

A SWOT ANALYSIS FOR SRI LANKAN CONSTRUCTION SMEs

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ABSTRACT

The significant benefits that Small & Medium Enterprise (SME)s provide to the national economy, including their contributions to the economic development, industrial output, employment creation, and tax revenue marked as the reasons for examining the various aspects of SMEs around the world. The construction industry is usually described as being one of the riskiest business arenas and hence, SMEs needs to improve their capacities by analysing the possible opportunities as well as the threats in the market to sustain in the construction industry. Hence, this paper explored the SWOT analysis for SME contractors in Sri Lanka. A literature review followed by five case studies were carried out to collect data. The collected data were analysed and presented in a SWOT matrix to identify the advantage of positive facts over negative facts for construction SMEs. As per the research findings, the explored external and internal factors can be categorised under five main themes as financial, technical, managerial, legal and political and other. Findings of the case studies identified 21 internal factors as the strengths of construction SMEs and 48 internal factors as weaknesses of construction SMEs. Yet, the study further revealed 22 factors under opportunities for construction SMEs and identified 46 external factors as threats to their organisation. This study further proves that a detailed understanding of the processes and extensive explorations of all possible causes, reasons using the SWOT analysis will help overcoming the number of challenges faced by construction SMEs. In addition, it was evident that inexpensive or zero cost solutions could be implemented by identifying the strengths and opportunities of their organisations. This will mark for further researches to study the possible strategies for construction SMEs using SWOT analysis matrix.

Keywords: Construction SMEs; Sri Lanka; SWOT Analysis.

1. INTRODUCTION

Construction SMEs are seen as playing a crucial role in the economy in terms of creating jobs contributing to economic growth and stability, still, keep one step below the large construction companies. Thus, there is a need to analyse the situation of construction SMEs with respect to possible threats as well as the opportunities to improve their strengths and overcome the weaknesses. To succeed in the construction industry, weaknesses must be overcome through strength and threats must be transferred into opportunities to build up the capacities of the organisations. Though studies that focus on some aspects of SWOT are available, there is a dearth of research that undertakes a comprehensive assessment of SWOT analysis in small-scale construction in Sri Lanka. Hence, this paper focuses on identification of strengths, weaknesses, opportunities, and threats of Sri Lankan SME contractors.

Even though construction SMEs largely contributing to country's economy, there is a lack of proper definition for them in the Sri Lankan context. Hence, this paper commences by defining SMEs and precisely defining construction SMEs in Sri Lankan context. Then a literature review carried out to analyse the characteristics of SMEs. Thereafter, presents the analysis of empirical data used to identify the SWOT for SME contractors in Sri Lanka. A detailed description of strengths, weaknesses, opportunities, and threats has been explored. It further discusses, the explored external and internal factors under five categories as financial, technical,

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managerial, legal and political and other. The paper contributes to the body of construction SMEs, in particular towards the identification of SWOT in Sri Lankan SME contractors.

2. SMALL AND MEDIUM ENTERPRISES (SMEs)

There is no universally accepted definition for SME, as it seems to vary from country to country and also from industry to industry. Most of the available SME definitions are quantitative whereas only a few defined qualitatively. Ayanda and Laraba (2011) identified three (03) parameters generally applied by most countries to quantitatively define SMEs as capital investment in plant and machinery; number of workers employed and volume of production or turnover of the business. However, among many studies intended at arriving at a proper definition, Bolton (1971) claimed that a small firm could not be adequately defined in terms of employment or assets, turnover, output or any other arbitrary single quantity, nor would the same definition be appropriate throughout the economy. Accordingly, Bolton (1971) used following parameters to qualitatively/ economically define SMEs;

- Has a relatively small share of its market.
- Managed by its owners or part-owners in a personalized way.
- Does not form part of a larger enterprise and the owner-managers are free from outside control in taking their principal decisions.

Nevertheless, the economic definition is of no use for statistical purposes, since business statistics are not classified in terms of qualitative measures like market share, owner-managers, and independence (Bannock, 2005). Therefore, most of the countries/ industries do not use the above parameters and thus used quantitative parameters individually or in combination to define SME. However, Table 1 shows a summary of main definitions of SMEs related to some selected countries.

Table 1: Summary of Definitions of SMEs

Country	Sector	Definition of SME				Reference		
		SMALL		MEDIUM				
		Manufacturing Sector	Service Sector	Annual Turnover (Mn)	No of Employees		Annual Turnover (Mn)	No of Employees
Sri Lanka	x			SLRs. 16-250	11 < 50	SLRs.251-750	51-300	2
		x		SLRs. 16-250	11 < 50	SLRs.251-750	51-200	2
Canada	x			< CDNS\$ 5	< 100	CDNS\$ 5-20	100-500	1
		x		< CDNS\$ 5	< 50	CDNS\$ 5-20	50-100	1
China	x				50 - 100		101 -500	1
Indonesia	x						< 100	1
Korea	x						< 300	1
Malaysia	x					< RM 25	< 150	1
Philippines	x				10 < 100		100-199	1
Singapore		x					< 200	1
Taiwan		x					< 200	1
Thailand	x				< 50		50-200	1
Vietnam	x				< 30		30-200	1
EU Commission				< € 10	< 50	< € 50	< 250	3
USA							< 500	4

1 – Harvie (2004); 2 - Ministry of Industry and commerce (2015); 3 - EU Commission (2014); 4 – OECD (2005)

According to Table 1, there is no such dissimilarity between the SME definitions in the manufacturing sector and service sector. However, Harvie (2004) stated that the majority of SMEs are relatively small and over 95 percent of SMEs in the East-Asian region employ less than 100 people. SMEs are non-subsidary, independent firms which employ less than a given number of employees. The most frequent upper limit designating an SME is 250 employees, as in the European Union. Yet, some countries set the limit at 50 employees, while the United States considers SMEs to include firms with fewer than 500 employees (OECD, 2005). Nevertheless, the upper limit of a number of people employed is not a must to be satisfied. Therefore, an organization which

satisfies the turnover and balance sheet total requirements can still qualify as a SME even if it does not satisfy the employment requirement. This categorization has been derived mainly for accounting and reporting purposes. Thus, it is difficult to come up with a universal definition for SMEs due to the significant differences that exist within the SME sector, different industry sectors, countries, and economies etc. This has created numerous difficulties for researchers studying SMEs (Curran & Blackburn, 2001). According to Storey (1994), researchers have attempted to resolve these difficulties by tailoring definitions. However, practically difficult to use the entire criterion to define SME due to the sensitivity of data such as turnover, balance sheet totals.

2.1. CONSTRUCTION SMEs IN SRI LANKA

The literature revealed that there is no published definition to the construction SMEs in Sri Lanka. Moreover, there is lack of published evidence to get the number of employees to define the SME category. Hence, the researcher developed the definition based on the SME definition in terms of annual turnover in Sri Lankan context (refer Table 1) and Construction Industry Development Authority (CIDA) registration for construction contractors in Sri Lanka (refer Table 2). CIDA is set up by the Government of Sri Lanka to develop and promote the domestic construction industry and hence, each and every organisation needs to get registered to be practice in Sri Lanka. Table 2 shows the financial limits for the grading of contractors as per CIDA registration.

Table 2: Contractor Grading According to CIDA Registration

Specialty	Grade	Financial Limit (Rs. Mn)
Building Construction	CS2	$X > 3000$
Highway Construction	CS1	$3000 \geq X > 1500$
Bridge Construction	C1	$1500 \geq X > 600$
Water Supply and Sewerage	C2	$600 \geq X > 300$
Irrigation and Drainage Canals	C3	$300 \geq X > 150$
Dredging and Reclamation	C4	$150 \geq X > 50$
Storm Water disposal and Land Drainage	C5	$50 \geq X > 25$
Maritime Construction	C6	$25 \geq X > 10$
Heavy Construction (Areas to be Specified)	C7	$10 \geq X > 05$
	C8	$05 \geq X > 02$
	C9	$02 \geq X$

Source: CIDA, 2015

As per Table 2 and the SME definition, medium-sized contractors for Sri Lanka can be categorized under whose annual turnover between Rs. 250 - 750Mn (Grade C3 – C2) and small-sized contractors having an annual turnover of 16 – 250 Mn (Grade C6 – C4). Hence, the category of construction SMEs for Sri Lanka is made up of contracting organisations which have a grade between C2 – C6 as per the CIDA (2015) registration. In most of the cases, micro enterprises are also read with SMEs for any policy related measure. However, there is lack of details regarding the micro level contractors and hence, ignored for this study.

2.2. CHARACTERISTICS OF CONSTRUCTION SMEs

In the developed and newly developing countries, SMEs generally employ a large percentage of the workforce and are responsible for income generation opportunities. These enterprises can also be described as one of the main drivers for poverty alleviation (Agwu & Emeti, 2014). The construction industry is usually described as being one of the riskiest business arenas. SMEs face particularly harsh business environments. Ofori and Toor (2012) contended the risks faced by construction SMEs in developing countries as lack of job continuity, competition from the larger number of enterprises in the industry offering the same services, expectations of the business partners, greater stress on professionalism and transparency. Construction researchers such as Rymaszewska (2014) and Agwu and Emeti (2014) added low level of technology, lack of skilled workers, lack of access to international markets, as their constant issues.

One of the qualitative definition given by Scott and Bruce (1987) highlighted few major characteristics of small firms. Scott and Bruce (1987) have adopted the definition put forward by the American Committee for Economic Development which says a firm is small if; 'Management is independent. Usually, the managers are also owners, Capital is supplied and ownership is held by an individual or small group and area of operation is mainly local, Workers and owners are in one home community, but markets need not be local. Hence, the

definition clearly stated the nature of the management of SMEs, the area of operations and market of SMEs. Yet, there is an uncertainty of SMEs to retain in local market even. One of the main characteristics of SMEs is high risk. Realizing the high-risk nature of SMEs, many governments have tried to improve SME capability (Wonglimpiyarat, 2015). Nevertheless, SMEs generally face difficulties in getting access to finance since investors do not prefer making investments in SMEs due to their risky nature of the business operation. However, access to finance has become an impediment to the success stories of SMEs.

There are significant differences between large companies and SMEs in their ability to absorb new knowledge because of their unique characteristics (Kamal & Flanagan, 2012). Numerous studies have attempted to explain the differences between these two enterprise clusters (Woschke et al., 2016), however very few have achieved their targets. Though governments and large corporations play a dominant role in the formal economy, SMEs drive the informal sector; hence, many developed and emerging nations aggressively pursue public policies designed to encourage SMEs (Awa et al., 2015). In the knowledge economy, the strength of SMEs is essentially determined by their ability to wisely take advantage of human intellectual capital and technology even more than traditional resources (Awa et al., 2015). Curran and Blackburn (2001) conferred three key characteristics of SMEs as uncertainty, innovation, and evolution. Moreover, Scott and Bruce (1987) have identified five stages of growth in a small business as; inception, survival, growth, expansion, and maturity. They further declare that the management and the structure of the organization fluctuate significantly through these stages. A significant majority of SMEs are local in their operations and rooted in local communities (Bannock, 2005).

SMEs often have more flexibility in their operations (European Communities, 2002). They can often be more flexible and responsive to customer needs than large integrated firms (OECD, 2004), as large firms, unlike SMEs, are constrained by large investments, formal structures, and procedures, etc. This distinct characteristic has allowed them to quickly adapt to changes happening in the business surroundings and gain a competitive advantage if they are willing to change. In addition to the characteristics mentioned above, Holmes and Gibson (2001) have identified a list of characteristics including; management and ownership is rarely separate, control over business operations and decisions resides with very few persons, the equity in the business is not publicly traded, the personal security of the owners is required to secure business debt; limited liability is rarely present, the level and the number of formal contractual relations are kept to a minimum level and personal objectives of owners will guide and directly influence business decisions. Hence, these distinctive characteristics of SMEs decide the evolution of SMEs.

2.3. SWOT FOR SMEs

The continuous changes that affect the business environment, due to the globalisation process and the technology innovations, force SMEs to persistently look for new direction for the preserve and advance their market position (Aremu, 2004) while increasing their capacities. To be competitive in a global context and to meet unprecedented market changes, organisations must not only design and offer better products and services; but need to improve their operations and processes (Rahman et al., 2013). Therefore, a proper analysis of the SME organisation is paramount. Porters five force theory (Porter, 1979), SWOT analysis, PESTEL model and the Strategic group analysis (Dess et al., 2006) or similar theory can be used to analyse the prevailing condition of construction SMEs. However, it should be a powerful tool to analyse and understand the existing business environment and its attractiveness. Choice and use of strategic planning tools and techniques in SMEs by Kalkan & Bozkurt (2013) praised about the simplicity and practicality of SWOT analysis when comparing to other strategic planning tools. They further added that SWOT as a valuable management tool which may be easily absorbed with good effect into the realities and practicalities of an organization's existing planning and strategy formulation processes.

Given the pervasiveness of the use of the SWOT methodology by practitioners and academicians alike, it was not surprising a number of research studies focused on SWOT as a tool for strategic analysis. SWOT analysis could be used to analyse strengths, weaknesses, opportunities, and threats of any given matter (Kaplan Financial Limited, 2010). Though studies that focus on some aspects of SWOT are available, there is a dearth of research that undertakes a comprehensive assessment of SWOT analysis in SMEs. However, it is noteworthy that SMEs are higher in number than large-scale contractors in developing countries such as Sri Lanka which make it difficult to discount their contribution to economic growth and makes it imperative (Kamalanathan et al., 2014). Though Wasi and Skitmore, (2013) and Thwala and Mvubu (2008) have studied the challenges and problems facing small-scale construction in other countries, the findings do not quite suit the Sri Lankan

construction industry due to the distinctive characteristics of the construction industry in Sri Lanka. However, their findings will guide the present research to study SWOT analysis for Sri Lankan construction SMEs.

3. RESEARCH METHODOLOGY

This research aimed to analyse the construction SMEs in Sri Lanka in terms of their strengths, weaknesses, opportunities, and threats. A literature review was carried out to explore the theoretical identification and correspondingly, multiple case studies were conducted. The profile of the case study organisations are summarised in Table 3.

Table 3: Profile of the Case Study Organisations Used for the Research

	Case A	Case B	Case C	Case D	Case E
Grade	C2	C2	C4	C4	C6
Size	Medium	Medium	Small	Small	Small
Nr of Employees	50	60	45	20	20
Nr of Projects in hand	11	05	04	03	03
Experience (years)	34	15	22	10	06
Field of activity	Building	Building	Building	Building	Building
Respondents	<ul style="list-style-type: none"> ▪ Chairman ▪ Project Manager ▪ Site Engineer 	<ul style="list-style-type: none"> ▪ Managing Director ▪ Project Manager ▪ Site Engineer 	<ul style="list-style-type: none"> ▪ Managing Director ▪ Technical Officer ▪ Technical Officer 	<ul style="list-style-type: none"> ▪ Chairman ▪ Project manager ▪ Technical Officer 	<ul style="list-style-type: none"> ▪ Managing Director ▪ Technical Officer ▪ Technical Officer

The empirical data collection methods adopted within the case studies were semi-structured interviews with project participants, non-participant observations of progress meetings, and study of substantial of the project (Tender documents, meeting minutes, etc.). Employing semi-structured interview method is preferred in qualitative approach (Edwards & Holland, 2013) since the respondents have a structured flow to ask questions from interviewees. Three respondents from each case were interviewed. Moreover, observations and reviewing documents were undertaken to capture data. All five SME contractors represented different approaches and strategies with regard to SWOT in their projects. Hence, SWOT analysis used to investigate the construction SMEs in this research study. The explored external and internal factors were further categorised into financial, technical, managerial, legal and political and other factors. This categorisation assists in proper identification of SWOT by SMEs and to take necessary actions explicitly for each category.

4. SWOT ANALYSIS FOR SRI LANKAN CONSTRUCTION SMEs

Findings of the case studies identified 21 internal factors as the strength of construction SMEs and 48 internal factors as weaknesses of construction SMEs. Yet, the study further revealed 22 factors under opportunities for construction SMEs and further identified 46 external factors as threats to their organisation. Moreover, they were categorized under five main themes as discuss in the next sections.

4.1. STRENGTHS OF CONSTRUCTION SMEs

Table 4 discusses the strengths of construction SMEs with respect to the research findings. The identified strengths were further categorised to precisely identify financial strengths (FS), technical strengths (TS), managerial strengths (MS), legal and political strengths (LS) and other strengths (OS).

Table 4: Strengths of Construction SMEs

Strengths				
Financial	Technical	Legal & Political	Managerial	Other
FS1-Less capital required	TS1-Small number of workers	LS1-Favorable trade agreements	MS1-Entrepreneurial Culture	OS1-Competitive advantage over large companies
FS2-Flexible cash flows	TS2-Few number of equipment	LS2-Broad range of well-funded support institutions	MS2-Independent workforce	
FS3-Less energy required	TS3-Easy to train people	LS3-Widely shared visions and goals between public and private sector	MS3-High flexibility and resilience to the dynamic changes	
	TS4-Better control of the resources		MS4-Independent business firm	
	TS5-Action learning		MS5-Easy handling of workers	
	TS6-Low-tech work environment			
	TS7-Quick reactions to problems			
	TS8-Does not require high skills			
	TS9-Use of traditional technologies			

According to Table 4, construction SMEs has a competitive advantage over large construction companies due to the size of the organisation. As they are working on projects that are small in size, capital, and energy requirement is less which is a financial strength of the organisation. Use of traditional technologies in the low-tech work environment is an added advantage for construction SMEs and hence, they require a minimum number of workers, equipment and do not require high skills. Yet, they can quickly react to the problems within the site. The respondents further emphasized that there is a good control of the resources and hence, timely training of workers is another technical strength. Favourable trade agreement, a broad range of well-funded support institutions and widely shared visions/goals between public and private sector strengthened construction SMEs legally and politically. Entrepreneurial culture, independent workforce, high flexibility and resilience to the dynamic changes, independent business firm and easy handling of workers identified as the managerial strength of construction SMEs. Nevertheless, weaknesses of construction SMEs diluted the above-discussed strengths.

4.2. WEAKNESSES OF CONSTRUCTION SMES

Table 5 present the weaknesses of case study organisations as per the above categorisation.

Table 5: Weaknesses of Construction SMEs

Weaknesses				
Financial	Technical	Legal & Political	Managerial	Other
FW1-Lack of Capital	TW1-Lack of value addition	LW1-Approach to economic development is not sufficiently holistic	MW1-Lack of qualified professionals	OW1-Limited resources
FW2-Budget overrun	TW2-Unable to meet the market demand	LW2-Internal Policies and Strategies of the parent organisation	MW2-Not enough laborers	OW2-Limited networking
FW3-Lack of cost controlling techniques	TW3-Inadequate knowledge/techniques on process improvement	LW3-Less capital support from the government	MW3-Missing “Out of the box” strategies	OW3-Access to markets is limited
FW4-Delaying payment	TW4-Decreasing productivity	LW4-Difficulties in meeting regulations and policies of professional bodies	MW4-Insufficient research and development	OW4-Not enough facilities
FW5-High cost of construction	TW5-Estimation errors		MW5-Lack of experience in conducting formal market research	OW5-Lack of job continuity
	TW6-High rate of collisions and accidents		MW6-Lack of innovative solutions for products and services	OW6-Difficulties in finding clients
	TW7-Design failure/ changes		MW7-Lack of strategic leadership	OW7-Continuous change of client’s requirements

Weaknesses				
Financial	Technical	Legal & Political	Managerial	Other
	TW8-Increase of waste in projects TW9-Quality deficiencies in the output TW10-Workmanship issues TW11-Difficulties in technology transfer TW12-No innovation TW13-Limited use of information technologies TW14-Time overrun & missed deadlines		MW8-Poor Management Control MW9-Ineffective monitoring MW10-Lack of motivation in the workforce MW11-Shortage of effective marketing strategies and other support facilities MW12-Lack of formal procedures MW13-Not enough time to learn and reflect upon on lessons learned MW14-Lack of knowledge transfer MW15-Difficulties in technology transfer	OW8-Instability of the construction processes OW9-Lack of H & S awareness OW10-Poor H & S measures

Lack of capital, budget overrun, delaying payment and the high cost of construction were the financial weaknesses of construction SMEs. Yet, lack of cost controlling techniques will worsen the situation. Technical weaknesses include decreasing productivity, estimation errors, high rate of collisions and accidents, design failure/ changes, an increase of waste in projects, quality deficiencies in the output, workmanship issues, Time overrun and missed deadlines, limited use of information technologies and inability to meet the market demand. Hence, value addition in the organisation is low. Inadequate knowledge/techniques on process improvement and difficulties in technology transfer marked as the reasons for not implementing new construction tools and technologies within the construction process.

Most of the projects, construction SMEs work as a sub-contractor to a large construction company. Hence, internal policies and strategies of the parent organisation is another barrier to the independent development of the SME organisation. Similarly, there are difficulties in meeting regulations and policies of professional bodies. Even though the government provides special loan schemes for construction SMEs, less capital support from the government can be identified. Proper management of human resources marked as another success factor for any organisation. Yet, construction SMEs has a massive number of managerial weaknesses due to improper management of human resources. However, due to lack of qualified professionals and not enough labourers in the field, construction SMEs unable to get even the necessary amount of workers. Due to the monopoly created by large construction companies, SMEs has limited access to markets. Hence, difficult to find clients and hence, lead to limited networking within the construction industry. Continuous change of client's requirements is another weakness of construction SMEs and hence, they have no capacity to face the changing requirements. Moreover, they have limited resources, facilities and hence, construction processes are unstable all the times. Furthermore, lack of H & S awareness and poor H & S measures identified as the reasons for the increase of H & S issues. Yet, plenty of opportunities are available in the industry to overcome the weaknesses.

4.3. OPPORTUNITIES FOR CONSTRUCTION SMEs

Table 6 shows the opportunities of construction SMEs as found from the research study.

Table 6: Opportunities for Construction SMEs

Opportunities				
Financial	Technical	Legal & Political	Managerial	Other
FO1-Special loan schemes form government and private bank	TO1-Adding value to products (knowledge, services)	LO1-Unexploited linkages between different economic sectors	MO1-Unexploited training programs for management	OO1-Increasing public awareness about SMEs
FO2-Low interest rates for projects	TO2-Available of training programs for SMEs	LO2-Special incentives from the government	MO2-Transparency of the processes	OO2-Target markets
FO3-Tax reductions	TO3-Availability of human resources	LO3-Supportive legislations	MO3-Adoptive for future needs	
FO4-Availability of funds for research and innovations	TO4-Emergence of new technologies	LO4-Significant long-term government support for the SME sector	MO4-Standardized processes for SMEs	
	TO5-Availability of new process improvement methodologies	LO5-Professional bodies accreditations	MO5-Continuous monitoring and evaluation from the government	
			MO6-Availability of trainers/ expertise	

Construction SMEs has largely contributed to the employ generation of an economy. Hence, special loan schemes form government and private banks provide at low-interest rates for projects. Further, SMEs getting tax reductions for some of the projects. Availability of funds for research and innovations is another financial opportunity that SMEs can get to overcome the financing problems. The research will not only provide money for the organisations but also lead to new process improvement methodologies. Moreover, the emergence of new technologies will change the traditional way of doing the businesses and hence, value addition to the product is enormous. Though some of the respondents doubt about the availability of human resources, the majority of respondents agreed that available human resources as a technical opportunity for construction SMEs. Moreover, nowadays a large number of training programs can be found for construction SME management as well as the shop floor workers.

Most of the respondents appreciated the seminars and workshops conducted by CIDA Sri Lanka for the benefit of construction SMEs. The government provides special incentives, supportive legislation, and significant long-term government support for the SME sector due to the unexploited linkages between different economic sectors. Furthermore, accreditations from professional bodies reinforced the quality of the projects carried out by them. Hence, some respondents highlighted the importance of getting accreditations from recognised institutions. The increase of public awareness about SMEs in the industry is another opportunity for construction SMEs. The case study further identified that even though trainers/ expertise are available in the field, the cost of hiring them is excessively high for the construction SMEs.

4.4. THREATS OF CONSTRUCTION SMEs

The last phase of SWOT analysis is to identify the possible threat to the organisation. Hence, Table 7 summarised the threats identified during the research study for construction SMEs.

Table 7: Threats of Construction SMEs

Threats				
Financial	Technical	Legal & Political	Managerial	Other
FT1-Difficulties in access to finance	TT1-Equipment availability	LT1-The demand of bribe by politician	MT1-Shortage of labour	OT1-Deficiencies in the construction industry
FT2-Global financial crisis	TT2-Material availability	LT2-Change of government policy	MT2-Little flexibility in view of employment structure	OT2-Monopoly created by large construction companies
FT3-Capital supply	TT3-New construction technology	LT3-Continuous change in regulations		OT3-Increasing competition within construction SMEs

Threats				
Financial	Technical	Legal & Political	Managerial	Other
FT4-Significant increase of energy cost	TT4-Lack of skilled workers	LT4-Occupational health/ safety related laws	MT3-Trade Liberalization	OT4-Difficulties in finding clients
FT5-High costs of construction	TT5-Migration of Sri Lankan construction workers to neighbouring countries	LT5-Difficulties in meeting regulations and policies of professional bodies	MT4-Lack of transparency	OT5-Lack of access to international markets
FT6-High cost of labour		LT6-Lack of specific standard regulations	MT5-Lack of professionalism	OT6-Unfavourable weather conditions
FT7-High cost of material	TT6-Poor Quality of material	LT7-Instability of the political environment	MT6-Unfavorable procurement methods	OT7-Changing environment influences
FT8-High cost of equipment	TT7-Poor Quality equipment	LT8-Increase of labor demands wage		OT8-Nature/ inherent features of the construction industry
FT9-High interest rates		LT9-Taxations		OT9-Negative attitudes towards SMEs stability
FT10-Availability of funds		LT10-Professional bodies accreditations		OT10-Lack of access to international markets
FT11-Hidden cost (back up, problem solving and solutions)				OT11-Lack of professionalism among professionals
				OT12-Collisions and accidents

Difficulties in access to finance, high-interest rates, global financial crisis, capital supply and significant increase of energy cost are some of the constant threats in the industry for both construction SMEs as well as large construction SMEs. Yet, high costs of construction including the high cost of labour, material, and equipment, hidden cost (back up, problem-solving and solutions) identified in the research study. Though government provides a fund for construction SMEs, availability of funds and competitiveness in obtaining them are two factors that take into considerations by construction SMEs. However, construction SMEs faced problems due to availability and quality of equipment and material used for their projects. Moreover, respondents highlighted that availability of skilled workers and migration of them to neighbouring countries as a massive threat to the success of the organisations. Furthermore, new construction technologies replace the human works and hence, large construction companies tend to invest in new technologies rather sub-contracting. Thus, construction SMEs even face the issues related to the stability of the organisations.

The demand of bribe by a politician is another biggest threat for construction SMEs. Thus, in some instances, even though they are eligible to get the job, they will not be getting the job due to the corruption in the industry. Hence, there is a high impact for construction SMEs from legal and political threats in the industry. Due to the monopoly created by large construction companies, there is a deficiency in the construction industry. Hence, to retain in the marketplace, there is a huge competition within construction SMEs. This is marked as the prevalent threat for construction SMEs as per the eyes of the respondents. Hence, it is difficult to find clients and access to international markets. Nature/ inherent features of the construction industry marked negative attitudes towards SMEs stability. Yet, unfavourable weather conditions and changing environment influences the success of construction SMEs in Sri Lanka.

4.5. SWOT ANALYSIS MATRIX FOR CONSTRUCTION SMEs

Figure 1 represent the SWOT analysis prepared for construction SMEs in Sri Lanka. The above discussed Strengths, Weaknesses, Opportunities and Threats were given in codes in the following figure.

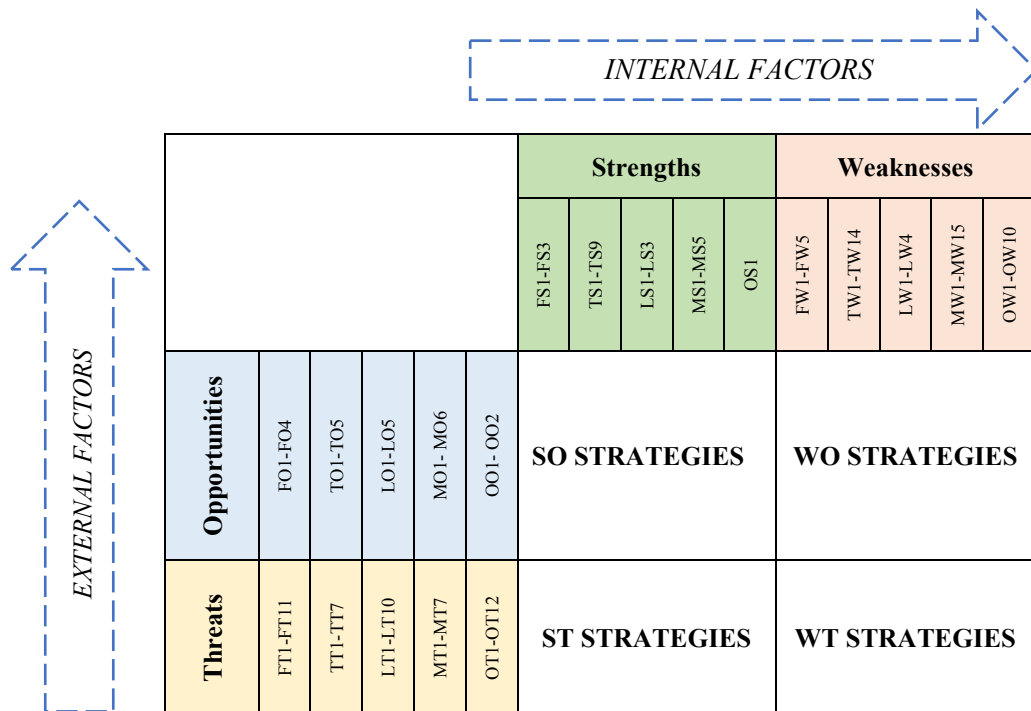


Figure 1: SWOT Matrix for Construction SMEs

The SWOT analysis conducted for construction SMEs depicted that there are internal factors as well as external factors to be considered to sustain in the market. SWOT analysis is a tool for assessing and communicating the current position of an organisation or a particular reform option in terms of its internal strengths and weakness and the external opportunities and threats it faces. The SWOT analysis of the research depicts that, the weaknesses and threats are higher than the strengths and available opportunities of construction SMEs. The SWOT analysis matrix (Figure 1) gives the idea of strategic direction consisted of four possible scenarios to gain the advantage of positive facts over negative facts as SO, WO, ST and WT. Correspondingly, SO is the usage of strengths to make use of the opportunities and WO emphasized on how to take advantage of opportunities by overcoming weaknesses. ST strategies will use strengths to minimise threats and WT strategies will minimise the effect of weaknesses and overcome the threats.

5. CONCLUSIONS

SWOT analysis or categorizing issues into strengths, weaknesses, opportunities, and threats is one of the most respected and prevalent tools for strategic planning (Glaister and Falshaw, 1999; Helms, *et al.*, 2011). Usually, it is an effective way of gathering and classifying information, illustrating particular matters, and generating strategic planning ideas for a business (Chan, 2011). Hence, this paper explored the strengths, weaknesses, opportunities, and threats of SME contractors in Sri Lanka. A literature review followed by five case studies were carried out to collect data. The collected data were analysed and presented them in a SWOT analysis to identify the advantage of positive facts over negative facts for construction SMEs.

The findings highlighted that the weaknesses and threats are higher than the strengths and available opportunities of construction SMEs. However, most of the weaknesses identified are controllable with the proper usage of opportunities in the industry. Hence, as per the SWOT matrix, there is a need to explore the SO, WO, ST and WT strategies to gain the advantage of positive facts over negative facts. This study further proves that a detailed understanding of the processes and extensive explorations of all possible causes, reasons using the SWOT analysis will reduce the number of challenges faced by construction SMEs. In addition, it was also evident that inexpensive or zero cost solutions could be implemented by identifying the strengths and opportunities of their organisations. Hence, construction SMEs in Sri Lanka needs to find a way to overcome the controllable challenges. This will pave the way for further research of this study to study the possible SO, WO, ST and WT strategies for construction SMEs. Some respondents already expressed their willingness to implement new construction methodologies and tools in their organisations. Yet, the research findings

evidenced lack of new knowledge on the process improvement tools considered as a major constraint against enabling among SME contractors in Sri Lanka.

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