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Small and Medium Manufacturing Enterprises (SMEs) and Knowledge-Base: South Asian Experience

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Abstract

The paper studied small and medium manufacturing enterprises in 12 South Asian developing and neighboring countries: Bangladesh, Cambodia, Lao, Myanmar, Nepal, Pakistan, Sri Lanka, India, Indonesia, the Philippines, Thailand, and Vietnam. It has seen the intensity of manufacturing enterprises and their production and export performance. The paper found that Bangladesh, Nepal, Myanmar, Pakistan, Lao, and Cambodia are poor performers; Thailand, India, Vietnam, the Philippines, and Indonesia are the high performers; and Sri Lanka stands in between. The paper used the data for 2018 in most of the cases. The data were available from national and international organizations directly relevant to SMEs. The main contribution of the paper is the explaining of the role of knowledge-base such as belief and knowledge, faith and reason, and art and aesthetics on SME and entrepreneurship development. R&D, creativity rank, human development rank, entrepreneurship development rank, and government expenditure on religious affairs gave some evidence in support of the claim.

Keywords: SME, Entrepreneurship, Manufacturing, Performance, Knowledge-Base, Belief and Faith

Introduction

Industries from smaller to larger are informal sector, micro enterprises, SMEs, PLCs, and MNCs. SMEs include agro-based industries, manufacturing, and trading. In developing and LDCs, majority entrepreneurs are in the informal and micro sector and very few are SMEs (missing middle). The informal sector including micro enterprises largely remains unregistered in these countries. But in the developed countries, these enterprises are registered and therefore informal sector is very negligible and, thus, SMEs come largely in the national statistics. Typically, micro firms have less than 10 employees (service sector 5 employees) including family members, small firms have less than 100 (service 50), and medium firms have less than 250 employees. Again, the definition varies between countries. Size is also defined by sales and total assets (see Table 1 for definition of SME in South Asian countries). Size varies across industry, agriculture, and service. The definition of SMEs by the number of employees is the most common practice in Asia (ADB 2015). Smaller firms, compared to larger firms, have distinct characteristics: (i) limited number of products, technologies, and know-how, (ii) limited resources, (iii) less developed management systems, (iv) senior management positions held by founders of the firm and or their relatives, and (v) niche products or tailor-made products and services than standardized products and services. Most SMEs produce basic goods, not luxury goods. Even when economic straits push purchasing power down, demand for their goods remains relatively stable. SMEs use more local materials than larger enterprises and they market their products more domestically than internationally. SMEs are the majority of business establishments worldwide (ADB 2012). SMEs make up 95% of all enterprises in OECD countries and 93% in non-high income, non-OECD countries. SMEs account for 55% of GDP (median GDP contribution of SMEs) in developed economies and 35% in developing economies. SMEs make up the majority of employment (median share of employment in the formal non-agricultural private economy) in almost all economies: 67% in emerging

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and developing countries and 63% in OECD countries plus Brazil. ILO (2015) study of 99 countries documents 80% employment in informal sector (self-employed and micro) and 15% in formal sector in low-income countries; but in high-income countries, the picture is opposite, that is, 80% employment in formal sector (50% of that with 50 or more employees) and 18% employment in informal sector. In the EU, SME exporters contribute 34% of total exports. Evidence for ten South-East Asian countries shows that SMEs contribute approximately 30% of total export value. Germany's SMEs account for 54% of value added and 63% of employment (SBA Fact Sheet 2018, European Commission). In China, SMEs make up 99% of enterprises, contribute 60% of GDP, and 82% of employment. The figures of the economic importance of SMEs very much depend on exactly how SMEs are defined. Small firms with 5 or less employees contribute 77% of Bangladesh's GDP (ICG-MIDAS Survey 2003).

Self-employment with SMEs is essential in developing countries where unemployment is very high. Bangladesh and India need to give more attention for SMEs for they have a large population and unemployment; particularly youth unemployment is very high, around 40%. Here, we need to innovate new products and services with low capital. Light electric and electronic products, plastics, leather, fashion, poultry, fishing, IT products and services, and business require lesser capital that can be borrowed from friends and relatives. There came micro credit banks and farmers' banks to support self-employment at SME levels. Some of these SMEs (household business) can be ventured even at own premises.

There has been plenty of work on SME. Financial inclusion and exclusion or access to banks of SMEs has been widely researched. Other studies involving SME were linked to government support such as political stability, business environment, and logistic performance. This paper believes that a country's knowledge-base such as scientific development, human development, competitiveness, and creativity could explain the promotion and development of SMEs. Importantly, faith, spirituality, and belief-orientation as against reason and knowledge (knowledge in philosophy) may hinder that development. Therefore, the paper deals with the state of development of SMEs in the belief and knowledge-based countries.

SMEs are broader areas. They include informal sector, household business, micro, small, and medium enterprises. Again, they could be industry, manufacturing, trade, and service. This paper deals with only manufacturing enterprises. One reason for this is the availability of data because in many countries there is industrial census particularly of manufacturing industry. Second, manufacturing industry needs more government support particularly clustering or common facilities and infrastructure, which is not usually required for other components of SMEs. The paper will cover the current status and performance of SME manufacturing establishment in 12 South Asian countries Bangladesh, India, Nepal, Myanmar, Pakistan, Sri Lanka, Cambodia, Lao, Indonesia, Thailand, Vietnam, and the Philippines. Performance includes its extent, contribution to employment, value added, and export or participation in global value chain. The paper will address and explain the role of knowledge-base measured by R&D, creativity, human capital development, faith and belief, and art and aesthetics on the promotion and development of SME.

Knowledge in Philosophy

Belief is the Beginning of Knowledge

A person begins with a belief about something. When his belief is accepted by his family, then it becomes a better belief. This way, when his belief is accepted by his community, country, and finally at global level, his individual belief becomes much richer belief and global belief and that can be called knowledge. At each stage of this ladder, his belief becomes stronger and richer because he compares, cross-examines, and synthesizes his beliefs with others. Most people, however, would finish the journey up to the family and cannot embrace the richer beliefs at subsequent levels, that is, community, country, and international levels. Due to narrow and local belief only, people are engaged in the pursuit of self-interest, kinship, and conflicts.

Knowledge is Revision of Belief

Knowledge comes through revision of belief. Belief may change with the change in time and place. Human beings perpetually change their states of knowledge and belief in response to various other beliefs on a reliable method (Putnam 1996: 223, 229). An individual has to keep track of the justifications for his belief. A belief is justified by one or several other beliefs. According to coherent theory of Harman (1986: 32-33), a belief has to fit with other beliefs. But coherent false beliefs are not knowledge.

Coherence includes not only consistent but also logically consistent. Family planning, organ transplantation, abortion are some revisions in belief system in many parts of the world.

Knowledge is Justified Belief

A belief must be supported by sufficient justifications. Justified belief is also known as well-founded belief, reasonable belief, and belief based on good grounds. The act of justification is an evaluation system. Knowledge results from acceptance of belief justified by evaluations (Lehrer 1997: 27). A justified belief is arrived at by reasoning and evidence. Therefore, a justified belief can be called a reasoned belief. There are several causes and effects of an act or behavior. A knowledge-based act or behavior is based on the proximate or strongest cause(s) and effect(s). Alston's (1995) definition of knowledge seems more objective where he suggest that knowledge is a belief or reason where there are no other overriding beliefs or reasons to the contrary. If contrary cases exist, they must be further evaluated. Exercise of reasons, rich reasons, helps creating harmony among several conflicting irrational impulses. If several incompatible irrational impulses compete for dominance, reason will support the one most favorable for the survival and growth.

Knowledge is Independent Reason

Belief to be knowledge must be supported by an independent reason, that is, reason from unaffiliated persons. Beliefs and judgments or ideas have to be justified by the force which is independent of social milieu. A 'culturally specific' or 'rationality in context' is narrower than 'universal rationality'. A person may advance reasoning in his own line, in his own interest. Politicians may openly seek to propagate the interests of a particular group. A business community may unjustifiably ask for exemption in corporate income tax for their own interest. These 'dependent' reasons are pervasive across place and time.

Knowledge through Discrimination

The law discriminates between accidental and intentional killing. She has an artist's discriminating eye. A discrimination reader finds and separates bad knowledge from good knowledge. Good education requires active inquiry and the ability to contrast alternatives. A fundamental facet of human life is letting things apart, distinguishing predator from prey, or a protective habitat from a threatening one. Instead of saying two houses apart, better to say two houses are 500 meters apart. Knowledge by discrimination means finding different attributes in things, explaining things separately and alternative ways and in different directions and dimensions, and seeing a thing in its constituent pieces to indicate that something has been dealt with sufficiently.

Knowledge must be Seen

What is not seen is merely a belief not knowledge. Hearing (ear), cognition (sense), smelling (nose), and tasting (lung) will lead a belief to a knowledge (produce or idea) that must be seen. Seeing is more than believing because it finds causes or reasons, consequences, and then comes the task of justifying the belief. Something must be seen to be known. Scientists experiment beliefs and hypotheses and bring out something as visible which then become knowledge. If we think of a wound, we reflect on the pain which follows (cause and effect). A picture leads our thoughts to the original (resemblance). Researchers test and find their beliefs and hypotheses through empirical investigation. We do not get something without a sensation. We get historical assertion through documents. Anthropologists and archeologists study the human history and prehistory through the excavation of sites and the analysis of physical remains. Hume (1888: 11) has proposed a theory whereby human beings try to understand an object of an inquiry by cause and effect through the medium of experience by sense and observation. Kant (1778), however, theorized 'a priori' knowledge as pure reason independent of experience. This 'a priori' in fact comes from 'rich' experience through connections, analogy, and correspondence. McDowell (1982) called this an interface between 'inner' or self-consciousness and the 'outer' or external world. The experience, which is broader in time and place, will give better connections and better principles and theories. The experience, which is free of kinship, local barriers, prejudice, and self-interest, will give richer experience, reasons, and pure reasons.

Sacred Scripts

All religious scripts prescribe to reframe from sin, harmful objects, anger, and greed, and embrace truth. But what are these and how to reframe from these or how

to embrace it are not available in the religious scripts. Only general principles of a good life are prescribed. Worshiping, glorifying and fearing God cover the most of the Quran and very common in the Bible and the Tanakh. There are examples of virtues and vices in the Bible and the Quran. But people around the world are continuously exploring these virtues, vices, good, and bad life in the worldly subjects from accounting to zoology, and from primary to university levels. Gita in most of it advises to earn knowledge by knowing God, the universe. Only general principles are given there; for example, pursue knowledge from a guru. But epistemology (the science of knowledge) explains how to seek knowledge about the universe through accounting to zoology. It is, however, true that knowledge does not remain in concentrated form in any of the subjects from accounting to zoology. Similarly, Dhammapada, a part of Tripitak, contains Buddha's teachings. There are 424 to 752 rhymes-advices and moral duties, for example, pure mind for peace, not to feel bad about others, and not to be angry. Buddha's teachings also included human behavior, meditation techniques, songs, poetry, and his past lives. Morality such as goodness, loving kindness, and advises and instructions such as be strong and have courage are also very common in the Tanakh. The sermons, gospels, instructions, or morals are just advices and prescriptions. Good, sin, gayan (knowledge), right, and wrong have not been defined. Although some of these are self-understandable, for example, do not murder, do not be jealous, do not be angry, etc., may not need any explanation. But say knowledge, a broad discipline, cannot just be grasped by the word only. Similarly what is right and what is wrong need lots of analysis. These scripts were of good value in that society and in that time (about 1500 to 5000 years old) when population was very small and primitive agriculture was the main mode of production. But over several thousand years, there has been sea change in societies, mode of production, science and technology, and human relations. What is right and what is wrong are no longer that simple. In diverse societies, the meaning of right and wrong is also diverse. Science, information science, technology, biology, physiology, modern medicine, business, management, social science, anthropology, economics, international relations, environment, and many more subjects are struggling to find out what is right and what is wrong.

Literature

In the developing and LDCs, SMEs (including informal sector and micro enterprises which are largely unregistered) are less integrated to the market than in the developed countries. Most of these enterprises rather contribute to the survival of poor and vulnerable segments of society (Harper, 1984, Dele, 2020). This *missing micro* is seen as the root cause of sluggish productivity increases and low growth rates in developing countries (Pages 2010). Because of *globalization and innovation of technology*, SMEs now expand beyond local, regional and national borders (Lee et al., 2012, Bose & Bristy 2016). Mobile apps, IoT, and artificial intelligence have contributed to this development. There are strategic alliances and joint ventures that promote SMEs (Dabic & Bach, 2008). Hasan (2017) argued for knowledge sharing and network building between supply and demand sides. He suggests that Bangladesh Diaspora community (Nonresident Bangladeshi) residing over different countries may provide foreign market information and first hand consumer information to the SMEs. This will be helpful in reducing the marketing cost of SMEs. International Trade Center (ITC 2019) has measured *SME competitiveness* score using 39 indicators along three pillars: capacity to compete (electricity, ease of trading across borders, tariff, capacity utilization, quality certification, environmental certification, managerial experience, governance index), capacity to connect (ICT access, ICT use, website, government's online service, cluster development, university-industry collaboration), and capacity to change (ease of getting credit, interest rate spread, school life expectancy, ease of starting a business, patent applications, trademark registrations, audited financial statements, business licensing and permits, access to educated workforce).

There have been studies linking SMEs and *entrepreneurship with religiosity*. Audretsch et al. (2013) was based on primary data generated by interview. It is a perception study. Hard data such as secondary published data are absent. The strength of published data is that these are observable, verifiable, and evidential. The typical questions in these studies were 'is religion important in your life?' do you belong to a particular religion or religious group? The problem with these studies is that these do not specify what religion is. These questions are too broad. Religion includes faith, festivals, religious rituals, cultural rituals, and social network among others. Faith is significantly religious, spiritual, and scripts based while cultural rituals are more of art, music, entertainment, and sociability. So a question of whether religion is important in a person's life will be answered with different weights to these elements that give different

messages about his religiosity. Again in Gita, religion is considered as 'work'. So, if you ask somebody, do you believe in religion or is religion important for you, then he or she will likely to answer 'yes'. Again a member of a family may not follow religion but other members may do (at least the rituals and the cultural part). Since we live in a family and as a respect for the family system, one would not directly say 'no' to such a question. Religion may not explicitly promote or inhibit entrepreneurial activity, but may rather propagate particular cultural value systems in particular social contexts that in turn frame attitudes towards entrepreneurship (Collins, 1997; Dana, 2009). Similarly dependent variables were self-employment or entrepreneurial activity. These also do not specify the types of entrepreneurial activity. Entrepreneurial activities may include family business, micro, small, and medium, and large business. These may again be manufacturing, service, or trading. Religiosity may differ between a micro family business owner and a sophisticated manufacture where more skill and education are needed. Zhang (2019) used China Labor Force Dynamics Survey. This contains individual-level information about demographics, entrepreneurial activity, and religious activities. Computer-assisted personal interview and face-to-face interview was applied with business owners and top managers and data was received from 7019 individuals in 69 major cities across 25 provinces. Using Logit regression, they found that individuals with strong *corporate religiosity* (group religious rituals or activities) are less inclined to conduct entrepreneurial activity in corrupted markets because doing so may require them to engage in business practices that counter to their religious group identity. In contrast, they are more likely to engage in entrepreneurship in well-developed markets. However, this study failed to identify *personal religiosity*. Group religiosity may be a part of social gatherings. Second, the type of religious activity was not mentioned. Third, the type of entrepreneurial activity was also not mentioned. Henley (2017) used national-level secondary data. He used religious groupings (Christian, Muslim, Hindu, non-religious) from the World Value Survey and the Association of Religious Data Archives, and entrepreneurial activity data from the Global Entrepreneurship Monitor Surveys. Entrepreneurial activity here is the percentage of the population aged between 18 and 64 who involved in setting up a new business or have a business, which has been trading and paying its owners for less than 42 months. The data were available for 226 nations for the year 2010. He found some positive significant correlation between the size of particular religious groups and entrepreneurial activity. The same problem such as in other studies above has appeared. Importantly personal commitment on religious faith and religious experience was not addressed. Galbraith and Galbraith (2007) somewhat overcame the above problem and better captured religiosity. They questioned how important is *faith* (10-point scale), whether a religious person (3-point scale), and how often attend religious services (8-point scale). They calculated a single religiosity score from factor analysis. They also found positive relation between religiosity and entrepreneurial activity. The studies dealt with start-up business and did not look into how successful these were. Parboteeah et al. (2015) studied *entrepreneurship* (from Flash Eurobarometer Survey No. 283 gathered by Gallup Organization), religiosity (primary data), knowledge investments (secondary data such as R&D as a percentage of countries' GDP and other perception data), and several control variables including per capita income, level of education, and inheritance. Religiosity exclusively was not a predictor of entrepreneurship (even no correlation). They concluded that *knowledge investments* are important contextual influences (but only at 10% probability) that moderate the relationship between religious aspects and entrepreneurial activities.

Shinde (2010) showed that religious *tourism helps entrepreneurship*. He studied religious tourism involving SME, for example, tour operators, travel agents, airlines, hotels, restaurants, publications, manufacture of products with religious flavors and religious culture and history such as souvenirs, gifts, books, greeting cards, jewelry, potteries, albums, and statues. There are cultural, spiritual, and religious purposes of tourism which are interrelated. Nearly 50% of package tours and 20% of one-day trips in India are for religious and pilgrimage purpose (NCAER 2003: 33).

Research Method and Data

The study is based on secondary data and field study. Secondary data is based on annual reports and website of various organizations, national and international, involved in supporting and developing the SME sector. Ministry of industries, ministry of planning, central statistical office, and export processing bureau websites provided SME performance data such as the number of SMEs, their contribution to employment, GDP, and exports. Statistical yearbook and industry census data were of further help. SME manufacturing export data is not always readily

available from the respective countries. Bangladesh authorities, for example, publish export data by industries not by size of industries and therefore required data has to be compiled from their available dataset. International organizations such as OECD and UNIDO give further data on SME manufacturing performance. UNIDO (2018) has measured competitive industrial performance (CIP) considering a country's capacity to produce and export manufactures. It is captured by manufacturing value added (MVA) per capita, manufactured exports per capita, share of medium and high-tech MVA to total MV, and share of medium and high-tech manufactured exports to total manufactured exports, share of world MVA, and share of world manufacturing trade. Knowledge-base of the countries was measured by proxies such as R&D, creativity score, human development index, entrepreneurship ranking, and expenditure on religion. World Bank, Economist Intelligence Unit, Global Entrepreneurship and Development Institute, and the countries' ministries of religion provided the data. The study explored the websites of SME supporting government agencies such as Bangladesh Small and Cottage Industries Corporation, Small Industries Development Corporation of India, micro credit NGOs and SME banks, science and industrial research centers, industrial and technical assistance centers, and development banks for further insight. International organizations such as World Bank, OECD, ADB, UNCTAD, ITC, EU, South Asia Enterprise Development Facility (SAEDF), and DFID of the United Kingdom give various supports for SME financing and development. Their studies are useful for understanding the SME sector. ITC competitiveness study of SMEs, World Bank and IDA financing for SME, and OECD studies on South Asian SMEs are of particular importance. The data is taken from the most recent published reports available of the concerned organizations. In most of the cases, the required data was available for 2018.

Any study of this nature becomes fruitful when it includes a comparative picture of at least some similar countries. The study therefore compares among the low- and medium-income neighbor countries Bangladesh, Cambodia, Lao, Myanmar, Pakistan, Nepal, Sri Lanka, India, Indonesia, Thailand, Vietnam, and the Philippines. Field studies (seeing and observing the practical fields) are necessary for verification, trust, and confidence in the secondary data that is used for analysis. The field studies also give more insight to the process aspect of the subject in addition to the secondary data. Field study includes visiting SME clusters, their infrastructure, and common facilities. The ministries and government agencies arrange SME fair every year. Foreign missions also arrange fair for their countries' products. Visiting the fairs and studying the brochures from the participating enterprises are good sources of understanding the nature of SMEs and their products, services, and practices. Interactions with the relevant people add to the above understanding.

A unique character of methodology of this paper is that it takes small sample size (only 12 countries) because there is no secondary data on entrepreneurs' demographic behavior in South Asia. Therefore, it relies more on process aspect than econometric modeling for explaining data. Process aspect is often more exploratory than econometric modeling. Process aspect sometimes explores root causes of problems where secondary data is not available. For example, belief and reason are the central points of knowledge in philosophy and epistemology. And religious scripts are important areas where the concepts belief and knowledge are well understood. Therefore, this paper consults the salient features of the various scripts. But no secondary data base so far has been prepared.

Results

Intensity of Manufacturing SME and Employment

Thailand, Indonesia, Vietnam, Sri Lanka, and the Philippines document higher intensity of SME manufacturing establishments and their employment both in absolute number and per 100 people. Pakistan is the worst performer followed by Bangladesh. Cambodia, Lao, Myanmar, and Nepal stand in between (Table 1). West Bengal of India although small in area compared to Bangladesh has more registered small manufacturing establishments and employ more people than in Bangladesh. The results will have to be taken with care because many micro manufacturing establishments remain outside the national statistics. Particular mention should be made of Bangladesh and Pakistan. Bangladesh Small and Cottage Industries Corporation does not have any formal mechanism to register firms with less than ten workers. Pakistan data refers to mailing list. It means that no census was made rather the Pakistan Bureau of Statistics maintains a mailing list of SMEs with more than ten workers. Second, SME definition is different in different countries and even different by different authorities. Third, the industrial census of the countries belongs to different years.

Table 1: Small and Medium Registered Manufacturing Enterprises and Employment (Including Micro but Excluding Mining, Minerals and Construction) in 2018. Total Employment in Million

	Micro		*Small*		*Medium*		*Total*	
	No.	*Employ*	*No.*	*Employ*	*No.*	*Employ*	*No.*	*Employ*
Bangladesh	16689	263720	23557	1.12m	3014	461142	43260	1.84
Per 100 people							0.027	1.14
West Bengal	94404	n/a	8533	n/a	45	n/a	102982	11.0
Per 100 people							0.114	12.2
Sri Lanka	121426	285623	9961	747828	n/a	n/a	131387	1.03
Per 100 people							0.624	4.68
Philippines	112458	366210	14448	363756	1256	175212	128162	0.91
Per 100 people							1.20	0.85
Thailand	398310	1210791	15218	422489	7178	722000	420706	2.36
Per 100 people							0.61	3.42
Vietnam	42620	195115	29699	1380798	1551	380916	73870	1.96
Per 100 people							0.077	2.04
Indonesia	3.99m	7.18m	265710	2.25m	295541	6.0m1	4.56m	15.43
Per 100 people							1.70	5.76
Pakistan	n/a	n/a	n/a	n/a	n/a	n/a	9823	0.94
Per 100 people							0.01	0.44
Lao	n/a	n/a	n/a	n/a	n/a	n/a	24221	0.11
Per 100 people							0.346	1.57
Cambodia	n/a	n/a	n/a	n/a	n/a	n/a	31149	0.09
Per 100 people							0.195	0.56
Myanmar	48405	n/a	17286	n/a	5031	n/a	68730	1.4
Per 100 people							0.127	2.59
Nepal	36402	326560	2355	29261	793	23857	39550	0.38
Per 100 people							0.141	1.36

Source: Own compilation from the following sources:
Bangladesh Bureau of Statistics, Survey of Manufacturing Industries (total population not sample), 2019 and BSCIC; West Bengal Small Industries Development Corporation, State Industrial Profile of West Bengal 2015-16, MSME Development Institute, Ministry of MSME, GOI; SME manufacturing survey 2008, National Statistics Office, Philippines); The 2012 Business and Industrial Census: Manufacturing Industry, National Statistics Office, Ministry of Information and Communication Technology, Thailand; General Statistics Office, Vietnam); Statistical Yearbook 2020, Indonesia; Pakistan Bureau of Statistics; the steering committee on economic census 2007, Lao; Technical Report: SME Statistics in Cambodia, SME Secretariat, 2007; Myanmar Micro, Small, and Medium Enterprise Survey, 2017, Central Statistical Organization, Ministry of Planning and Finance; Project on Capacity Development for implementation of Economic Census 2018: Manufacturing Establishment Census of Nepal, Central Bureau of Statistics and Statistical Yearbook 2017 (micro less than 10 employees).
SME: Bangladesh, employees 10 to 250 and assets $600 to 2.5m; West Bengal, assets up to $2.5m; Philippines, assets up to $2m; Thailand, employees up to 200 and assets $6.2m; Vietnam, employees up to 300 and assets $4.3m; Indonesia, employees up to 99 and assets up to $660000; Pakistan, employees 10 to 99 and assets $12550 to $250000; Lao, employees up to 99 and assets up to $135000; Cambodia, employees up to 100 and assets up to $500000; Myanmar, employees up to 300 and assets up to $714000; Nepal, assets up to $1.3m.
Population (million): Bangladesh 161, West Bengal 90, Sri Lanka 22, Philippines 107, Thailand 69, Vietnam 96, Indonesia 268, Pakistan 212, Lao 7, Cambodia 16, Myanmar 54, Nepal 28.
[1]medium and large

Participation of SMEs in Value Added and Exports

Exports help an economy in many ways: increasing employment, earning foreign currencies required for import of goods, services, and technology, and economic growth. Exports are a component of aggregate demand and rising exports will help aggregate demand and cause economic growth. Lucas (1993) stressed the importance of an exporter as it allows workers and managers to continue

taking on new tasks, which enables sustained learning on the job. The probability of failure of exporting SMEs is lower than of non-exporting SMEs (Esteve-Perez et al., 2008).

Export performance of SME manufacturing is lower in Bangladesh, Pakistan, Lao, and Myanmar compared to that of Thailand, Vietnam, the Philippines, and India. SME manufacture exports as the percentage of total exports is 1% in Bangladesh and Myanmar, 5% in Sri Lanka and 7% in Nepal, whereas this is more than 15% in India, the Philippines, Thailand, and Vietnam (Table 2, item 3). In Bangladesh, during 2019-20, SME manufactured goods export was around $1250 million (wood products, handicrafts, chemicals, plastics, rubber, engineering products, others) out of total exports of $40535 million or around 3% (own compilation from the Export Promotion Bureau). ADB Institute (2015) showed the share of SME (including agro-based products and services) exports out of total exports to be 11% in Bangladesh and more than 20% in India, Indonesia, Thailand, Sri Lanka, the Philippines, and Vietnam. Similar is the result when both large and SME manufacture sector are considered. Manufactured value added (large and small enterprises) per capita (item 4), export of manufactured goods per capita (item 5) in 2015 are less than $250 in Bangladesh, Nepal, Pakistan, and Myanmar whereas these are more than $300 in Thailand, Vietnam, and The Philippines. Similar is the performance in competitive industrial performance index (CIP in item 6) in Table 2. CIP captures countries' ability to produce and export manufactures. Bangladesh, Pakistan, Myanmar, Sri Lanka, Cambodia rank above 75 but Thailand, Vietnam, the Philippines, and India rank within 40 in 2015 (item 6). World 50 leaders in exports of merchandise in 2017 include only India, Thailand, Vietnam, Indonesia, and the Philippines from South Asia (WTO 2018). World Bank (2018) further documents medium and high-tech exports as a percentage of total exports to be less than 20% in Bangladesh, Pakistan, and Nepal but 34% in India, 64% in Thailand, and 51% in Vietnam. Lack of quality certification (product, environment, and labor standards) is another obstacle to SME participation in value chains (item 7).

The above results are consistent with Kimura (2013: 361-383) who studied the ratios of machinery and machinery parts and components in total manufacturing exports and imports to and from the world in 2007 for selected 55 countries where higher-performing countries Thailand, Vietnam, Indonesia, India, and the Philippines found their places. Low-performing countries Bangladesh, Pakistan, Lao, and Myanmar did not find their places in the study indicating that these countries have no significant import and export of machineries. Share of machinery exports to total exports were 0.3% in Cambodia, 8.1% in Indonesia, 74.8% in the Philippines, 47% in Thailand, and 19.1% in Vietnam (Kumara & Obashi, 2010) based on World Trade Atlas (HS 2002, six digit). The results are also consistent with WTO (2016) study of other developing countries. In 2013, out of 412 surveyed micro firms in Congo, only 6% were engaged in exports. Bhutan and Ethiopia have even lower at lower than 3%, in Myanmar it is less than 1%. Only 2% of Bhutan micro firms has website and it is 20% in Ethiopia. SMEs' direct exports (purely domestic firms without FDI and foreign license) represent on average 7.6% of total manufacturing sales. Direct exports of large firms with more than 100 employees is 14.1% of their total sales. SMEs in Africa directly exported 3%. Indirect exports (sold domestically to a third party that exports, that is, as suppliers to large firms that export) of developing countries are much smaller; SMEs' share is 2.4% and large firms' (more than 100 employees) share is 12.6% of the total sales. In the developed countries, MSMEs account for 34% of the total exports (WTO 2016).

Knowledge-Base

There are sufficient literature on small business and knowledge management. Popular write-ups on knowledge include, among others, information, communication, ideas, collaborative environment, innovation, research and development, competitiveness, IT-based information and knowledge sharing, e-commerce, and web-based knowledge base. Knowledge is also widely linked to strategy and competitiveness, intellectual capital, and intangible assets. Takeuchi and Nonaka (2000) argued about tacit versus explicit knowledge, Arenius and De Clercq (2006) interviewed individuals' existing knowledge: educational attainment (internal knowledge) and exposure to external knowledge (would be entrepreneurs' knowledge of others who started a business in the past two years) and personally provided funds to someone else who started a business in the past three years. So the concept knowledge has wider meanings and used in science, management, marketing, and economics.

Bangladesh, Cambodia, and Myanmar, which rank the lowest in the study on SME performance, have lower knowledge base. Research and development and creativity scores are the lowest in these countries. R&D as a percentage of GDP is 0.06% in Bangladesh, 0.04% in Lao, and 0.03% in Myanmar while Thailand and Vietnam, and India spent more than 0.5% (Table 2, item 9). Workers with high level of human capital are more adaptable to technological change. Enrolment of students in technical and vocational programs, R&D, and FDI is important inputs for outputs and creative productivity around the world (The Economist Intelligence Unit, 2014). Creativity refers to formulation of new ideas and to the application of these ideas to produce original works of art and cultural products. It also refers to the functional creations, scientific inventions, and technological innovations. Creative inputs depend on knowledge and skill base, infrastructure, competitive environment, and appropriate institutions particularly financial institutions and governance. Human capital development requires at least scopes for employment, performance-related pay, and social security. These are at the lowest levels in Bangladesh, Lao, Cambodia, and Myanmar in the study. According to the Economist Intelligence Unit, creative productivity ranking (Table 2, item 8) was above 20 in Cambodia, Pakistan, Myanmar, and Bangladesh, and within 20 in Vietnam, the Philippines, Sri Lanka, Thailand, India, Indonesia, and Lao. CPI captures patents filed per head, financial institutions and governance, competitiveness, and scientific output among others. Competitiveness rank (item 10) is also lower in the former group (above 100) compared to Thailand, Vietnam, Indonesia, and the Philippines with the rank within 70. Mudalige (2017) classified assets into knowledge assets and complementary assets. He defined knowledge assets as cognition ability, internationalization and network, technological development, human capital, innovation, foreign market, and trade information. Human Development Index (item 11) gives further evidence to low knowledge-base in the low- performing SME countries compared to the high-performing countries.

Belief and Knowledge

In the previous section, poor performance of SME and low per capita income were linked to lower creativity, competitiveness, R&D, and HDI. In this section, knowledge is conceived in a more philosophical way, particularly in epistemology (the science of knowledge). Here knowledge is defined as justified belief, revision of belief, total evidence, rich and pure reasons. Using this science, faith and religious rituals are considered belief-based, and knowledge is evidence-based. Faith glorifies some unseen spiritual being but knowledge does not accept anything which is unseen. Belief is only the beginning of knowledge. A belief, when accepted by total evidence, it is accepted as knowledge (Chowdhury 2010 and any standard textbook on epistemology). Faith restricts reason and pure reason, criticism, evaluation, and freedom of thought but knowledge nourishes these (Kant 1787). Bangladesh Ministry of Recreation, Religious Affairs, and Culture had a total budget of TK4341 crores during 2017-18 out of which religious affairs got TK1168 crores. Thus, religious affairs budget as a percentage of the country's total expenditure budget is 0.25% or TK1168 croes/ TK464573 crores (Table 2, item 12). Cambodia's Ministry of Cults and Religion spent 0.24% or KHR64935 million/ KHR27055 billion. Myanmar's Ministry of Religious Affairs and Culture spent 0.14% or KYAT28321 million/ KYAT20594 billion. Pakistan's Ministry of Religious Affairs and Inter-Faith Harmony spent Rs9242 million on recreation, culture, and religion out of which Rs1182 million was for religion. Thus, religion received 0.02% of total expenditure budget or Rs1182 million/Rs6175139 million. Indonesia's Ministry of Religious Affairs spent 0.02% or Rs51.9 trillion/Rs2439.7 trillion. Sri Lanka's ministry of Buddhassana and Religious Affairs spent 0.02% or Rs712 million/Rs2903 billion. Thus, weak performers in SMEs such as Bangladesh, Cambodia, and Myanmar spent more (0.14% to 0.25%) on faith and rituals. Moderate performers Indonesia, Sri Lanka, and Pakistan spent less (around 0.02%). Higher performers Thailand, Vietnam, India, and the Philippines do not have a ministry on religious affairs. Lao and Nepal with poor performance also do not have such a ministry. Most of the developed countries also do not have such a ministry. Population density of Bangladesh is one of the five highest in the world with 1240 persons per square kilometer of land (world average 53, total land 135 million square km and total population 7776 million). Faith and religious belief is one of the main reasons for a large population in a small country such as Bangladesh. More than optimum density means less space and resource available for living, employment, industry, forestry, schooling, tourism, and

good environment. A growing population would starve because it would outstrip the supply of food and outrun decreasing natural resources such as land, forest, sea, and fresh air. All these variables stand at the lowest levels in Bangladesh compared to other South Asian countries in the study where population size is not a problem (India's density is around 400 which is closer to the optimum). Yuri (2015) suggests an optimum density which creates a balance between resource endowment per capita and too high per capita cost of building and making infrastructure to collect and bring resources to the market. Cusack (2017) computed optimum density of 300 persons/km^2. Lower fertility can start a virtuous cycle in which families can invest more in educating children and put more on savings, thus impacting the economy through lower cost of capital. With increasing education level (primary, secondary and tertiary), fertility decreases worldwide.

Entrepreneurship and SMEs: Both Science and Art

Entrepreneurship and small business are largely considered as the seedbeds of startups. Both entrepreneurship and SME are science and art. Both need thinking of things (TOT), reasons, and human capital. An entrepreneur is an innovator, a source of ideas and procedures. People in countries with higher intensity of faith compared to science, philosophy and literature do not get enough time for TOT, innovation, and aesthetics (science of beauty). A product or service must come with aesthetics (science of proportions and beauty). Firms face continuous competition and challenges from each other in general and, particularly, in globalization that requires the entrepreneurs to pursue for research and development. The most popular definition of art is an idea of imaginative or technical skill and creation. Art is expressed by words such as skill, crafts, artisan, styles, aesthetics, literature, artifact, creativity, painting, sculpture, printmaking, and calligraphy. Crafts, painting, sculpture, and printmaking fall in the SME sector. Composition is an important area of painting and poems. Composition of an artistic work must consider color, contour, dimension, medium, melody, space, texture, balance, contrast, emphasis, harmony, proportion, proximity, and value. A work of art must consider form, content, and context. Art stimulates an individual's thoughts, emotions, beliefs, or ideas through senses. An entrepreneur must combine artistic qualities with business sense. Reported by Schumpeter in Swedberg (2006), the entrepreneur is like a painter, the act of combining things-the essence of entrepreneurship-is a form of an art.

Entrepreneurs make products keeping in mind the income and purchasing powers of the byers. In Bangladesh, SMEs produce mainly for local market (value addition 45% in item 1, and export 1% in item 2 in Table 2). A product can have variations in quality depending upon the proportion of its ingredients, art, and innovation. Since majority people have lower income and purchasing power, products are made with ingredients at lower levels. Majority people consume and use substandard products and services with substandard ingredients and specifications. Here SME products and services just meet the basic needs and survival of the buyers and sellers; quality, art and aesthetics remain beyond their reach. Lower per capita income, political instability, and lack of government support, low knowledge base, and importantly more obligation and time on faith and rituals restrict the capacity for art, aesthetics, innovation, and entrepreneurship, and SMEs. People with higher income prefer imported goods because imported goods have to maintain some standard specifications (by regulation at least). Thailand, Vietnam, and India have been able to maintain such specifications and, therefore, have higher export performance. Bangladesh and Myanmar could not reach that level yet. The Global Entrepreneurship and Development Institute (GEDI) ranked entrepreneurship very poor (item 14) for Bangladesh, Myanmar, and Pakistan with rankings above 120 but better for India, Thailand, Vietnam, and the Philippines with rankings within 87 out of 137 countries.

Table 2: SMEs (Manufacturing) Performance and Knowledge-Based Supporting Services, South Asia, 2018. Variables are Explained in Detail for Bangladesh, the First Country in the Table but Shortened for other Countries to Save Space

Bangladesh: 1. SME value addition to GDP 45%, 2. Share of manufacturing in GDP 18%, 3. SME exports to total exports 1 %, 4. MVA (manufactured value added) per capita $182, 5. Manufactured exports per capita $152, 6. CIP (competitive industrial performance) rank 77, 7. Quality certification 5%, 8. Creative productivity rank 20, 9. R&D to GDP 0.06%, 10. Competitiveness rank 105, 11. HDI rank 136, 12. Beliefs and faith 0.25%, 13. GDP per capita PPP$4371, 14. GEI (Global Entrepreneurship rank) 134.
Cambodia: 1. SME value addition to GDP 35.6, 2. Share of manufacturing in GDP 16, 3. SME exports to total exports 8, 4. MVA per capita $172, 5. Manufactured exports per capita $513, 6. CIP 91, 7. Quality certification 6, 8. Creative productivity 24, 9. R&D 0.12, 10. Competitiveness 106, 11. HDI 146, 12. Beliefs and faith 0.24, 13. GDP per capita $4360, 14. GEI 113.
Lao: 1. SME value addition to GDP 18, 2. Share of manufacturing to GDP 7, 3. SME exports to total exports n/a, 4. MVA per capita n/a, 5. Manufactured exports per capita n/a, 6. CIP. 101, 7. Quality certification 3.2 (2005), 8. Creative productivity 9, 9. R&D 0.04, 10. Competitiveness 113, 11. HDI 139, 12. Beliefs and faith 0, 13. GDP per capita $7439, 14. GEI 112.
Pakistan: 1. SME value addition to GDP, 2. Share of manufacturing in GDP 12, 3. SME exports to total exports 25, 4. MVA per capita $146, 5. Manufactured exports per capita $94, 6. CIP 80, 7. Quality certification 15, 8. Creative productivity 23, 9. R&D 0.24, 10. Competitiveness 110, 11. HDI 150, 12. Beliefs and faith 0.02, 13. GDP per capita $5567 (current $1482), 14. GEI 120.
Nepal: 1. SME value addition to GDP, 2. Share of manufacturing in GDP 5, 3. SME exports to total exports 7, 4. MVA per capita $41, 5. Manufactured exports per capita $18, 6. CIP 128, 7. Quality certification 5, 8. Creative productivity n/a, 9. R&D 0.3, 10. Competitiveness 108, 11. HDI 149, 12. Beliefs and faith 0, 13. GDP per capita $3089, 14. GEI n/a.
Myanmar: 1. SME value addition to GDP, 2. Share of manufacturing in GDP 24, 3. SME exports to total exports 1, 4. MVA per capita $241, 5. Manufactured exports per capita $57, 6. CIP 95, 7. Quality certification 3, 10. Competitiveness n/a, 12. Beliefs and faith 0.14, 8. Creative productivity 22, 9. R&D 0.03, 11. HDI 146, 13. GDP per capita $6674 (current $1326), 14. GEI 127.
Thailand: 1. SME value addition to GDP 37.4, 2. Share of manufacturing in GDP 27, 3. SME exports to total exports 29.5, 4. MVA per capita $1657, 5. Manufactured exports per capita $2754, 6. CIP 25, 7. Quality certification 6%, 8. Creative productivity 15, 9. R&D 1.0, 10. Competitiveness rank 40, 11. HDI 83, 12. Beliefs and faith 0, 13. GDP per capita $19059, 14. GEI 71.
Vietnam: 1. SME value addition to GDP 40, 2. Share of manufacturing in GDP 16, 3. SME exports to total exports 19.7, 4. MVA per capita $336, 5. Manufactured exports per capita $1469, 6. CIP 41, 7. Quality certification 5, 8. Creative productivity 16, 9. R&D 0.53, 10. Competitiveness 67, 11. HDI 116, 12. Beliefs and faith 0, 13. GDP per capita $7447, 14. GEI 87.
India: 1. SME value addition to GDP 37.5, 2. Share of manufacturing in GDP 15, 3. SME exports to total 48 (7.5% in 2017), 4. MVA per capita $298, 5. Manufactured exports per capita $168, 6. CIP 39, 7. Quality certification 12, 8. Creative productivity 14, 9. R&D 0.6, 10. Competitiveness 68, 11. HDI 130, 12. Beliefs and faith 0, 13. GDP per capita $7762, 14. GEI 68.
Indonesia: 1. SME value addition to GDP 60.3, 2. Share of manufacturing in GDP 20, 3. SME exports to total exports 15.7, 4. MVA per capita $830, 5. Manufactured exports per capita $393, 6. CIP 38, 7. Quality certification 3, 8. Creative productivity 12, 9. R&D 0.27, 10. Competitiveness 50, 11. HDI 116, 12. Beliefs and faith 0.02, 13. GDP per capita PPP $13079, 14. GEI 94.
The Philippines: 1. SME value addition to GDP 35.7, 2. Share of manufacturing in GDP 19, 3. SME exports to total exports 20, 4. MVA per capita $594, 5. Manufactured exports per capita $545, 6. CIP 43, 7. Quality certification 5, 8. Creative productivity 18, 9. R&D 0.16, 10. Competitiveness 64, 11. HDI 113, 12. Beliefs and faith 0, 13. GDP per capita $8951, 14. GEI 84.
Sri Lanka: 1. SME value addition to GDP 54, 2. Share of manufacturing in GDP 16, 3. SME exports to total exports 5, 4. MVA per capita $598, 5. Manufactured exports per capita $376, 6. CIP 75, 7. Quality certification 5%, 8. Creative productivity 19, 9. R&D 0.11, 10. Competitiveness 84, 11. HDI 76, 12. Beliefs and faith 0.02, 13. GDP per capita, $13473, 14. GEI 90.

Source: Own compilation from the following sources:
1. Asia SME Finance Monitor 2014, Manila, ADB (2015); 2. World Bank (2018); 3. Wignaraja G. (2013); Lim H. edt. (2008); Tempo.Co, Jakarta, 21 November, 2016; ARTNeT, Asia Pacific Research and Training Network on Trade, April 2008; Zafar (2018); 4, 5, 6. UNIDO (2018); 7. World Bank Enterprise Survey, 2009-15; 8. The Economist Intelligence Unit (2014); 9-11, 13 World Bank (2018); 12. Budget documents of the countries; 14. Global Entrepreneurship and Development Institute (2018)

Conclusion

This paper studies the performance of SME manufacturing sector and knowledge-base in 12 neighboring developing countries of South Asia. Bangladesh, Pakistan, Myanmar, Lao, and Cambodia perform lower compared to Thailand, Vietnam, the Philippines, and India in terms of SME sector number of enterprises, employment, value added, and export per head. Thus, both domestic value addition and integration with the global value chain is lower in the former compared to the latter group. Like Lee et al. (2012) and ITC (2018), this study also found that lower knowledge base such as R&D, innovation, competitiveness, and creative productivity is lower in

the low-performing countries compared to the high-performing countries. The main contribution of the paper, however, is that the intensity of knowledge system such as reasons, justifications, evidences, criticism, freedom, art and aesthetics, and human development is higher than belief and faith system in the better performing countries compared to the poor performing countries. Data on R&D, creativity, expenditure on religious affairs, human development, and entrepreneurship development are some supports for this theory. The findings linking SME development and belief versus knowledge is consistent with Parboteeah (2015) but inconsistent with Audretsch et al. (2013), Zhang et al. (2019), and Henley (2017). They used new entrepreneurs' data as the experimental variable and entrepreneurs' perception about religiosity as supporting variable. But, this paper took per head value added and export of manufactured goods in SME sector as the experimental variable and government expenditure on religious affairs (and also R&D, creativity, human development, and entrepreneurship development index) as the supporting variables. Since the entrepreneurs in their study are new, they can be put in the general people category who are more religious than the scientists, philosophers, and highly educated people in the developed countries (Larson & Witham 1998, Ecklund, 2016). SMEs in this study are also likely to be owned by general people. But the difference could result from the broader knowledge-base where science and secularism could have some influence on the general people. The results of this paper, however, should be taken with cautions. First, SME definition is different in different countries and this difference in the definition of size may include or exclude some enterprises as SME and, thus, may change the result. Second, this study covers only the manufacturing SME and the data exclusively for this sector was not readily available in some countries.

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Appendix 1: Further Data on SMEs in Bangladesh

Profile A: Ownership			
Clusters	***Proprietorship***	***Partnership***	***Private Company***
Hosiery	80%	10%	10%
Light Engineering	90	8	2
Fashion	88	4.5	3.4
Electrical and Electronics	90	6	2
Plastic and Synthetic	87	9	4
Profile B: Initial Capital, Employees and Annual Turnover (Mode or Highest Frequency)			
	Initial Capital	***Employees***	***Turnover***
Home Textile	TK 0.3m to 3m	5	TK 0.5m to TK 6m
Hosiery	0.2 to 2	3	0.3 to 5
Light Engineering	0.2 to 1	3	0.2 to 1.0
Electrical and Electronics	0.2 to 5	5	1 to 15
Plastic & Synthetic	0.2 to 2	6	2 to 6
Leather	0.2 to 3	7	3 to 7
Fashion	0.2 to 2	6	0.5 to 7
Agro-based Products	1 to 4	8	3 to 50

Source: Compiled from Bangladesh Rating Agency Limited (BDRAL) (2015, 2018), SMEs of Bangladesh (V. 1 to 4)