 5% of the nationalised oil company's share that the state was provided from the federal government since 1978, was frozen. The findings of Abdul Aziz (2003) reflect the situation that continues happening to construction SMEs in Kelantan, where the political influence has a significant effect. For these SMEs, their best chance of survival and continuing in business is based on having good networks and connections with the UMNO/Barisan National Party. It is difficult for the construction SMEs to escape from the situation because they are small and do not have sufficient resources to accept construction projects in other states.

Different Business Approaches between Bumiputera and Non-Bumiputera Companies

The case studies found that the Bumiputera (Malay) construction SMEs and non-Bumiputera (Chinese) construction SMEs in rural areas had different business approaches. All Bumiputera SMEs depend on government projects and never tender for private projects. They suggested that it was notably difficult for the small Bumiputera contractors to bid for a private project because the competition with Chinese contractors is notably strong. The Chinese construction companies that operate in the rural areas are only involved in private projects because they must have Bumiputera status and be registered with the Contractor Service Centre (PKK) to tender for government projects. The Chinese companies were also more commercially aware than the Bumiputera companies in their efforts to acquire new information and knowledge to improve their productivity. However, the working attitudes of Bumiputera and Chinese companies share similarities: both types are equally hardworking and have the same mission to survive and remain in business for as long as possible.

DISCUSSIONS

Based on the conducted case studies, all five SMEs acknowledged that they attempted to implement new technology in construction, and their company policy is open to the idea of using new technology. The main objectives of the company implementation of new technology are to increase productivity on site, decrease the construction time, improve the quality and, most importantly,

minimise the overall cost of construction. However, the case studies revealed that the key characteristics of rural construction SMEs strongly affected their business decisions and operation methods and became a constraint for them when they attempt to improve their performance and productivity. Because survival is their main objective and motivation, rural construction SMEs find it difficult to plan for the future, particularly by investing in new technologies to improve their productivity.

The case studies also revealed that cost is their main concern. Because of this issue, SMEs only have a minimum number of staff, are dominated by a single owner and have no policy on the use of technology on construction sites. These characteristics of SMEs affect their performance and productivity because most SMEs continue relying on low wages, low skills and low overhead approaches. All governmental efforts (CIDB) must address these issues to improve the SMEs and further improve the industry.

CONCLUSIONS

These case studies demonstrated an understanding of the characteristics of Malaysian rural construction SMEs. Seven key characteristics were identified: motivation for survival, no policy for the implementation of new technology and training, no preference on the type of construction work accepted (no specialisation), dominated by a single owner, small number of employees, being affected by the political scenario and different business approaches between Bumiputera and Chinese companies. These characteristics of SMEs affect the industry and the current practices in the industry. Large companies and SMEs in the rural areas have significant differences, which must be understood by the policy makers (government agencies and the CIDB), and all initiatives to improve both the SMEs' performance and the overall Malaysian construction industry must consider their characteristics.

The findings of this study contribute to the area of study related to SMEs by focusing on the key characteristics of construction SMEs in rural areas. Although this study has a limitation because it only offers generalised characteristics across construction SMEs in Malaysia, the study provides the government agencies and CIDB an indication of how they can assist the SMEs to improve their productivity and further improve the construction industry performance by addressing the special characteristics of SMEs. The study also serves as a basis for understanding SMEs in other countries, particularly developing countries because the different cultures, traditions and problems encountered by SMEs are viewed differently in different countries.

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